Statistical Report on Internet Development in China

(January 2012)

China Internet Network Information Center

Preface

To achieve an comprehensive understanding about Internet Development Situation in China, China Internet Network Information Center (CNNIC) organized relevant Internet network organizations to jointly carry out a survey on Internet Development Situation upon the decision of the competent department of the State through discussion in 1997, and CNNIC issued the first *Statistical Report on Internet Development in China* in July the same year. To normalize and systemize the survey work, CNNIC decided to issue *Statistical Report on Internet Development in China* (hereinafter referred to as the "Report") in every January and July since 1998. The Report provides constant survey and study on the internet users scale, structural features, network application and the environment of Internet security, and rigorously and objectively reflects the Internet development situation in China, and provides an important basis for governmental departments and enterprises to grasp the development trend of Internet and make decisions. Therefore, it has been emphasized in every circle and quoted widely both home and abroad.

To date, CNNIC has successively issued 28 national statistical reports on Internet development situation, this Report is composed based on the 29th national survey on Internet development, inheriting the contents and style of the previous Reports.

Data collection for this Report achieved great supports from the government, enterprises and all sides of the society. Under the guidance of Ministry of Industry and Information Technology and other State departments, each survey was conducted successfully; with the close cooperation of Internet organizations and websites and medias supporting the survey, etc, collection of basic resource data was completed in time.

Among them, **Netease Youdao Information Technology (Beijing) Co., Ltd and Tencent Search Technology R & D Center** provide help for the access of webpage data.

East.net(China)Co., Ltd., HiChina, Sinonets Co., Ltd., Beijing Innovative Linkage Technology Co., Ltd. , Beijing Xinnet Digital Information Co., Ltd., CE Dongli Technology Company Limited, Guangdong Todaynic.com International Limited (former Zhuhai Todaynic.com Internet Information Technology Co., Ltd.), Chinasource Internet Service Co., Ltd. , Longtop Online Co., Ltd. (former XiaMen Bizcn Computer & Network Co., Ltd.), Xiamen 35.com Technology Co.， Ltd., Beijing BonRee Co., Ltd., and ChinaCache Communication Technology Co., Ltd.

We hereby express our sincere acknowledgement to them! And meanwhile, express our gratitude to the internet users that received the 29th Statistical Survey on Internet Development Situation!

CNNIC
January, 2012

Contents

Report Summary

I. Basic data

◇ As of the end of December 2011, the scale of Chinese internet users is more than 5 hundred million, to 5.13 hundred million. The newly added internet users over a year are 5,580 ten thousands. The Internet penetration rate stepped up to 38.3% compared with those at the end of last year, increased by 4%.

◇ There are 356 million mobile phone internet users in China with an increase of 5,285 ten thousand compared with that at the end of 2010. The proportion of the mobile phone internet users has covered 69.3% of the total internet users.

◇ Home computer broadband internet users reached 392 million, covering 98.9% of the home computer internet users.

◇ There are 136 million rural internet users, covering 26.5% of the total internet users with an increase of 1,113 ten thousand compared with that at the end of 2010.

◇ Internet users at the age of 30-39 increased remarkably, up 2.3% compared with those at the end of 2010, to 25.7%.

◇ Internet users with junior high school education keep rising, from 32.8% to 35.7%.

◇ 73.4% internet users access to Internet with desktop, down by 5% compared with those at the end of 2010. Internet users using mobile is up to 69.3%, whose use ratio is continuously close to traditional desktop.

◇ In 2011, average duration for net citizens to surf internet is 18.7 hours per week with an increase of 0.4 hour compared with that at the end of 2010.

◇ Up to the end of December 2011, there were totally 7.75 million domain names in China, in which, there were 3.53 million .CN domain names totally. There were 2.30 million Chinese websites.

II. Trend and features

Scale growth of Internet users into platform

In 2011, internet users increase by 55.8 million for a year, with penetration rate

enhanced by 4%, and the speed slowing down compared with the improvement of 6% every year on average since 2007. In the past five years, among the crowd categories pushing the rapid increase of internet users scale, Internet penetration is about to top. However, it's hard for the crowd of other ages and education levels to accept Internet with the same speed for the young and highly educated group. Therefore, the overall scale growth of internet users go into platform period.

Turning point occurring for number of .CN domain name and website in China

As of the end of December 2011, there were totally 3.53 million .CN domain names, up to 0.7% compared with June in 2011. After downfall of total number of Chinese websites for more than one year, it rises again to 2.3 million currently. In China, the number of .CN domain name and website sees steady rising after completion of downtrend.

Online news utilization ratio dropped rapidly

Utilization ratio of online news keeps going down in recent years, especially in 2011. Increasing rate of online news users just reached 3.9%, 367 million, utilization ratio dropped from 77.2% to 71.5%.

E-commerce application continues to grow steadily

E-commerce applications including online shopping, online payment, online banking, and travel booking keep steady trend in 2011, in which, the online shoppers reached 194 hundred million, up by 20.8% compared with the end of last year. Online payment users and online bank users for the whole year increase by 21.6% and 19.2%. Currently, the users are 1.67 hundred million and 1.66 hundred million respectively.

Significant change for Internet communication of internet users

On the one hand, microblog develops rapidly by using of nearly half internet users, covering 48.7%. On the other hand, traditional communication applications see

a sharp decline: E-mail utilization ratio from 54.6% in 2010 down to 47.9%, forum / BBS from 32.4% down to 28.2%, and blogs and personal space down from 64.4% to 62.1%.

Significant increase in online video users

There is a good development trend for online video industry. The subscribers increased 14.6% over the previous year, reaching 325 million. The utilization ratio is improved to 63.4%. It's the fifth application following the instant messaging, search, music, and news for Chinese internet users.

Chapter I Introduction to the Survey

I. Survey Methodology

(I) Survey on individual internet users

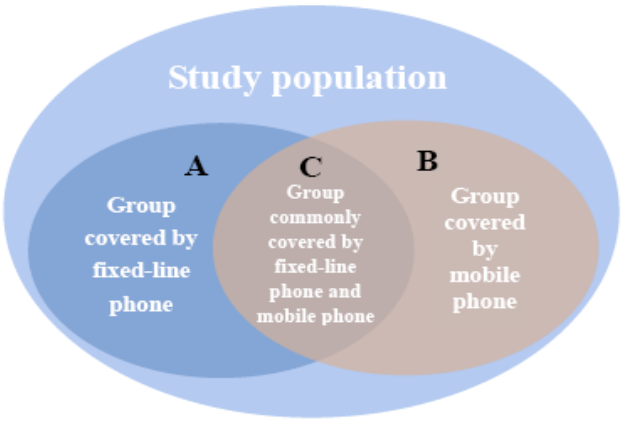
3.1 Survey population

Permanent residents at the age of 6 or above who have fixed-line telephones (including home phones, personal handy phones and dormitory phones) or cell phones

3.1.1 The sample size

Among the overall 60,000 samples for the survey, there are 30,000 residential fixed-line telephone users and mobile phone users respectively, and the samples cover 31 provinces, autonomous regions and municipalities directly under the Central Government in Mainland China.

3.1.2 The categories of the population



The survey population is divided into three groups as follows:

Group A: population only covered by fixed-line telephone (phone is used in above picture. Please keep consistent) (residents covered by home phone, personal handy phone users, college students covered by dormitory phone and other dormitory phone users);

Group B: population only covered by cell phone;

Group C: population covered by both cell phone and fixed-line telephone (the house

phone users and cell phone users are overlapped to some extent and the overlapped part is called Group C), C= A∩B.

Due to the overlap, the users in Group C may be sampled repeatedly, which will increase the chances of this Group being included in the sample. The estimation bias resulting from this problem will be corrected based on the double sampling theory.

3.2 Sampling methods

3.5.1 Two-stage stratified random sampling

To begin with, both the fixed-line and cell phone population is subdivided into 31 segments (strata) based on the 31 provinces/autonomous regions/ direct-controlled municipalities (referred to province hereinafter). The sample size of each province is decided by the square root of last year's sample size.

Within each province, every city/region/county (referred to city hereinafter) is selected, and self weighting sampling is adopted. The sample size of each city is decided by the ratio of 6 and older population with fixed-line telephone in this city to the same population in the province.

3.5.2 Methods to ensure equal probability sampling

The telephone number in each city is selected according to the following methods:

First, select all the central office codes. Second, produce a number of random four-digit numbers according to the size of valid sample in this city. Third, combine the codes and the numbers to form a phone number pool. Finally, order the phone numbers in the pool randomly, and the interviewing phone number will be chosen from this pool.

3.3 Survey contents

The survey mainly concentrates on the quantitative and structural feature of Internet users, online conditions, web applications, attitudes of Internet users towards internet and non-user background in China. The content of survey includes whether interviewees surf the internet, their background, internet access behavior of Internet users, online depth and online experience, etc.

3.4 Survey administration

The survey is conducted through Computer-Assisted Telephone Interviewing System (CATI).

3.5 The Difference between the survey population and the target population

According to our 2005 research, the number of Internet users who do not use any telephone was very small. We believe that the number will keep decreasing along with the development of telecom industry in China. For instance, the number of phone users of our country in the end of 2005 was 740 million, while the total number exceeded 1.2 billion, with popularizing rate hit 94.2 pieces/hundred people[1] by the end of November, 2011. Thus, the hypothesis underpinning this survey is that the number of Internet users uncovered by any phone is negligible.

(II) Online survey

Online survey focuses on the situation of typical Internet applications. CNNIC carried out an online survey during December 1-31, 2011. A questionnaire was placed on the website of CNNIC and questionnaire linkage was set on the websites of government media, the national ICP/ISP websites and provincial portals to ask Internet users to be actively involved in the filling of questionnaire. After the recollection of such questionnaire, validity testing of questionnaire was carried out by technical methodology to exclude invalid questionnaires. There were 32,772 copies of valid questionnaires received for such online survey.

(III) Online automatic search and the report data

Online automatic search is used to collect the quantity of the domain names, websites and geographic distribution, etc, while statistical data for reporting mainly include number of IP addresses and international network bandwidth.

1. Total Number of IP Addresses

The statistical data for IP address sub-province derive from IP address databases of Asia-Pacific Network Information Center (APNIC) and CNNIC. Sub-provincial data are obtained by adding data that have been registered in both databases and could be judged what provinces the addresses belong to according to relevant provinces. As the utilization of address allocation is a dynamic process, the statistical data are only for reference. Meanwhile, Ministry of Industry and Information Technology, the competent authority of IP addresses, also orders Chinese IP address allocation units (such as China Telecom) to report the number of IP addresses owned by them for each half year. To ensure the accuracy of IP addresses, China Internet Network Information Center (CNNIC) will make comparison and verification on the statistical data and reporting data from APNIC.

2. Total number of domain names and websites in China

[1]Source:http://www.miit.gov.cn/n11293472/n11293877/n14395765/n14395861/n14396152/14400045.html.

The number of domain names and websites in China are obtained by the sum of the following parts of data:

The first part is the number of domain names and websites under .CN, which can be obtained by online automatic search by CNNIC; the second part is the number of generic top-level domains (gTLD) and websites in China, which is assisted and provided by registrars of all types of generic top-level domains. These data include: number of all types of generic top-level domains (gTLD) and websites under domains; number of generic top-level domains (gTLD) and websites classified according to .COM, .NET and .ORG; number of generic top-level domains (gTLD) and websites classified by the province of the registrar.

3. Number of international network bandwidth

Ministry of Industry and Information Technology, through the report system, obtains timely the number of international network bandwidth connecting all operators and other countries or regions. These reporting data are incorporated in the *Statistical Report on Internet Development in China.*

II. Definition of terms in the report

◇ Internet users

The Chinese citizens at the age of 6 or above who have used the Internet over the last six months.

◇ Mobile Internet users

It includes but not limited to the Internet users who have used cell phones to connect and access the internet over the last six months.

◇ Computer internet users

Internet users accessing to and using Internet by computer in the past six months, but not limited to those accessing to Interment only by computer

◇ Home computer broadband internet users

Internet users accessing to and using Internet by broadband (xDSL, CABLE MODEM, optical fiber access, power line access, Ethernet, WIFI, etc) among those accessing to Internet by computer at home in the past six months, but not limited to those accessing to Interment only by broadband.

◇ Rural Internet users

It includes the Internet users who mainly live in the rural area over the last six months.

◇ Urban Internet users

It includes the Internet users who mainly live in the urban area over the last six months.

◇ Youth Internet users

It includes the Chinese Internet users[2] below 25.

◇ IP address

One of the basic internet resources used to identify the computers on the internet, servers or other devices on the internet. Internet can be only connected only by acquiring an IP address (no matter how the IP address exists).

◇ Domain name

The domain name in this report only refers to ASCII domain name, which is a character string composed only by numbers, letters or hyphens and divided by points (.) and a hierarchical sequential internet address mark corresponding to the IP address.

The domain names include two types: one is the country code top-level domain (ccTLD), e.g. the domain ending with .CN to indicate China; the other is the generic top-level domain

[2] According to Youth towards the Year 2000 and Beyond passed by the 50th UN conference on December 14, 1995, the youth is classified to be age group from 15 to 24. The group aged 6 to 24 herein is called Youth group.

(gTLD), e.g. domains ending with .COM, .NET and .ORG

◇ Website

It refers to the web site with the domain name itself or "www.+ domain name" as website, which includes the web site under China national top-level domain .CN and generic top-level domains (gTLD). The register of such domain name is located in the territory of China. For the domain name cnnic.cn, it has only one website and its corresponding website is cnnic.cn or www.cnnic.cn. In addition, websites with such domain name as suffix such as whois.cnnic.cn, mail.cnnic.cn can only be seen as different channels of the website.

◇ Scope of survey

Unless otherwise indicated, the data in this report only refers to that of Chinese Mainland, not including Hong Kong, Macaw and Taiwan.

◇ Deadline of survey data

The deadline for data of this statistical survey is December 31, 2011.

Chapter II Scale and Structural Features of Internet users

I. Scale of internet users

(I) Overall scale of internet users

By the end of December 2011, the total number of Chinese internet users has been over 500 million, to 513 million. The new internet users throughout the year are 55.8 million. Internet penetration increases 4 percentage points compared with those at the end of previous year, to 38.3%.

For the growth of Chinese Internet users in the past five years, from 2006 when Internet penetration rate rose to 10.5%, the scale of internet users has seen a rapid growth. The average annual penetration rate is enhanced to about 6 percentage points, especially in 2008 and 2009. The annual increment of internet users is close to 90 million. In 2011, there is a sign of slowing growth.

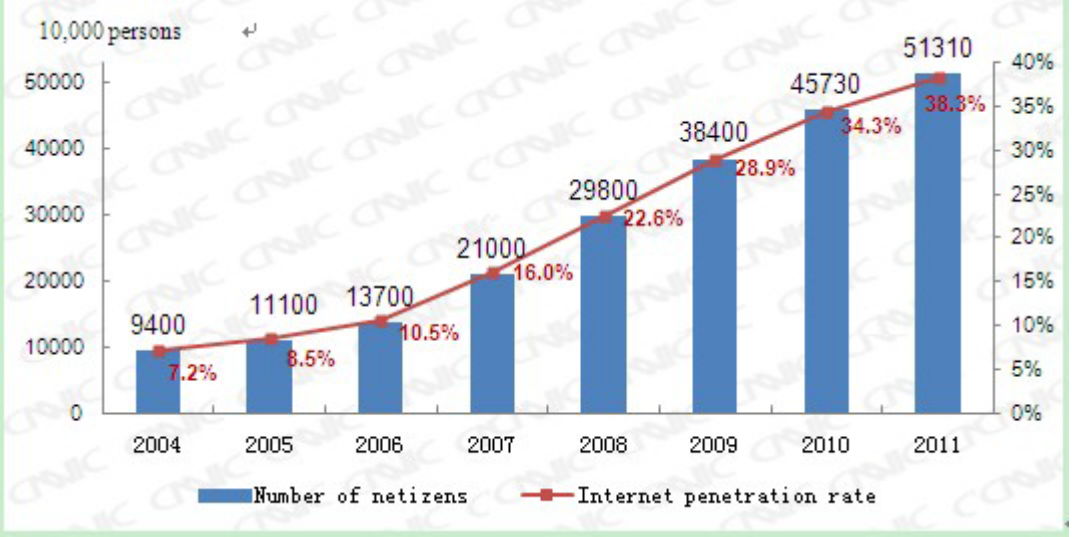
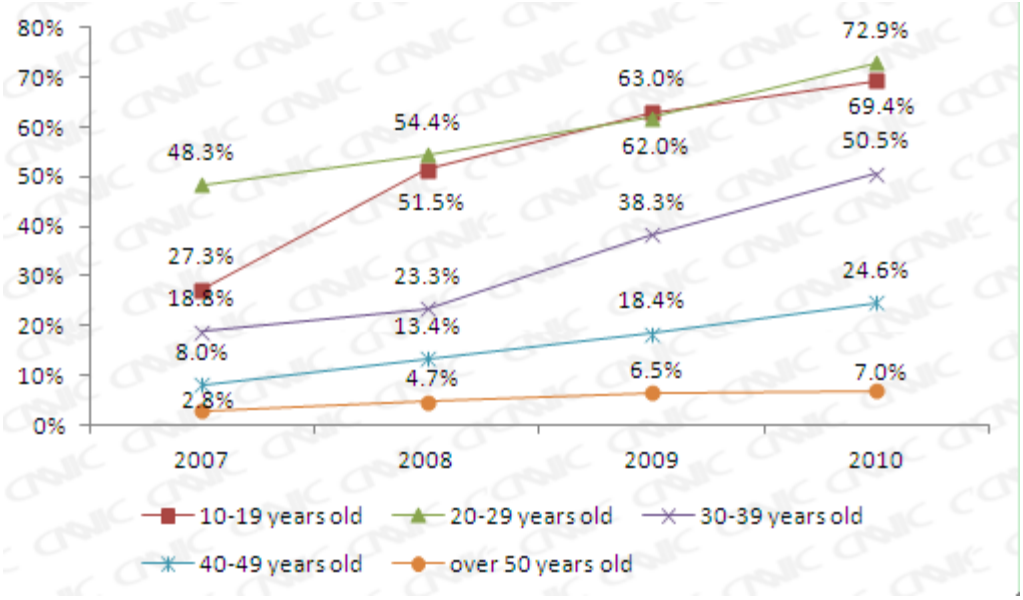


Fig 1 Scale and popularizing rate of Chinese internet users

Currently, Internet penetration rate is less than 40% of all the people, so there is a very wide space for growth of Internet users. Considering age, education level, income level and other

factors, the people with condition access to Internet and skill have been transferred to internet users. Next, there will be great difficulty for the growth of internet users scale.

For age, in the past five years, the utilization ratio for the group of 10-29 years old keeps rising, close to high level currently. There is a limit for the enhancement space of such group in the future. The utilization ratio of Internet for the population above 50 years old changes a little. The utilization ratio of Internet for the population 30-39 years old rises gradually, so there is certain growth space. It will become main group for internet users growth of the next stage.



(Population of all ages has not been released yet in 2011 China Statistical Yearbook. Relevant data is lack)

Figure 2 Internet popularizing rate for population of all ages in 2007-2010

For education background, the Internet utilization ratio for population with junior college degree or above reached to 96.1% in 2011, in saturation generally. In the past five years, the penetration rate of population with high middle school degree rose significantly at most. In 2011, proportion of Internet users was more than 90%, to 90.9%. For the population with primary education and below, Internet penetration rate is always slow. Overall, in the past five years, among the populations that helps rapid growth of internet users scale, Internet penetration is about to peak, meanwhile, it's hard for population of other ages and education levels to accept Internet with the same speed of young and highly educated groups. In the future, the growth rate of Chinese overall internet users will enter a plateau.

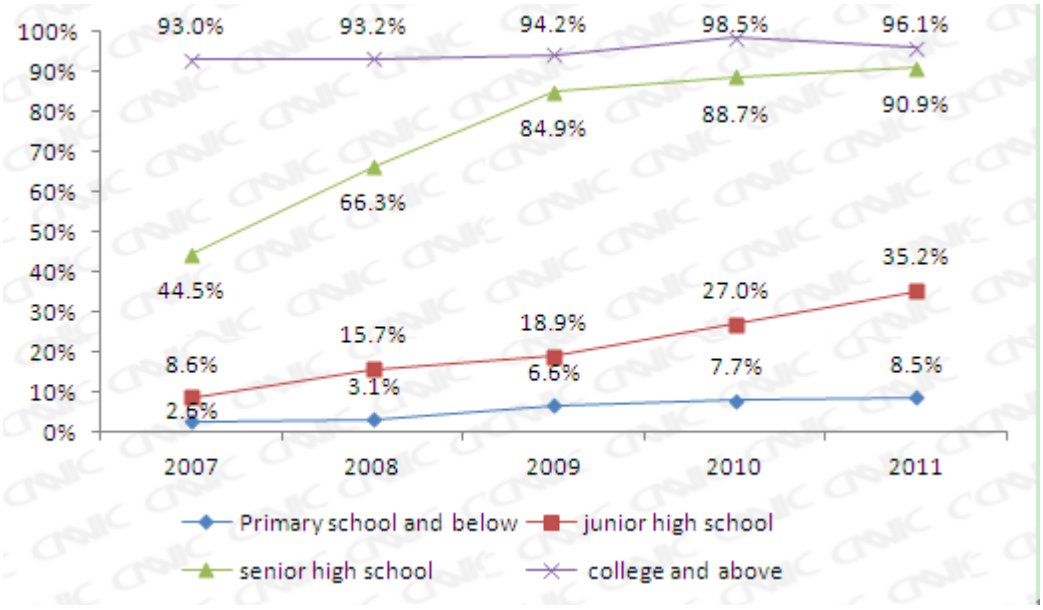


Figure 3 Internet penetration rate of population with all educated levels in 2007-2011

Thus, it can be seen that reducing the threshold of Internet access and use, encouraging elderly people, low-educated people and later acceptor for new technologies will be the important conditions to further push the expansion of internet users scale in China. In 2011, our government sturdily pushed forward the transition development of communication industry, positively promoted construction of broadband network infrastructure, and accelerated the development of new technologies and type of operation. Up to November 2011, subscriber access to Internet broadband in China reached 155 million. 3G network has covered all counties and most towns of the state[3]. The continuous completion for hardware facility provides a good external environment for deep popularization of Internet.

(II) Scale of home broadband internet users

By the end of December, 2011, the number of internet users using home broadband[4] for Internet access has reached to 392 million, covering 98.9% of internet users using home computers for Internet, basically the same with the last year.

[3]Source: website of Ministry of Industry and Information Technology of the P.R.C , http://www.miit.gov.cn/n11293472/n11293877/n14395765/n14395861/n14396152/14404568.html

[4] Home broadband internet users refer to those using broadband (xDSL, CABLE MODEM, optical fiber access, power line access, WIFI, etc) to access to Internet.

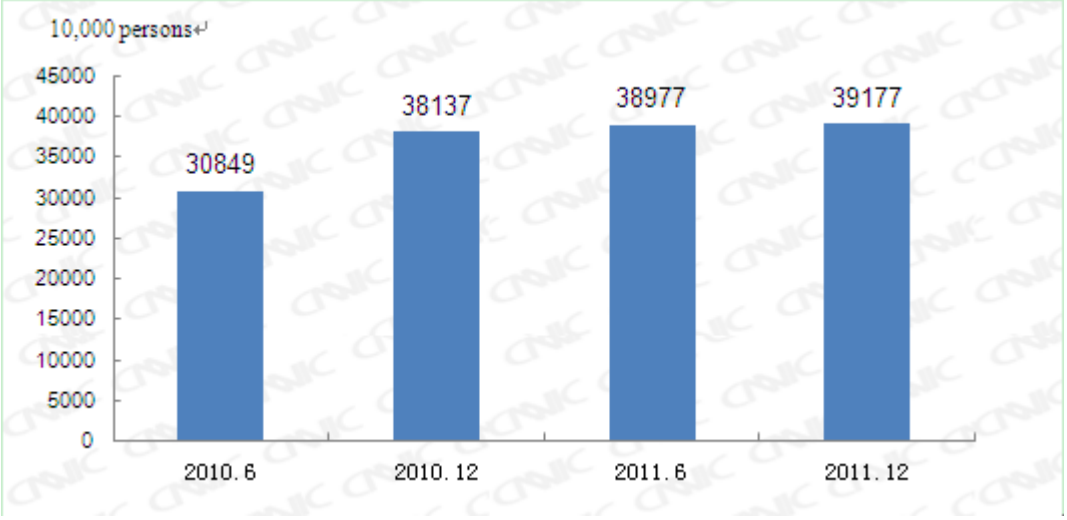


Fig 4 Scale of home broadband internet users

(III) Scale of mobile phone internet users

As of the end of December 2011, the scale of Chinese mobile phone users reached 356 million, an increase of 17.5% year on year. The growth is slowing compared with the previous two years.

In 2009, mobile phone users increase as high as 98.5% mainly because operators lower the network traffic charge to stimulate the burst of scale of mobile internet users and fight for users. By 2010, the promotion effect of reducing traffic charge is gradually digested by market. The growth speed of mobile internet users reduced substantially.

In 2011, the increasing speed for overall size of mobile internet users declined because operators put marketing focus on terminal in the hope of obtaining more mobile phone users by popularizing smartphone. Internet-friendly smart phone attract partial users to apply mobile Internet. Due to current high price, the population using smart phone mainly focuses on high-middle end crowd and existing internet users. For the overall size of mobile phone internet users, the promoting of smart phone is not particularly obvious.

In the future, innovative applications will be the main force driving the growth of mobile internet users. Currently, the penetration rate of mobile internet users in phone users is only 36.5%. The insufficient demand on surfing the Internet with cell phone is the main reason for most of mobile phone users failing to access to mobile Internet. With the popularity of smart phones, a large amount of smart phone internet users provide the basis for outburst of mobile Internet application. Internet service providers have begun to make overall arrangement for

mobile Internet. The fierce competition will definitely give birth to innovative applications that meet the needs of sub-group and further promote mobile phone internet users into the next round of high speed growth cycle.

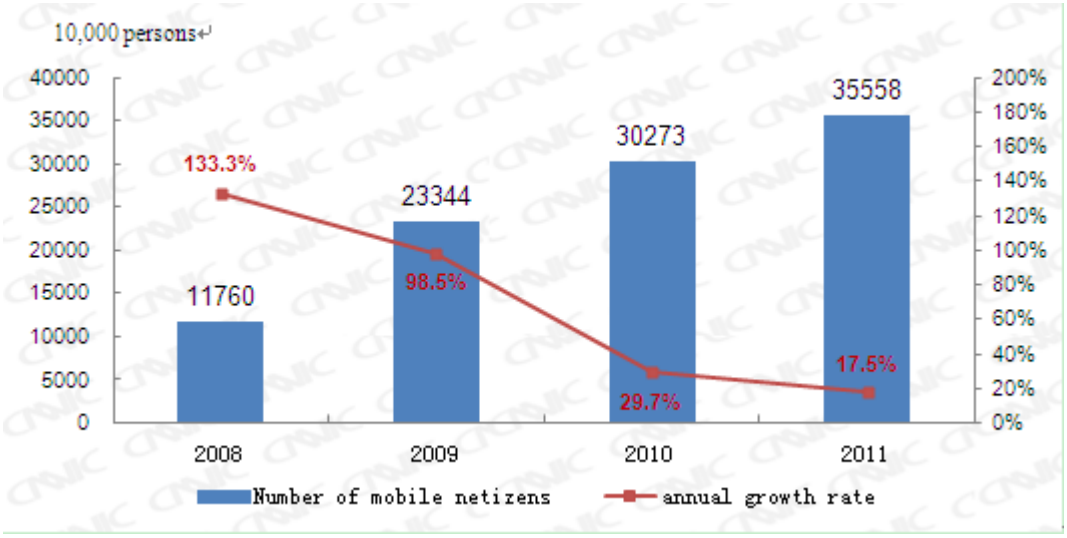


Figure 5 Scale of mobile internet users

(IV) Scale of internet users in province

In 2011, the scale of internet users in all provinces rises significantly. There are 21 provinces with internet users over ten millions among 31 provinces (municipalities and autonomous regions) in Chinese Mainland. At the same time, regional difference of Chinese Internet development continues. Internet penetration rate in Beijing is more than 70%, to 70.3%, while in Yunnan, Jiangxi, Guizhou and other provinces where Internet penetration is low less than 25%.

Compared with global Internet penetration rate (30.2%) in 2011, there are 21 provinces that exceed such level, with one increased compared with those at the end of 2010.

Among 21 provinces, Internet penetration degree in 12 provinces such as Beijing, Shanghai, Guangdong, Fujian, Zhejiang, Tianjin, Liaoning, Jiangsu, Xinjiang, Shanxi, Hainan and Shaanxi etc exceeds national average level. Most of those provinces concentrate in the east coast. Among them, due to sharp zooming of number of population in Shanghai and Guangdong Province in the sixth population census data, the number of internet users calculated by the data increases significantly, resulting in the growth speed of internet users scale ranked the first and second place Shanghai and Guangdong in 2011.

The Internet penetration rate in 9 provinces such as Shandong, Hubei, Chongqing, Qinghai, Hebei, Jilin, Inner Mongolia, Ningxia, and Heilongjiang etc is higher than global average, but

lower than Chinese overall Internet penetration. The internet users in Ningxia and Hebei grow fast, of which, Internet penetration in Ningxia exceeds global average for the first time in 2011.

There are 10 provinces with Internet penetration lower than global average, including Tibet, Hunan, Guangxi, Sichuan, Henan, Gansu, Anhui, Yunnan, Jiangxi and Guizhou, most of which are less developed central and western region provinces.

Table 1 Scale and growth speed of internet users scale in province in 2011

Province	Number of internet users （ten thousand）	Penetration	Growth rate	Ranking of penetration	Ranking of internet users growth rate
Beijing	1379	70.3%	13.2%	1	9
Shanghai	1525	66.2%	23.1%	2	1
Guangdong	6300	60.4%	18.3%	3	2
Fujian	2102	57.0%	13.7%	4	8
Zhejiang	3052	56.1%	9.5%	5	23
Tianjin	719	55.6%	10.9%	6	17
Liaoning	2092	47.8%	9.2%	7	25
Jiangsu	3685	46.8%	11.5%	8	15
Xinjiang	882	40.4%	7.7%	9	28
Shanxi	1405	39.3%	12.4%	10	10
Hainan	338	38.9%	11.4%	11	16
Shaanxi	1429	38.3%	10.3%	12	22
Shandong	3625	37.8%	8.8%	13	26
Hubei	2129	37.2%	11.9%	14	11
Chongqing	1068	37.0%	7.9%	15	27
Qinghai	208	36.9%	10.4%	16	20
Hebei	2597	36.1%	18.2%	17	3
Jilin	966	35.2%	9.5%	18	24
Inner Mongolia	854	34.6%	14.4%	19	6
Ningxia	207	32.8%	18.2%	20	4
Heilongjiang	1206	31.5%	7.0%	21	29
Xizang	90	29.9%	10.8%	22	19
Hunan	1936	29.5%	10.8%	23	18
Guangxi	1353	29.4%	10.4%	24	21
Sichuan	2229	27.7%	11.6%	25	14
Henan	2582	27.5%	6.8%	26	31
Gansu	700	27.4%	6.9%	27	30
Anhui	1585	26.6%	13.9%	28	7
Yunnan	1140	24.8%	11.7%	29	13

Jiangxi	1088	24.4%	14.5%	30	5
Guizhou	840	24.2%	11.9%	31	12
Nationwide	**51310**	**38.3%**	**12.2%**	**—**	**—**

II. Access mode

(I) Internet facility

In 2011, there was 73.4% internet users using desktop, 5 percentage reduced compared with those at the end of 2010. Mobile phone internet users are up to 69.3% and notebook computers up to 46.8% slightly. With lower utilization of desktop computers, the utilization ratio of mobile phone is constantly approaching to traditional desktop computers.

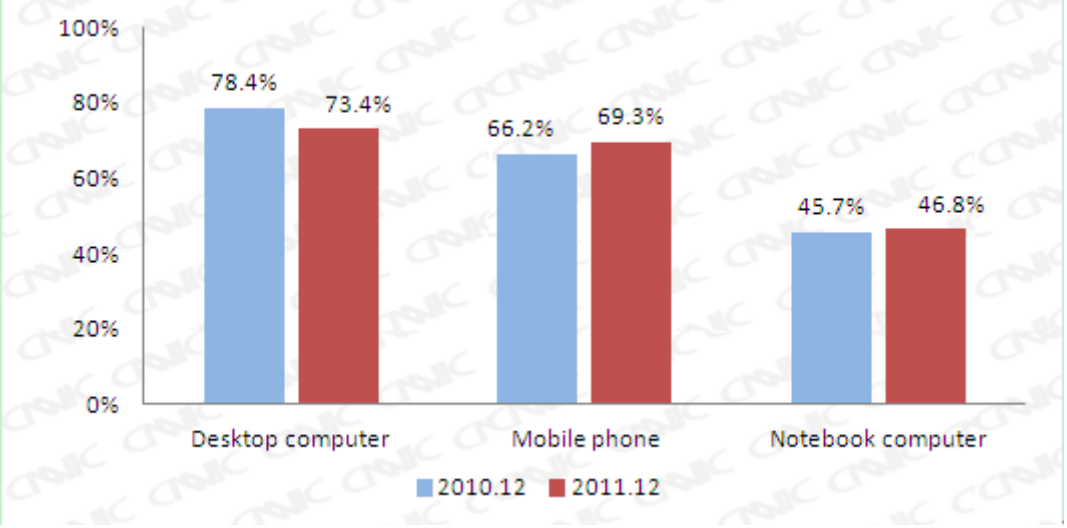


Fig 6 Internet access facilities of internet users

(II) Access location

In 2011, the proportion of Chinese internet users at home and unit keeps stable, 88.8% and 33.2% respectively, generally the same with those in 2010.

The proportion of internet users in school and cybercafé lowers significantly, in which, the internet users in cybercafé only occupy 27.9%，7.8% down compared with those at the end of last year.

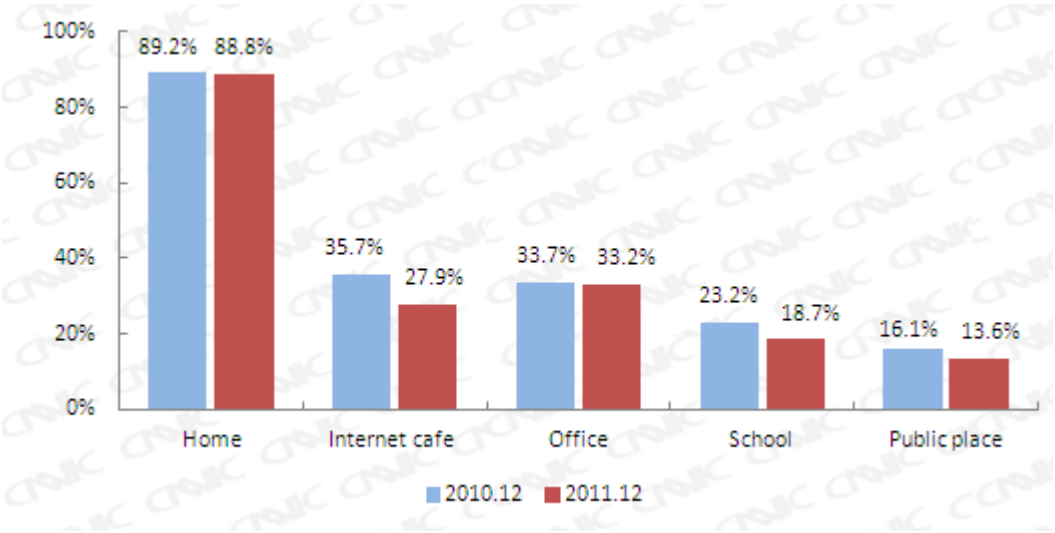


Fig 7 Locations that internet users access to Internet

(III) Online time

In 2011, the average time of internet users spending on Internet is 18.7h, increasing 0.4h compared with that at the end of 2010.

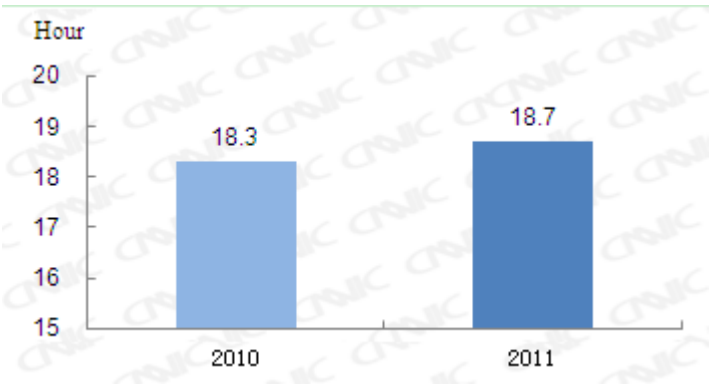


Fig 8 Average weekly online time of internet users

III. Properties of internet users

(I) Gender structure

As of the end of December 2011, the ratio of Chinese male internet users is 55.9%, 11.8% higher than female internet users. The proportion of gender generally keeps stable compared with that in 2010.

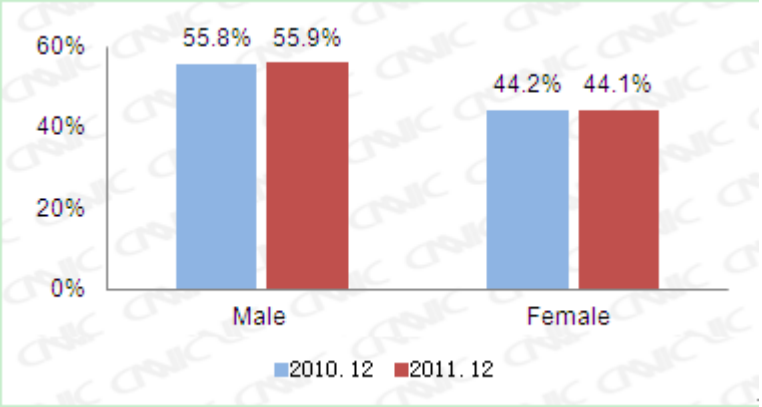


Fig 9 Gender structure of internet users during Dec 2010 to Dec 2011

(II) Age structure

In 2011, the proportion of internet users aged 30-39 improves significantly, rising 2.3 percentage points compared with that at the end of 2010, to 25.7%. In recent two years, the proportion of such age group continues to rise. Internet users aged 40-49 increase slowly; therefore, the proportion in internet users declines. The proportion for 10-19 and 20-29 year-old internet users is generally the stable compared with that at the end of 2010.

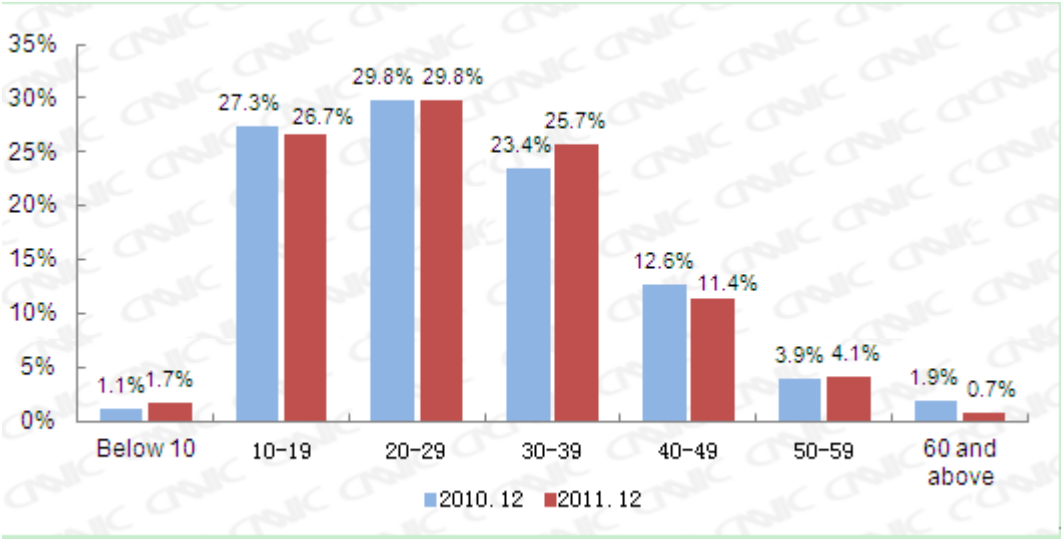


Fig 10 Age structure of internet users during Dec. 2010 and Dec. 2011

(III) Educational structure

Internet users continues to penetrate to poorly educated population. In 2011, Chinese internet users with middle-low educational degree had been increasing continuously. The proportion of internet users in 2010 with junior high school education and below rose from 32.8% to 35.7%.

Internet penetration of such educated people is lower. The proportion of internet users in the future will be further enhanced. The proportion of internet users with high school and college education will continue to decline.

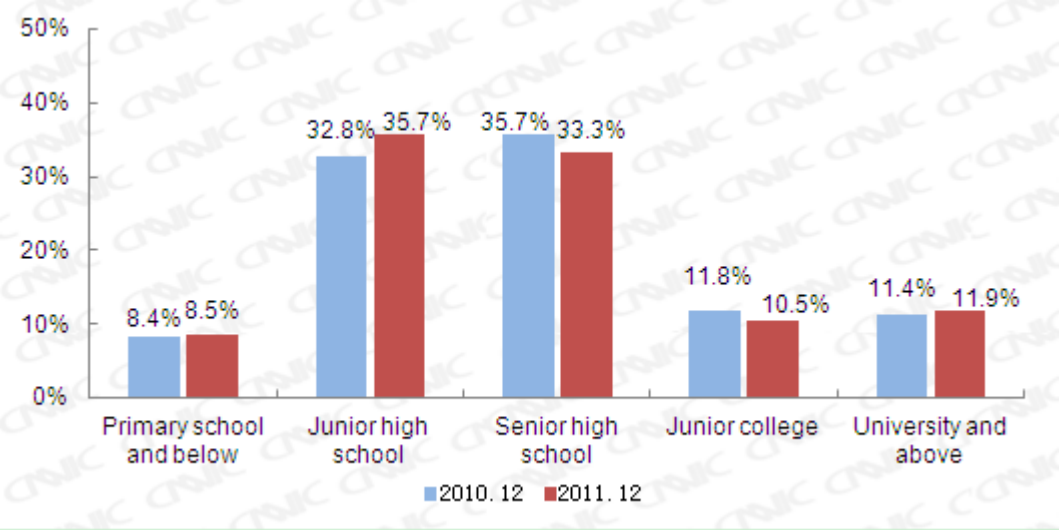


Fig 1 Educational structure of internet users during Dec 2010 and Dec. 2011

(IV) Occupational structure

Students cover the largest proportion among the internet users, as high as 30.2%, followed by self-employed/free-lancers. In corporation, senior management occupy 0.8% of overall internet users, middle management 3.2% and general staff 9.9%. In the agencies of the Party and government, leaders and general staff account for 0.7% and 5.2% respectively. In addition, professional technician occupies 8.3%.

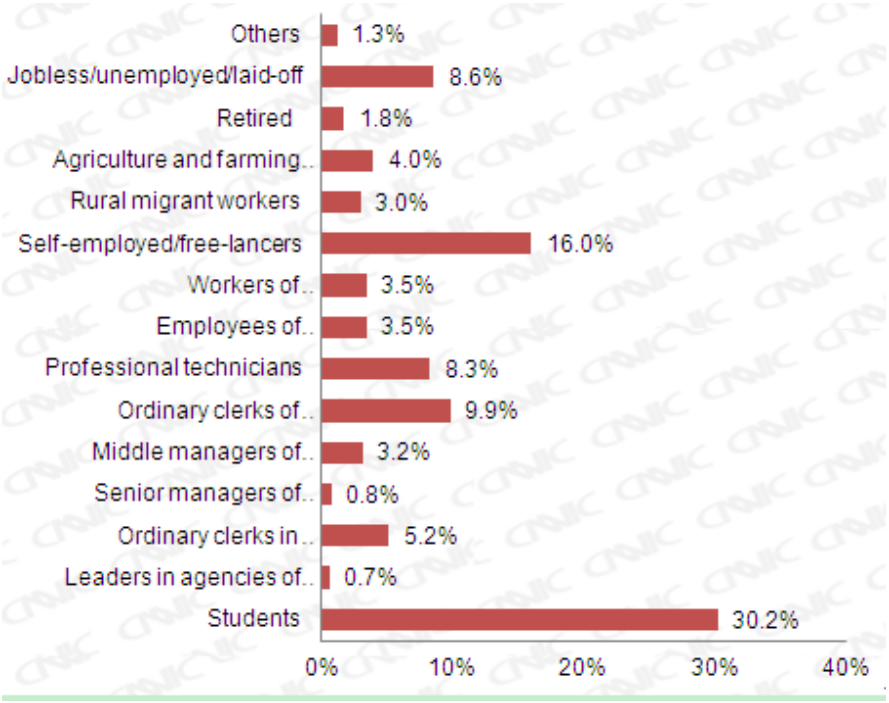


Fig 12 Occupational structure of internet users December, 2011

(V) Income structure

In 2011, the internet users group with income above 2,000 yuan increases significantly, from 33.3% in 2010 to 40.2%. At the same time, the proportion for internet users without income rises from 4.6% to 7.9%.

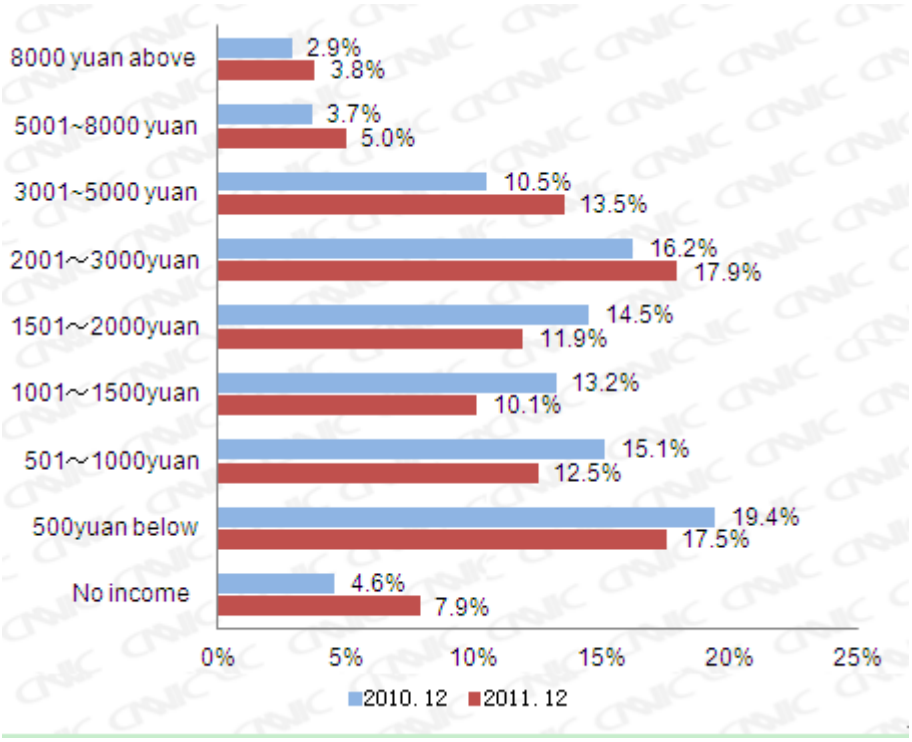


Fig 13 Individual monthly income structure of internet users during Dec 2010 and Dec. 2011

(VI) Urban-rural structure

In 2011, the number of Chinese rural internet users reached 136 million, increasing by 1113 ten thousand compared with those in 2010, accounting for 26.5% of overall internet users. Compared with 2010, the ratio of Chinese rural internet users declined 0.8%, with growing rate still lower than the town.

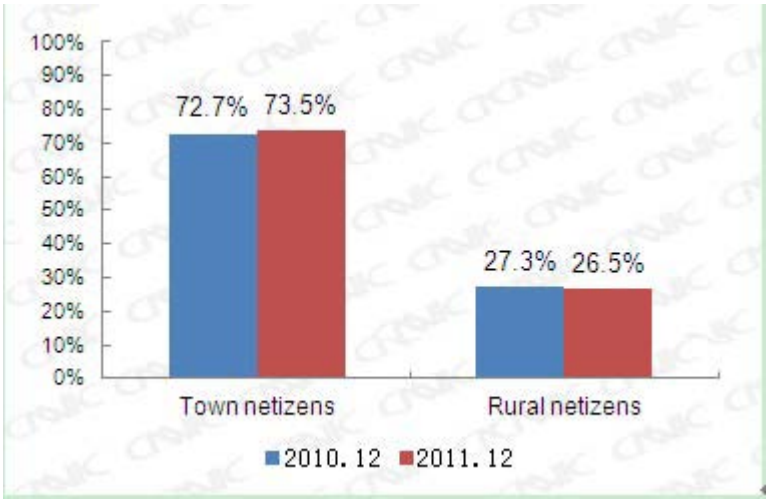


Fig 14 Urban-rural structure of internet users during Dec 2010 and Dec. 2011

In recent years, the proportion of Internet users in rural areas is at low levels, caused by accelerated Chinese urbanization, flocking of rural residents in cities and other change factor of overall population structure. However, insufficient computer for rural people and Internet use skill are important obstruct for development of internet in rural areas. In 2011, 57.8% of rural non-Internet users said "do not know how to use computer / network" is the reason for them not to surf the internet. Such proportion is 45.7% in non--Internet users in town. When Internet access condition is greatly improved, it's an important tool to narrowing development gap between urban and rural areas by enhancing network use skills and awareness of farmers.

Chapter III Basic Internet Resources

I. Overview

By the end of Dec 2011, the number of IPv4 addresses had reached 330 million in China. China has 9398 blocks/32 IPv6 addresses.

There are totally 7.75 million domain names in China, in which, the number of .CN domain names rallies, to 353 ten thousand, increasing by 0.7% compared with that in June 2011. Undergoing dramatic declining in 2010, the total number of Chinese website steadily increased to 2.3 million.

International export bandwidth reached 1,389,529Mbps, increasing 17.5% compared with that in June 2011.

Table 2 Comparison of basic Internet resources of China during June 2010 and Dec. 2011

	June, 2011	December, 2011	Half-year growth volume	Half-year growth rate
IPv4(piece)	331,626,752	330,439,936	-1,186,816	-0.4%
IPv6(piece /32)	429	9,398	8,969	2090.7%
Domain name(piece）	7,861,400	7,748,459	-112,941	-1.4%
In which CN domain name(piece)	3,502,288	3,528,511	26,223	0.7%
Website(piece)	1,830,100	2,295,562	465,462	25.4%
In which website under CN(piece)	931,869	951,609	19,740	2.1%
International export bandwidth(Mbps)	1,182,261	1,389,529	207,268	17.5%

II. IP address

By the end of Dec 2011, there were 330 million IPv4 addresses in China, grew by 19.0% compared with those at the end of 2010.

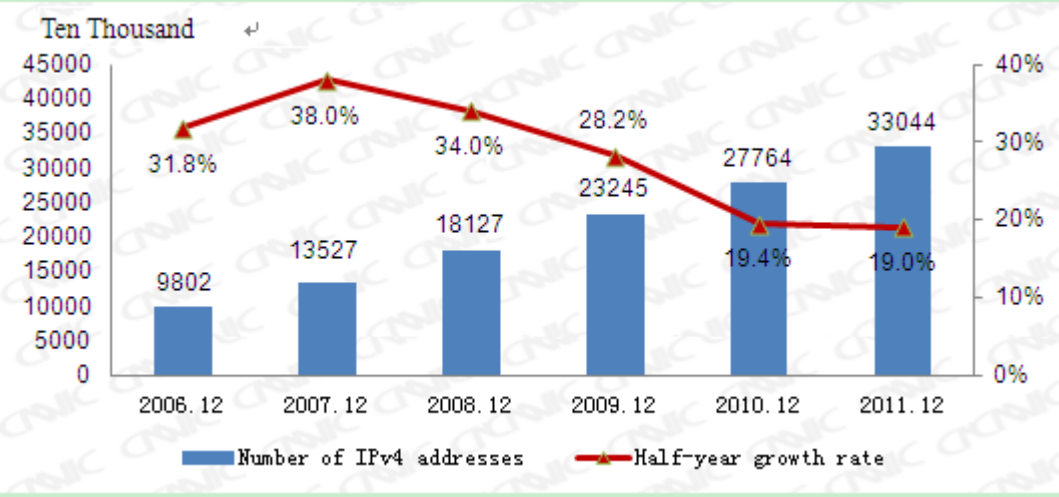


Fig 15 Variation of IPv4 address resource in China

As of the end of December 2011, China has 9398 blocks/ 32 IPv6 address, increasing greatly comparted with the same period in 2010. IPv6 is the starting point of development for next generation of Internet, with significance solving resource depletion of IPv4 address, becoming foundation of other technology development, and supporting development of networking, cloud computing and other emerging Internet industry. Facing this opportunity, our government attaches great importance to it and actively promote the development of relevant strategies. In December 2011, the State Council held executive meeting to study and deploy to accelerate development of next-generation of Internet industry, clarify route chart of developing next generation of internet, propose to carry out IPv6 small-scale commercial Internet before the end of 2013, and conduct large-scale deployment and commerce in 2014 - 2015. This plan will accelerate development pace of Chinese IPv6 and next generation of Internet industry, and improve international competitiveness of China in a series of emerging Internet industries.

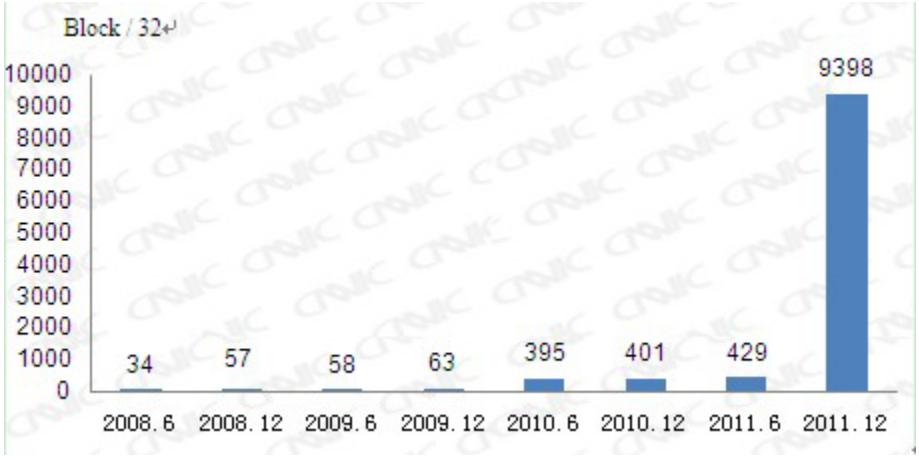


Fig 16 Change of IPv6 address Resource in China

III. Domain name

As of the end of December 2011, total domain names dropped to 7.75 million, in

which, .COM domain names are 3.64 million, accounting for 47.0% of total domain names in our country .CN domain names are 3.53 million, accounting for 45.5%.

Table 1 Number of classified domain name in China

	Quantity（piece）	Proportion
COM	3,644,147	47.0%
CN	3,528,511	45.5%
NET	467,939	6.0%
ORG	107,862	1.4%
Total	**7,748,459**	**100.0%**

Among CN domain names, the secondary domain names ended with .CN account for 64.5%，followed by .COM.CN domain name, for 27.2%.

Table 2 Number of classified CN domain name in China

	Quantity（piece）	Proportion
cn	2,275,971	64.5%
com.cn	960,753	27.2%
net.cn	130,913	3.7%
gov.cn	51,185	1.5%
adm.cn	50,961	1.4%
org.cn	51,428	1.5%
edu.cn	3,910	0.1%
ac.cn	3,364	0.1%
mil.cn	26	0.0%
Total	**3,528,511**	**100.0%**

IV. Website

As of the end of December 2011, China has 2.30 million websites[5]. After the state strengthened security management for Internet field in 2010, number of Chinese websites declined, while overall quality improved. On this basis, the quantity of website had a steady rise in 2011.

[5]Refer to the websites accessed by domain name registrator in China, including the websites accessed in and out territory.

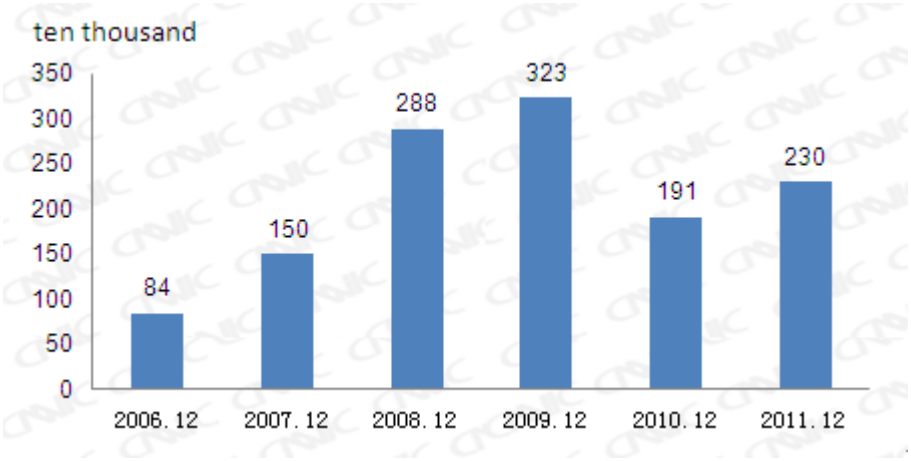


Fig 17 Variation in the number of websites in China

Note: Websites under .EDU.CN are not covered in the data.

V. Webpage

As of the end of December 2011, there were 86.6 billion webpages in China, increasing 44.3% compared with that at the same period in 2010.

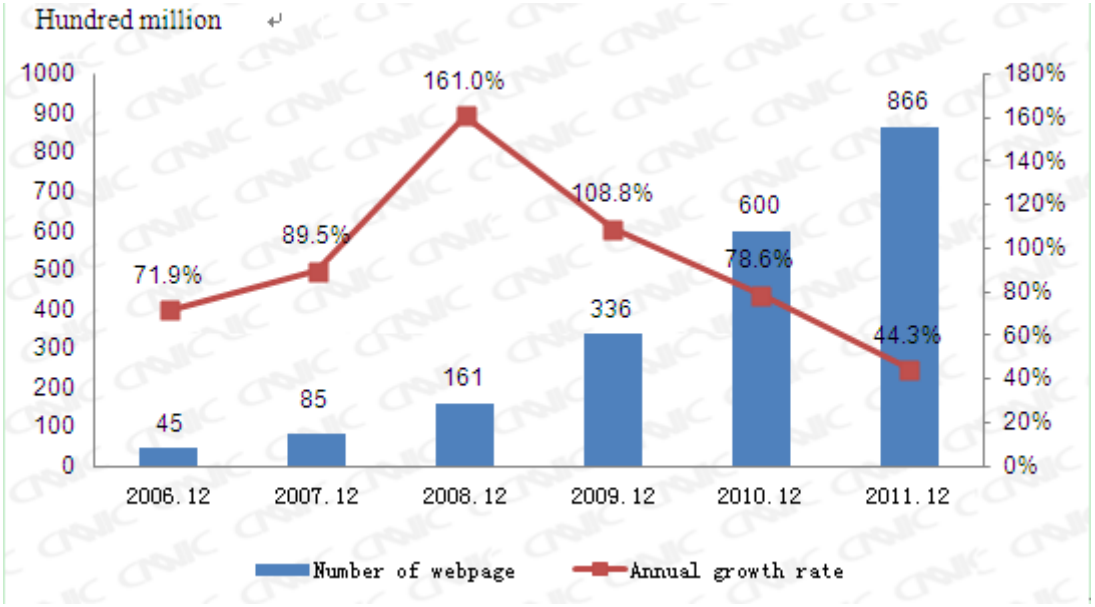


Figure 18 Variation in the size of website in China

The proportion of static and dynamic webpage in China climbed from 1.14:1 at the end of December 2010 to 2.18:1, because lots of websites staticize dynamic content to show affiliation to search engine, and a large number of dynamic webpages in dark network is hard for search engine to include these pages completely.

Table 5 Number of webpages in China[6]

	Unit	2010	2011	Growth rate
Total number of webpages	Piece	60,008,060,093	86,582,298,393	44.3%
Static webpages	Piece	31,908,739,278	59,364,979,522	86.0%
	Proportion	53.17%	68.56%	—
Dynamic webpages	Piece	28,099,320,815	27,217,318,871	-3.1%
	Proportion	46.83%	31.44%	—
Proportion of static / dynamic webpages		1.14:1	2.18:1	—
Page length (total number of bytes)	KB	1,922,538,540,426	3,313,529,625,009	72.4%
Average number of pages per site	Piece	31,414	37,717	20.1%
Average number of bytes per page	KB	32	38	18.8%

VI. Network international export bandwidth

International export bandwidth of China has seen constant development, and reached 1,389,529Mbps by the end of December 2011, increasing by 26.4% compared with those at the same period in 2010.

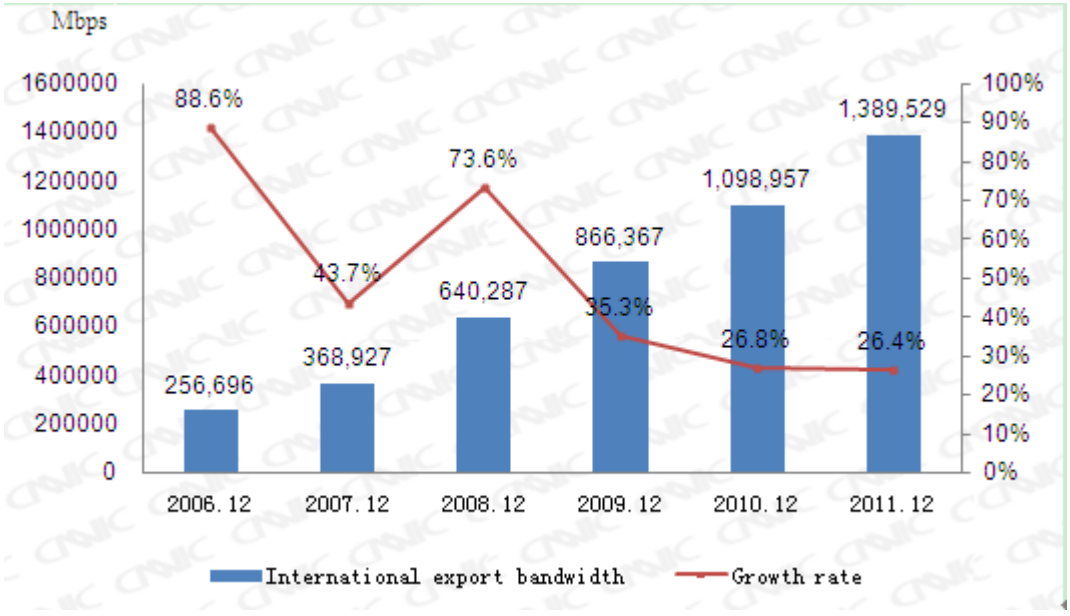


Fig 19 Variation of international export bandwidth of China

[6] Data suuport: Netease Youdao Information Technology (Beijing) Co., Ltd and Tencent Search Technology R & D Center

Table 6 International export bandwidth of backbone networks

	International export bandwidth（Mbps）
China Telecom	809,881
China Unicom	466,932
China Mobile	82,559
China Science & Technology Network	18,500
China Education and Research Network	11,655
China International Economy and Trade Net (CIETnet)	2
Total	**1,389,529**

Chapter IV Internet Application of Internet users

I. Overall condition of Internet applications

In 2011, Chinese Internet users have significantly changed application habits, due to rapid spread of merging Internet applications including new instant messaging and microblog etc. At the same time, utilization rate of traditional network applications declines rapidly, indicating fast innovative speed of Internet. Here follows the summary of feature change of Internet application for Chinese internet users:

Significant change of Internet communication way for internet users

In 2011, utilization ratio of Chinese internet users rose fast, to 80.9%. Meanwhile, the size of users for many traditional communication applications shrinks: utilization ratio of e-mail down to 47.9% from 54.6% in 2010; user amount reduced by 3.92 million; Forum / BBS from 32.4% down to 28.2%, slightly reduced. After utilization ratio of social networking site declines significantly in the first half of this year, the situation has improved in the second half year. Currently, utilization ratio bottoms out, to 47.6%. The above data shows that the communication habits and ways of internet users by Internet are changed greatly.

Entertainment application is generally lower, but online video users increase significantly

The utilization ratio of most of network entertainment applications continues to decline in 2011. Online music, online game and online literature subscribers increased a lesser extent in 2011, with utilization ratio falling to 75.2%, 63.2% and 39.5% respectively. In contrast, the development momentum of online video industry is relatively good. User scale increased by 14.6% on year basis, to 325 million. Utilization ratio increased to 63.4%.

Utilization ratio of E-commerce application keeps rising

E-commerce application develops steadily. The users for online shopping, online payment, online banking and online travel booking etc grow comprehensively. Compared with 2010, online shoppers increased by 3,344 ten thousand people, a growth rate of 20.8%. Online payment and online banking utilization ratio also rise to 32.5% and 32.4%. In addition, group purchase becomes the network service of growing the fastest at second place, whose annual growth rate of users is up to 244.8%, scale to 64.65 million and utilization rate to 12.6%.

Table 7 Utilization ratios of various network applications during 2010 and 2011

	2011		2010		
Application	**Users (10,000)**	**Utilization ratio**	**Users (10,000)**	**Utilization ratio**	**Annual growth rate**
Instant messaging	41510	80.9%	35258	77.1%	17.7%
Search engine	40740	79.4%	37453	81.9%	8.8%
Online music	38585	75.2%	36218	79.2%	6.5%
Online news	36687	71.5%	35304	77.2%	3.9%
Online video	32531	63.4%	28398	62.1%	14.6%
Online games	32428	63.2%	30410	66.5%	6.6%
Blog/personal space	31864	62.1%	29450	64.4%	8.2%
Microblog	24988	48.7%	6311	13.8%	296.0%
E-mail	24577	47.9%	24969	54.6%	-1.6%
Social networking website	24424	47.6%	23505	51.4%	3.9%
Online literature	20267	39.5%	19481	42.6%	4.0%
Online shopping	19395	37.8%	16051	35.1%	20.8%
Online payment	16676	32.5%	13719	30.0%	21.6%
Online bank	16624	32.4%	13948	30.5%	19.2%
Forum/BBS	14469	28.2%	14817	32.4%	-2.3%
Group buying	6465	12.6%	1875	4.1%	244.8%
Travel booking	4207	8.2%	3613	7.9%	16.5%
Online stock	4002	7.8%	7088	15.5%	-43.5%

(I) Acquisition of information

1. Search engine

At the end of 2011, the scale of search engine users reached to 407 million, and penetration rate 79.4%. The use proportion remained stable. It’s the second largest network application only secondary to instant messaging in 2011.

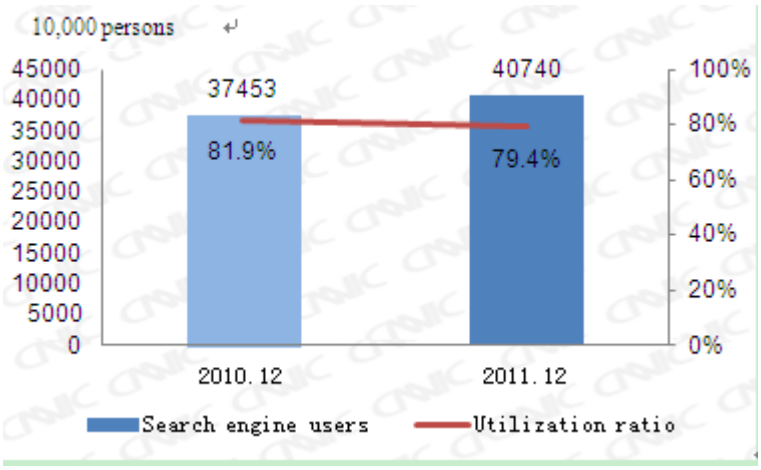


Fig 20 Number of users and utilization ratio of search engine during 2010 –2011

2. Online news

Online news utilization ratio has a downward trend year after year, down to 71.5% at the end of 2011 from 80.1% in 2009, a decrease of 8.6 percentage points in two years.

According to CNNIC 29th survey result, education is strongly relevant to network news utilization ratio. The lower education, the lower utilization ratio of network news. The utilization ratio of college degree internet users using netnews is 87.6%, and junior high school education only 62.1%. Chinese Internet has gone through the popular stage for highly educated population. The internet users popularizing rate for junior college and above has exceeded 90 percent. Internet is penetrating towards high school and junior high school educated people. The increase of low educational population drives down the utilization ratio of overall users of network news.

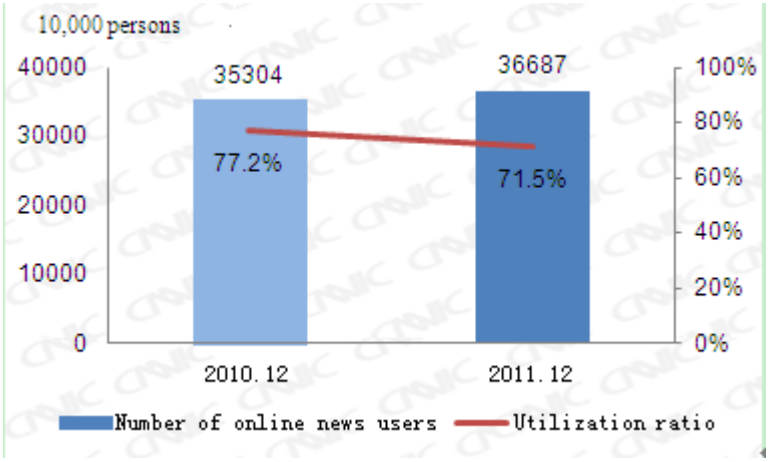


Fig 21 Number of users and utilization ratio of online news during 2010 – 2011

(II) Business transaction

1. Online shopping

As of the end of December 2011, the online shoppers reached to 194 million. The network shopping utilization rate is up to 37.8%. Compared with those in 2010, online shoppers increase by 33.44 million, a growth rate 20.8%.

Under the context of the national stimulating domestic demand and social consumption, the deepening of network shopping service drive more Internet users to realize daily consumption by online shopping. The frequent promotion of shopping site also stimulate new purchase requirements of internet users and urge the steady growth of online shoppers. In 2011, brand enterprise and platform mall (B2C) have become absolute main body of the market. Traditional manufacturers and distributors have obvious increased. The enterprises derivating from online shopping develop prosperously. On-line transaction goods and service types are richer, which drives frequency of online shopping and significant ascension of amount.

For full year, when online shopping market remains stable and rapid development, it also faces outstanding problems. Logistics and distribution services ability enhanced slowly, which grips speed acceleration of electronic business service. Market low price competition becomes the norm. Merchant profit ability is insufficient Capital market freezes. Subsequent development support is pessimistic. Online shopper’s information is leaked, which reduces consumer trust, etc. These problems have become important factor restricting sustained and rapid development of retail market. With obvious increase of government to regulation and normalization of online retail market, issuance of payment license of the third-party, formulation of development plan of logistics service and introduciton of online shopping standardized regulation etc, in the future, online shopping market will embrace more standardized industry development environment. Engaging in scale growth, the online shopping enterprise shall explore from extensive development to intensive development, from size to depth, so as to realize overall ascension of service level of network shopping industry.

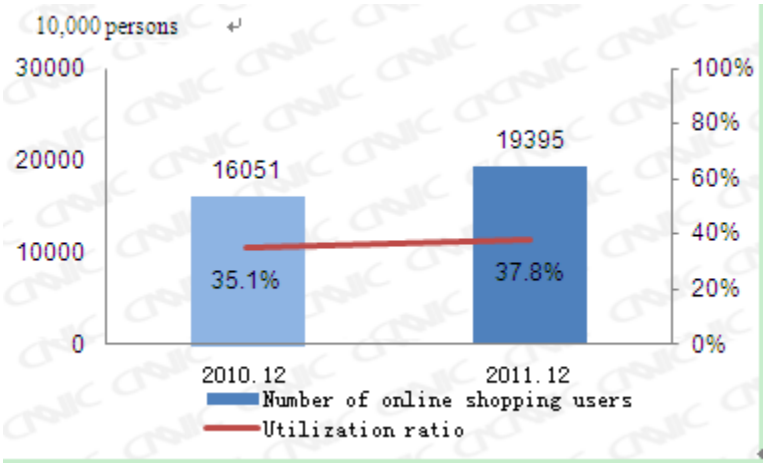


Fig 22 Number of users and utilization ratio of online shopping during 2010 – 2011

2. Group buying

By the end of December, 2011, the number of group buying user is up to 64.65 million, and utilization rate to 12.6%, increasing 8.5% compared with those at the end of 2010. Annual growth rate of group buyer is as high as 244.8%. It has become the network services increasing the fastest at the second place in a year.

In 2011, group buying was hot first and cold later. Since the service form of group buying meets the demand of white-collar groups for the first and second tier cities. In the first half year, number of group buying and service provider grew rapidly. The industry was in lasting high fever state. Due to low threshold and weak constraint of group buying service, in addition to great input at early period of group buying website, the overall capital market becomes cold. Market negative factors appeared in the second half of the year. The growth speed of group buying was slow, and number of group buying website declined dramatically.

The industrial "baptism" in the second half of 2011 had a certain impact on group buying development. After self-adjustment of market, it’s helpful to allow overall industry to go on a healthier and sustainable development path. Part of service providers weaken market risks by positioning adjusting. The industry is turning to a new balance and stability. Due to the increase of proportion of physical group buying and deepening of service group buying. Group buying service has become “standard configuration” of shopping website and travel booking website, which weakens the competitiveness of group buying website that is positioned obscurely. Some group buying websites stand out by clear position and its own advantage, which are favored by capital market and customers.

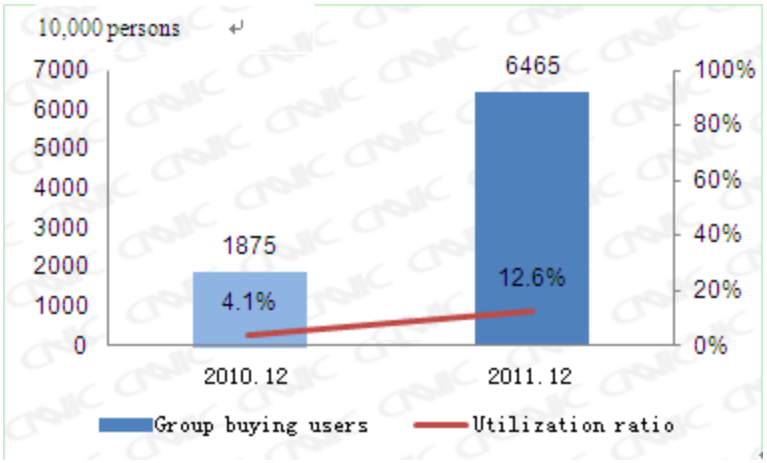


Fig 23 Number of users and utilization ratio of group buying during 2010 – 2011

3. Online payment

By the end of December, 2011, users using online payment reached to 167 million, and utilization rate up to 32.5%. Compared with that in 2010, users increase by 29.57 million, the growth rate of 21.6%.

In 2011, People's Bank of China issued “License of Payment Transaction” to three batches of service enterprise respectively, covering main third-party service enterprise. The industry status of the third party payment is fully recognized. Payment licence finishes its subsequent worry to its service qualification for payment enterprise for long term, and wins broad market space for development. By diversified cooperation forms, the enterprise continuously broad its service areas, i.e., earnestly promoting quick pay area, pushing development of innovative payment etc. The payment service covers to offline transaction of more categories, which drives more "edge crowd" to transfer towards online payment users. At the same time, the rapid development of network shopping and group buying also contributes to the sustainable growth of online payment users. In particular, the prepayment of group buying and high frequent trading characteristic greatly drive the usage of online payment.

The overall layout of payment enterprise in mobile phone payment also drives the growth of mobile phone online users. By the end of December 2011, mobile phone online payment users reached to 30.58 million, accounting for 8.6% of mobile phone internet users. In addition to the third party payment enterprise, operators and bank will push rapid development of mobile phone payment business in the future by earnestly promoting payment area and technology innovation of payment and service mode innovation etc.

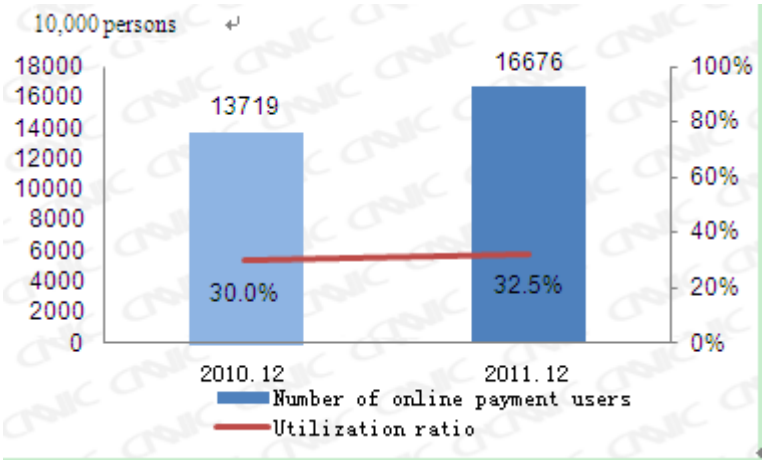


Fig 24 Number of users and utilization ratio of online payment during 2010 – 2011

4. Travel booking

By the end of December, 2011, our country's travel booking users are up to 42.07 million, annual growth ratio 16.5%, and user permeability enhanced to 8.2%. Internet users will use travel booking service in a deeper way.

In 2011, the overall tourism market is supported by many positive factors: the era of high-speed rail further optimizes traffic conditions between hub cities; the state's policies on openning to individual visit to Taiwan and Hainan Islands duty-free etc enhance the heat of travel market in local area. And by the end of 2011, the opening of online service for national train ticket booking indicates an important step for railway transportation system using informationization means to promote convenient travel for visitors. These factors urge the transition of a large amount of non-travel booking internet users to travel booking internet users, and cultivate the spending habit of internet users using online travel booking.

Compared with other commercial applications, Chinese users using travel booking are relatively at high-end, and penetration level of travel booking application is low. CNNIC analysis shows that currently, the demand of leisure tourism of our country has been in rapid growth track. In the coming years, the demand of leisure tourism will be released continuously. With earnest strength of major travel booking servicer on wireless booking service, direct marketing business of aviation/ hotel's official website, sustainable steady development of group buying of hotel travel, and intensive development of train ticket online booking service etc, the travel booking market in the future will embrace a new stage for rapid growth of user scale.

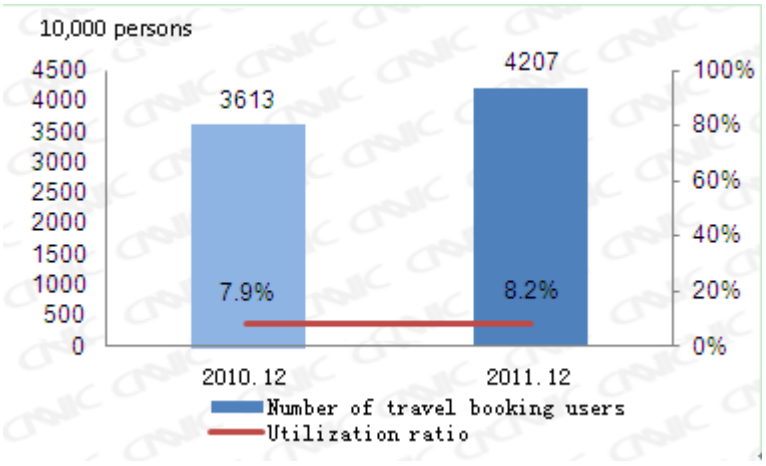


Fig 2 Number of users and utilization ratio of travel booking during 2010 – 2011

(III) Communication

1. Instant messaging

By the end of 2011, there were 415 million instant communication users, increasing 62.52 million compared with that by the end of 2010, annual growth rate 17.7%. The utilization rate of instant communication continues to ascend, growing to 80.9%.

Instant communication utilization rate and rising of number of users are mainly caused by the development of mobile phone instant communication. Mobile phone instant communication is the service that is used at most among Internet applications, up to 83.1%, with annual growth ratio of user amount to 44.2%. Mobile phone preassemble of instant communication software and development of smartphone application market bring convenience to the use of instant communication software, resulting in growth of utilization rate of instant communication and number of users. The instant communication products specially designed for smart phones are featured by voice content, real-time photographing, video, LBS, position making friends, and flow statistics function etc. The new instant communication mobile phone interconnecting with other Internet applications meets the new demand of users and improves number of users of instant communication mobile phone.

The great potential of instant communication field of new mobile phone induces telecom operator, mobile phone maker, Internet enterprise, software developer and new entrepreneur in the market to expect to obtain huge gains from the market, and control mobile internet entry by controlling instant communication market. In the future, there is still large room for number of instant communication subscribers to rise. But in the market, it will become an inevitable trend to

seek product differentiation and develop vertical field market.

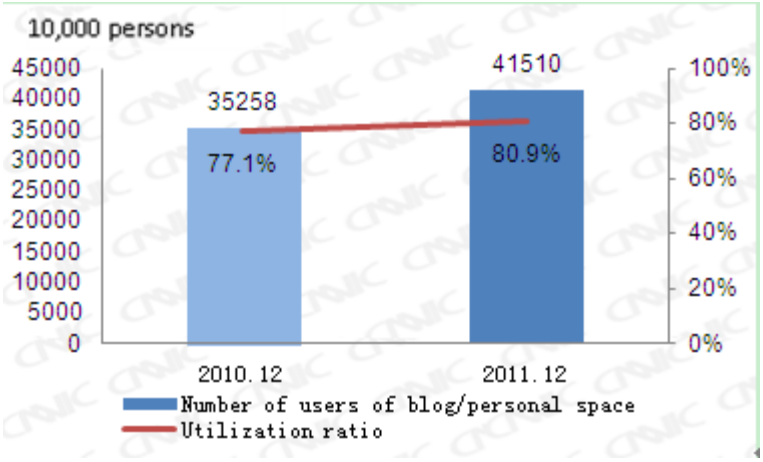


Fig 26 Number of users and utilization ratio of blog/personal space during 2010 – 2011

2. Blog/ personal space

By the end of December, 2011, there were 319 million blogs and personal space in China, increasing by 24.14 million compared with that at the end of 2010, the growth rate of 8.2%. The utilization rate of blogs and personal space is 62.1%, down 2.3% compared with that at the end of last year.

Although in recent years blogs and personal space users keep growing, its utilization rate falls in this year. As the earliest web2.0 application form, blog presents more characteristics for traditional information dissemination. Some celebrity blogs are still concerned, which are important channel for opinion leaders to transmit information. For ordinary Internet users, under the influence of micro blog, SNS and other emerging applications, users are used to rapid simple information interaction mode of strong interaction and sociability. Therefore, blogs must inject new vitality by innovating constantly. For example, light blog form appeared in 2011 is beneficial attempt. In addition, some blogs and personal space are constantly strengthening SNS attribute.

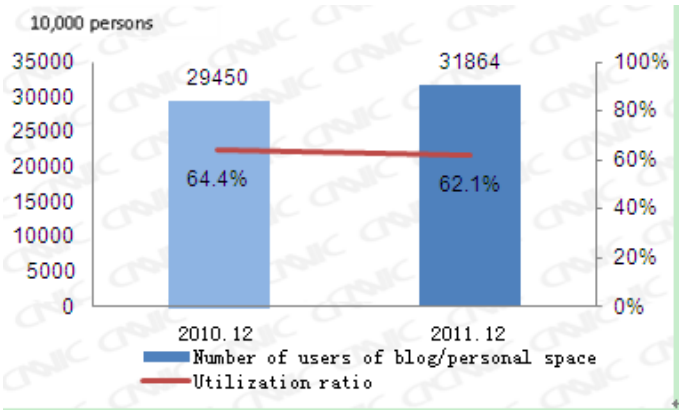


Fig 27 Number of users and utilization ratio of blog/personal space during 2010 – 2011

3. Microblog

By the end of December, 2011, there were 250 million micro bloggers, increasing 296.0% compared with that at the end of last year. The utilization ratio is 48.7%. Over one year, micro blog has become vital Internet application used by nearly half of Chinese internet users.

By analyzing the growth of micro blog in 2011, it's known that its users outbroke in the first half of year, and the growth speed was down to 28.2% in the second half of year. It can be seen that after micro blog utilization rate stepped into high level, the blowout growth was completed.

By analyzing, the direction of future micro blog mainly depends on three factors. First, due to large gap between different portals on strategic intention of developing micro blog platform, the development roads are diversified. All large portals provide different functions and characteristics for micro blog according to their own advantages, mainly representing on its focus on social network function and social media function. Secondly, micro blog profit model is fuzzy. Currently, the well developed websites that place great profit expectation to micro blog have begun to try multiple profit patterns. Finally, micro blog real name policy was introduced at the end of 2011. It's a concerned problem for the government for how to effectively regulate information spreading order on micro blog. Those regulatory measures will have important impact on future development of micro blog.

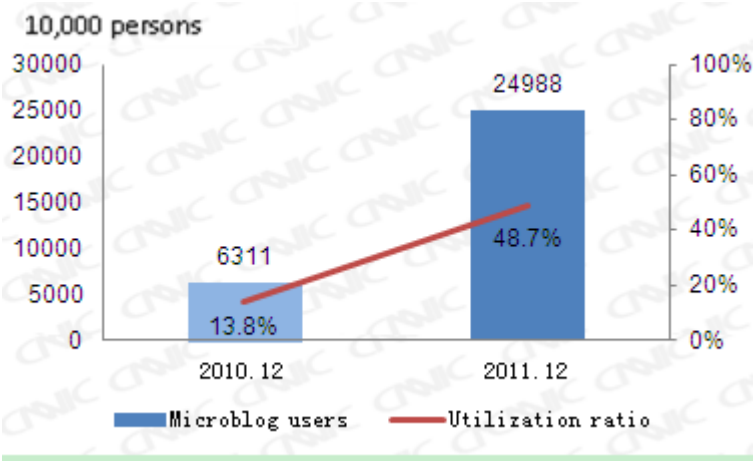


Fig 3 Number of users and utilization ratio of microblog during 2010 – 2011

4. Social networking website

As of the end of 2011, there are 244 million users of social networking sites in China, slightly increasing compared with that at the end of 2010. On the aspect of utilization ratio, users of social

networking site account for 47.6%, nearly four percentage points lower than the previous year.

At present, our social networking sites are undergoing various attempts to resolve site stickiness crisis. Several major SNS sites carried out strategic expansion or adjustment for long-term in 2011, such as the attempt to explore the potential of combination of social sharing and network video, seeking new growth point in video sharing; or conducting "practical" transition, including implementation of social e-commerce and mobile Internet strategy etc. However, this transition road is not ideal. Partial attempts were ended with failure, indicating the difficulties of domestic SNS breakthrough road.

The social networking sites having certain user basis are ongoing adjustment and transition, constantly accompanied by new competitors that even change competitive situation of SNS real-name system. In spite of slow growth scale of users and development in dilemma, the main competition body in SNS field is still diverse, because actually there is no successful model for our SNS though foreign mature social networking sites show great potential for development, especially in the immature construction of platform. It means there is great opportunity in SNS field, under the premise of innovation combined with psychological characteristics and communication way of Chinese internet users etc, and platform accumulation for long time and user's habit cultivation. In this respect, part of latecomers has more obvious advantages on users and resources.

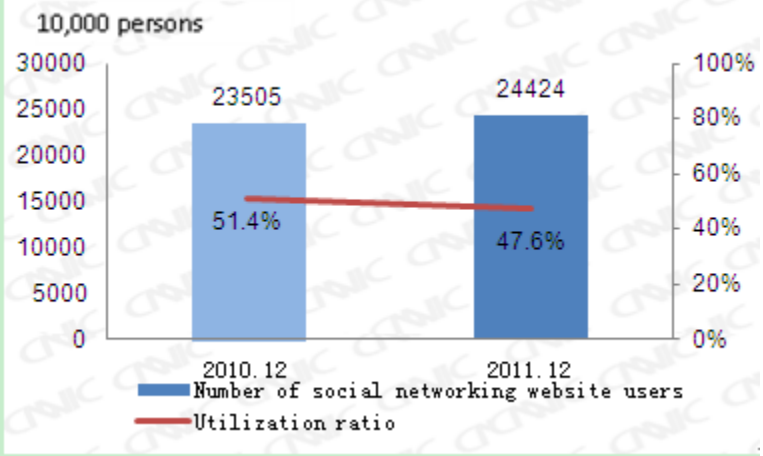


Fig 29 Number of users and utilization ratio of social networking websites during 2010 – 2011

(IV) Online entertainment

1. Online games

As of the end of December 2011, there were 324 million online games users, increased by only 6.6% compared with those at the end of 2010. Internet users utilization ratio is 63.2%.

The user growth slowdown directly causes the growth slowdown of users of all game types. Although various types of games maintain growing, most of them are mutual penetration of different game types, and there are no more new users. Analyzed from sub-game type, first, user size of large-scale client game (MMOG) is generally in parallel to that in 2010. For one hand, such game type users are mainly young users, and early MMOG users begin to lose. For the other hand, MMOG game form is still subject to Daguai upgrade, racing, dancing, and FPS games etc, limited to attract non-game users. And, small-size casual games are still in mainstream position. 80% of online game users play chess casual games. Compared with other types of games, small chess games have stabler user's structure, with higher utilization rate at all ages. Finally, though mobile MMOG and webpage MMOG maintain rapid growth, they are influenced by terminal equipment and user experience respectively, and it's hard to achieve large-scale popularization similar to small size chess games and large-scale client game.

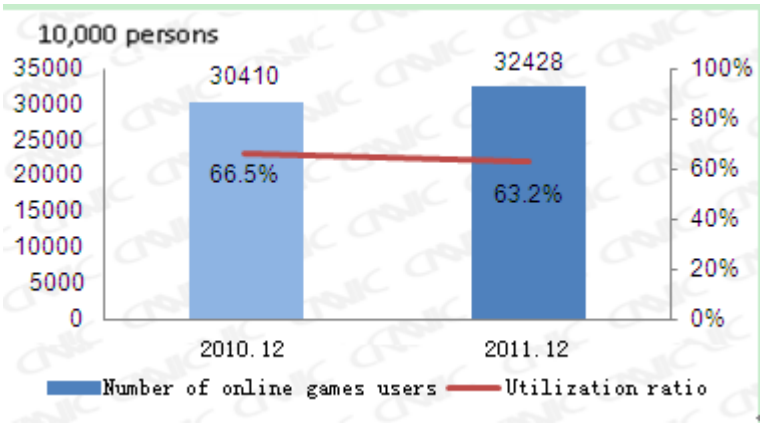


Fig 30 Number of users and utilization ratio of online games during 2010 – 2011

2. Online literature

As of the end of December 2011, network literature utilization rate is 39.5 percent, and user scale is up to 203 million. Despite of rising user scale of network literatures, the utilization rate decreased 3.1 percentage points on year basis, indicating that the development of network literature is slower than overall Internet.

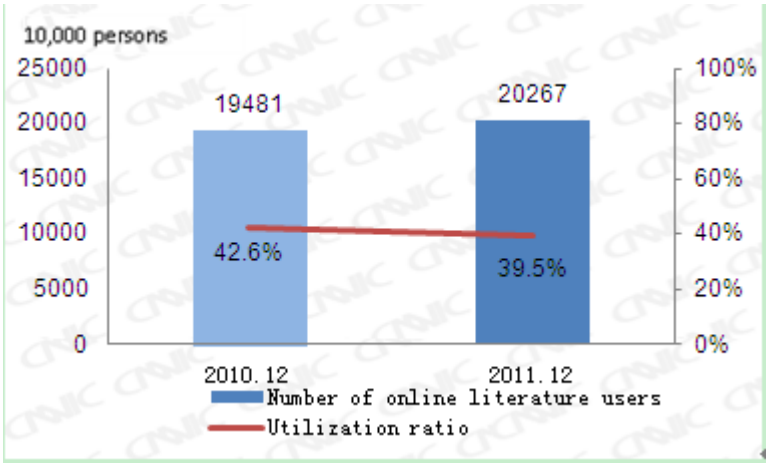


Fig 31 Number of users and utilization ratio of online literature during Dec. 2010 – Jun. 2011

3. Online video

As of the end of December 2011, online video users in China increased to 325 million, the annual growth rate of 14.6%. Utilization ratio improves to 63.4 % from 62.1% at the end of last year.

In 2011, online video utilization ratio was significantly higher, mainly due to external factors such as habit development and broadband environment construction etc and industrial reasons of video website content building and video social sharing etc. First, in 2011 in order to gain a competitive edge, major video sites constantly enrich their content by purchasing a large number of hot TV drama and programs, and actively launching homemade video. Currently, video site can not only provide most of hot TV drama and programs, but also have greater freedom on video subject content and geographical source thanks to relatively loose policy environment. Secondary, microblog and SNS have become important video distribution sites. The cultivation of video sharing expands the spreading scope of online video, which greatly broadens video distribution platform. These factors promote the scale of online video users constantly. It has become the fifth largest Internet application.

On the aspect of industry development, online video is still facing a larger test. Because video sites need to rely on more copyright content of better quality to obtain high-traffic, the copyright price of network video is improved, operating cost is in a sharp rise, while video advertising rate is lower, and other profit model can not be mature in a short time. Therefore, network video industry as a whole is at a loss, which is also difficult to change currently.

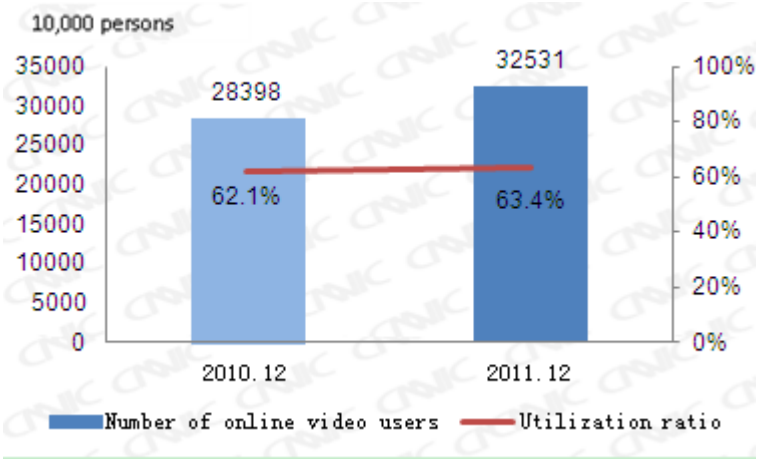


Fig 32 Number of users and utilization ratio of online video during 2010 – 2011

Chapter V. Structure of Mobile Internet users and Application Situation

I. Properties of mobile internet users

(I) Gender structure

Among mobile internet users, men account for nearly 60%, to 58.1%, 16.2 percentage points higher than women, greater than the male to female proportion difference of overall internet users. It shows significant characteristics that utilization rate of male mobile internet users is higher than female. Compared with 2010, the proportion of male mobile phone users has increased slightly.

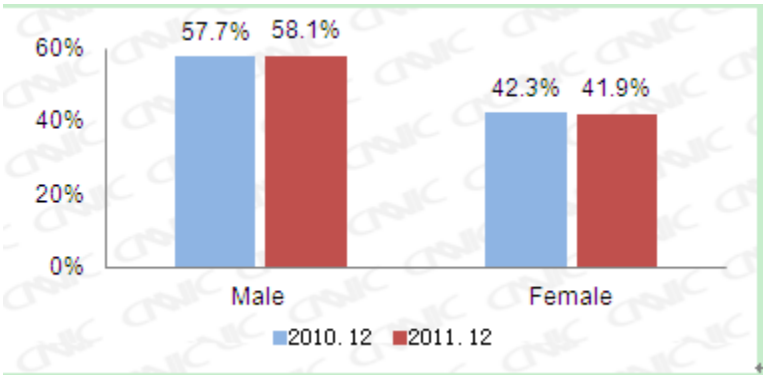


Fig 33 Structure of mobile internet users gender during December, 2010 - December, 2011

（II）Age structure

Compared with overall internet users, mobile internet users are more concentrated in younger groups. 20 -29 year-olds account for 36.0% of this age group, six percentage points higher than overall internet users. However, 30-39 year-old internet users increased significantly in 2011, showing maturity trend of mobile phone internet users.

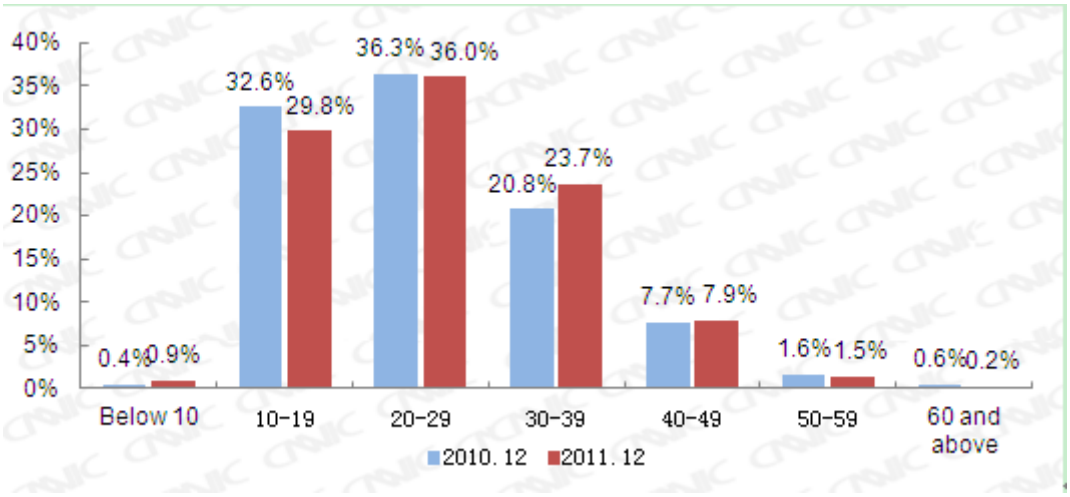


Fig 34 Age structure of mobile internet users during December, 2010 - December, 2011

(III) Education structure

Education structure of mobile internet users changed little compared with 2010. The proportion of primary school and junior high school education is slightly higher, and high school population dropped to 34.3%.

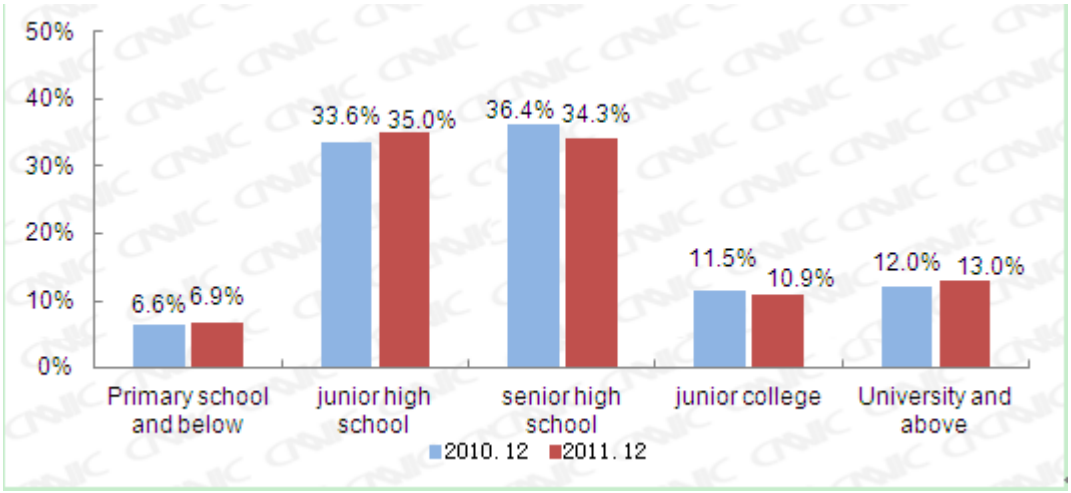


Fig 35 Education structure of mobile internet users during December, 2010 - December, 2011

(IV) Revenue structure

In 2011, utilization ratio of mobile internet users of middle/high-income groups grew fast. The group of income above 2,000 yuan increased to 41.2% from 33.0% in 2010.

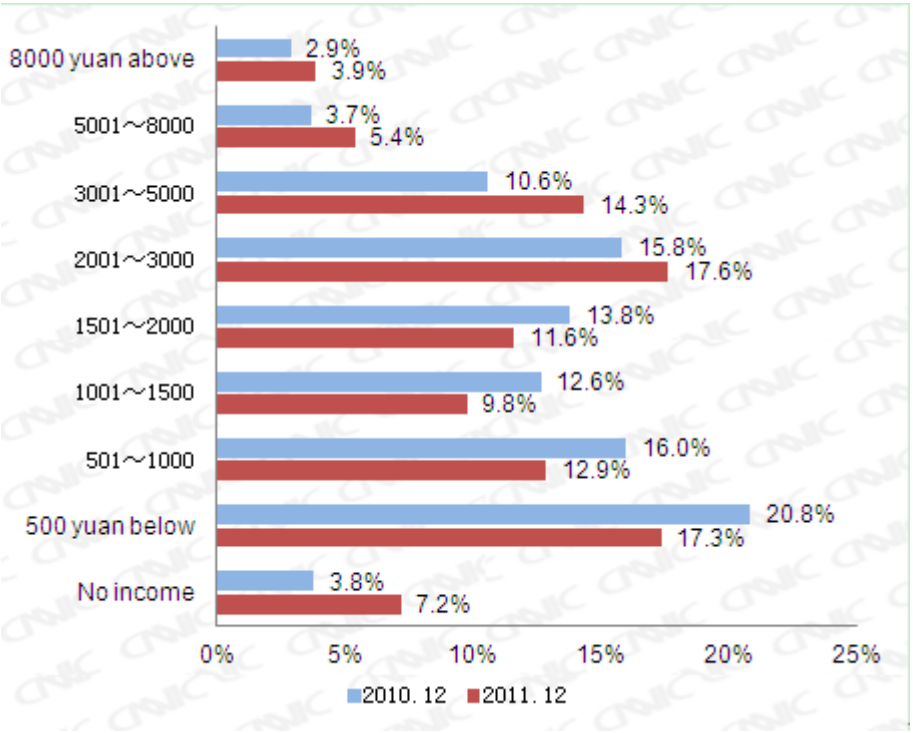


Fig 36 Monthly income structure of mobile internet users during December, 2010 - December, 2011

(V) Urban and rural structure

The urban and rural distribution of mobile internet users is generally the same with overall internet users. Mobile internet users in rural areas account for 27.3%. Its rural-urban gap has widened. Compared with 2010, rural population in mobile internet users fell by nearly two percentage points.

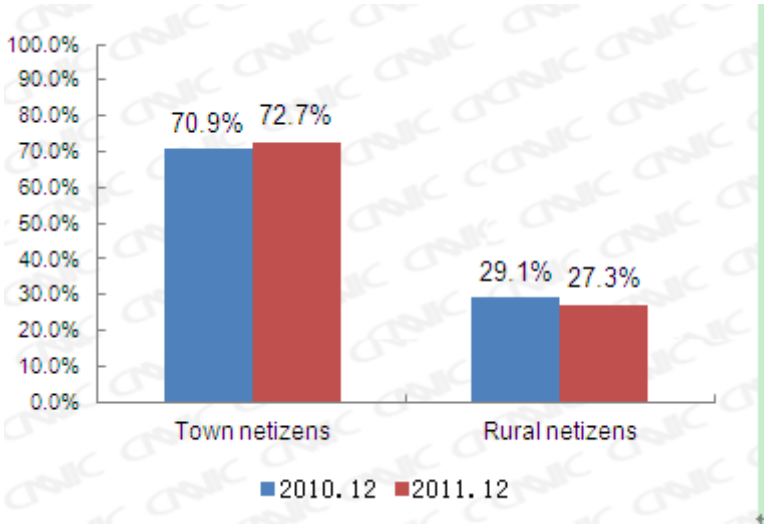


Figure 37 Urban and rural distribution of mobile internet users during December, 2010 - December, 2011

II. Application status of mobile internet users

In 2011, overall mobile application development is in good condition. As a whole, communication applications and information access application developed in a leading position, and entertainment and business application development was relatively slow. Among them, mobile instant messaging and mobile microblog, as a representative of the communication applications, is the mainstream at this stage to promote development of mobile Internet applications.

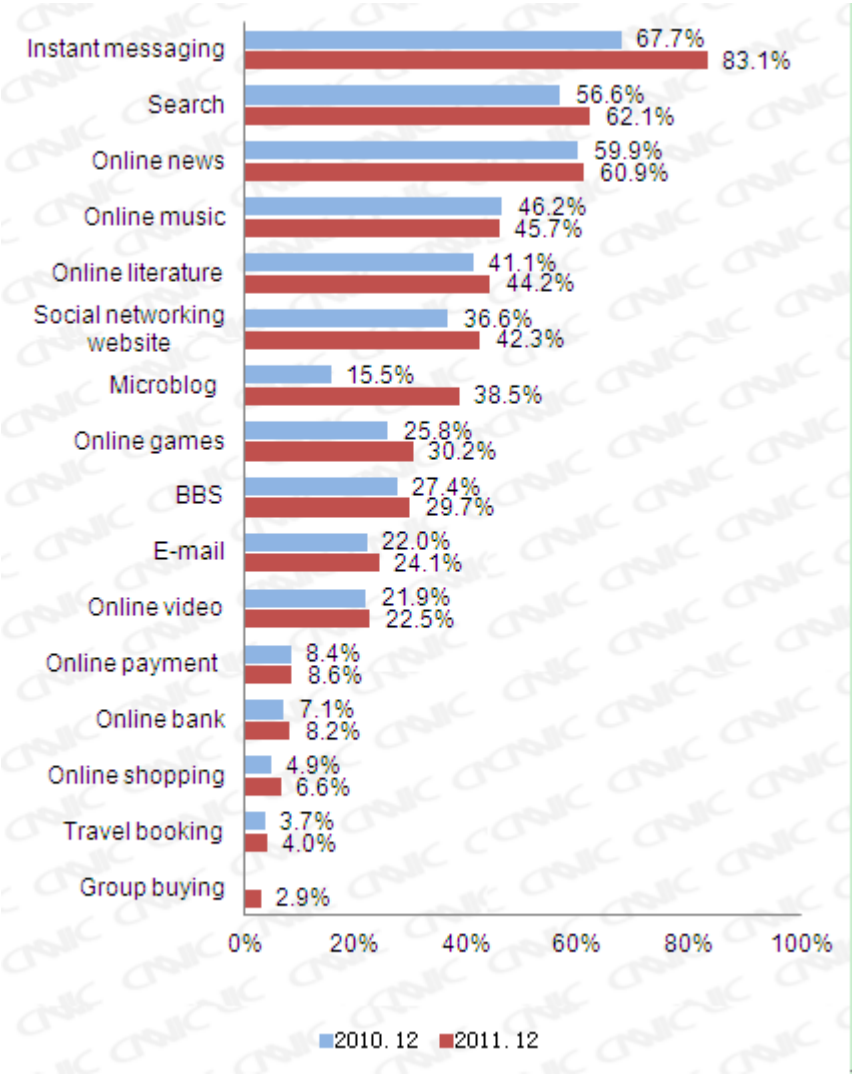


Fig 38 Network application of mobile phone internet users in 2010-2011

Utilization ratio of instant messaging stays ahead

Although mobile instant messaging is an application of the highest penetration rate, in 2011, its utilization ratio still increased substantially, an increase of 15.4% year-on-year basis, more than the ratio of instant messaging in overall internet users (as of December 2011, use rate of overall Internet users instant messaging 80.9%). This situation is mainly caused by two reasons. On the one hand, instant communication is the only purpose for most of mobile internet users to surf the Internet with cell phone. On the other hand, the use threshold of mobile instant messaging tools is significantly reduced. Driven by instant messaging service providers, instant messaging has become standard preset product of mobile terminal. Product preset significantly reduces the threshold of mobile phone users especially non-smartphone users to use instant messaging tools, i.e., user can directly log in to by opening wireless network without downloading and installing.

Mobile microblog is an application growing the fastest

The utilization ratio of mobile microblog in 2011 increased by 23% year on year, the highest growth rate for mobile phone applications. CNNIC analysts believe that mobile microblog will be another key application attracting internet users to use mobile Internet after instant messaging.

First, mobile microblog can better reflect the real-time characteristics of micro-blog content. Compared with computer, most of people carry their mobile phones, which make people know the latest news anywhere. Secondary, mobile microblog can better display the advantage of self media of microblog applications. The innovative "concern" mechanism of microblog allows each user to become a communication center, and greatly enhance the viscosity of users to use microblog. The featured original content is the key to attract more attention, such as improvisation pictures and video etc. Mobile phone has improvising original ability much higher than computer. The third, the context at most 70 characters in length greatly reduces the influence of screen size on microblog experience. Compared with computer, the use of mobile phone microblog doesn’t bring unfriendly reading experience to user. On the contrary, with the enhancement of client development level, mobile microblog experience is even higher than computer microblog experience.

Steady development of other communication applications and information access applications

The applications of mobile search, mobile network news, mobile phones post and reply, mobile social networking sites, and mobile e-mail etc are the traditional mobile application the

same with instant messaging. In 2011, its year on year utilization rate increases at less extent. The main market impetus is as follows:

On one hand, with smart phones era for WAP, Internet service providers start to deploy mobile Internet. For mainstream Internet applications, the corresponding WAP version or client is launched, which greatly enhance the use experience of mobile phone internet users. On the other hand, the fierce competition of mobile phone browser market promotes providers to increase investment in product features and services of mobile browser, which greatly improves the use experience of browser user. In particular, internet users can easily access WEB site through browser, increasing the depth of internet users using mobile Internet applications.

Slow development of entertainment and commercial application

As typical entertainment application, mobile video has little utilization rate change. In short term, the development of mobile video business faces the following difficulties: on the one hand, wireless network infrastructure can not meet user's needs. Large amounts of wireless network traffic required for video applications, high charge of network currently and instabile bandwidth become the bottleneck hindering the application development. On the other hand, there is lack of corresponding mobile video content. Feature of fragmented use makes service providers to provide short video content applicable for mobile video users. Currently, when wireless network is not mature, video service providers don't start to conduct strategic layout for mobile phone users.

E-commerce applications are generally at the early stage of development, having low penetration rate in mobile phone users by two reasons. First, the majorities of e-commerce products cannot be purchased until users compare them and consult. The mobile phone of small screen makes relatively worse purchasing experience. Second, the trust and use habit have not been established for mobile phone payment.

Special：increasing space and restricting factor of online shopping

Introduction:

In 2008-2010, the size of online shopping users maintained rapid growth of around 50% for three consecutive years. In 2011, online shopping users reached 194 million, online shopping usage rate increased to 37.8%, but user annual growth rate was down to 20.8%, and user's absolute increment fell sharply. During the development process that online shopping gradually is stepping into mature stage, the exploration to growth space of online shopping helps us understand today's growth and clarify future direction.

Since 2009, commercial applications represented by online shopping, online payment and travel booking etc continue to grow rapidly, leading other Internet application development, becoming the outstanding feature of development of Internet in China. In 2011, this trend still continued. Chinese online shopping application is still in rapid development channel. On one hand, group buying achieved user high growth of 244.8% as a new commerce transaction application. On the other hand, when utilization rate of more network application services declined, commerce application penetration remains steady improvement trend, and online shopping, online payments, and online banking user scale achieved faster growth. This can not be separated from the overall situation that the state increase domestic demand to stimulate social consumption. It more benefited from force marketing of shopping site, overall enhancement of online shopping services and further release of internet users consumption demand. Supply and demand booming promoted the growth of online shopping users.

However, **along with the slowdown of growth rate of Internet users in China, both growth speed of Chinese online shopping users and absolute increment fall.** Viewed from user growth for nearly 5 years, it can be found that since 2008, the number of online shopper in China has been in high growth. The growth rate from 2008-2010 was around 50%, and the absolute quantity of annual growth also continued to increase. In 2011, although online shopping penetration rate was still improved, growth rate of online shopper slipped to 20.8%. Absolute

number of annual new users decreased significantly, for 33.44 million, decreasing 19.07 million compared with that in 2010. When the depth of online shopping was strengthened, the growth speed of online shopper has slowed down.

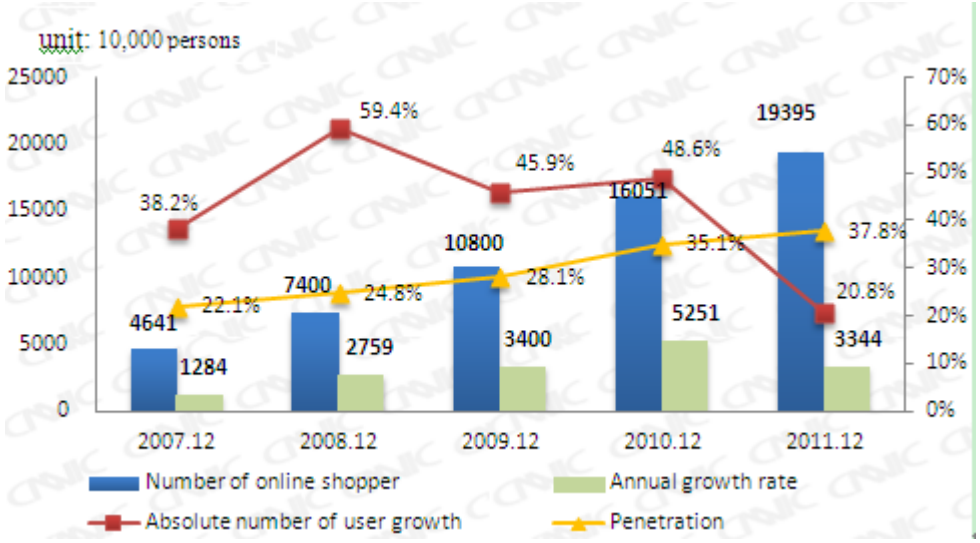


Fig. 39 Number, growth rate and penetration of online shopper during Dec. 2007 - Dec. 2011 in China

Decrease of total amount of new internet users[7] and transmission fatigue of old internet users are the main cause of slowdown for online shopper growth. On the one hand, new internet users make less contribution to online shopper growth, in lasting declining (proportions of new online shopper in 2009, 2010 and 2011 are 11.4%, 10.8% and 9.3% respectively). In 2011, new internet users scale increment decreased, further weakening the promotion of new internet users to online shopping growth. On the other hand, in 2008-2010, government's strong support and deepening operation of electrical commercial enterprises effectively promote behavior of old online shopper, and release more consumption potential. After new internet users transfer to old internet users, certain cycle, conditions and factors are needed to become online shoppers. Due to relatively high-end commerce application, there will be longer for internet users to use cultivation period from proceeding with it. Comparing the proportion of internet users of different ages using online shopping, we can see that there are two key trend turning points. The first is 2-3 years. When internet users Internet ages are 2-3 years, its proportion using online shopping is 29.7%, improving 11.8 percentage points compared with 1-2 years. The second is five years later, when penetration reached to 59.2%, enhancing 19.6%

[7] Statistical caliber of new internet user is the internet user with online age within one year (including 1 year).

compared with 3-5 years. The users of this stage are in more rapid infiltration area of online shopping. When new internet users increase slowly and old internet users transfer in an insufficient level, the application population will experience the current situation of slowdown at less extent.

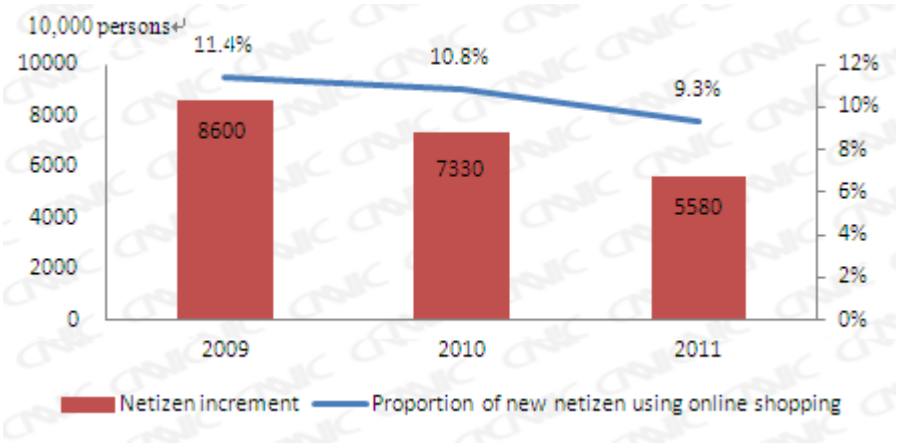


Figure 40 Internet users increment and proportion of new internet user using online shopping

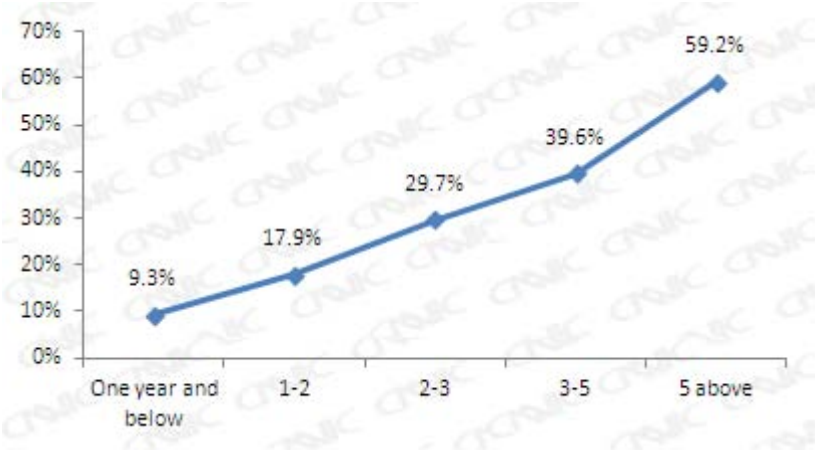
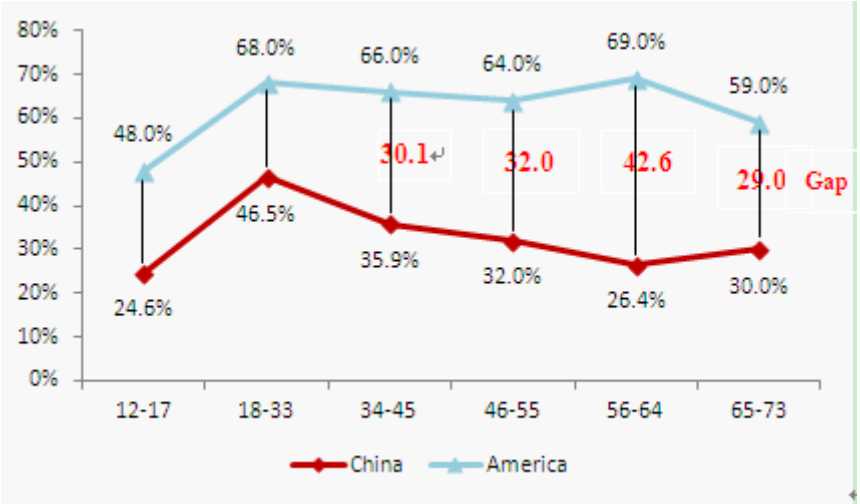


Figure 41 Proportion of internet users of different ages using online shopping

There is huge growth space for online shopper and market in China in the future. Compared with developed countries, Chinese online shopping penetration rate is low. In 2010, the proportions of online shoppers in South Korea and the U.S. were 64.3%[8] and 66.0%[9] respectively. As of December 2011, Chinese online shopping penetration rate was only 37.8%.

[8] Source: KISA http://isis.kisa.kr/
[9] Source: PEW http://www.pewinternet.org/

Compared with penetrations of users of different ages in China and America, it's found that popularizing rate of Chinese internet users of all ages is lower than the counterpart in the United States by over 20 percentage points, especially for middle-aged groups. The penetration rates for online shoppers aged 34 - 45, 46–55 and 56-65 are 30.1%, 32.0% and 42.6%. The growth of online shopping in China is far from peak, and there is a large penetration space especially for middle-aged groups that will become important growth groups in the future. **However, Chinese social and economic development and current situation of popularity of Internet decide that the actual growth of online shopping is bound to be subject to a number of objective factors.**



Data for China from CNNIC, data for the U.S. from PEW

Figure 42 Proportion of online shopper of different ages in China and United States

The main factors restricting the growth of online shopper is Internet popularizing level, population consumption behavior pattern and commodity distribution service capabilities, i.e., basic condition and supply and demand. The first one is the difference of Chinese Internet penetration levels. In America, Internet penetration levels for population of all ages are relatively equal, while Chinese Internet penetration is highly different along with transmission of overall socio-economic system for Internet development. What's the most prominent is high level of Internet penetration for young groups and low level for elderly popularity, resulting in great difference for different population from bringing into contact to accepting and then to basic conditions of online shopping. The second is great difficulty for consumption pattern changing. With the development of online shopping penetration, in the future, among potential online shoppers, proportion of middle-aged and rural users will become increasingly bigger. Such group will more rely on traditional methods. Coupled with concerns about online security, there is great

obstruction for consumption demand converted to practical application of online shopping, which will have impact on user growth for the next step. Third, lagged logistics development causes uneven market supply level. Although the scope of services and capacity for electrical and commercial enterprises in China have increased dramatically, there is great gap for distribution services of online shopping between city, rural areas, core cities and four-tier cities due to restriction of insufficient logistics distribution capabilities, the objective condition. It leads to the difference of online shopping supply level between different areas.

Viewed from anticipation of future development, the momentum of gradual deepened Internet penetration in China is irreversible. Supply and demand side of online shopping continues to be active, which will promote online shopping to grow steadily in the future for a long time. Though Chinese Internet penetration rate has slowed, penetration power remains strong. The popularity of low Internet level is accelerated for conversion. Along with enhancement of our residents' income and purchasing power, internet users' online consumption potential will continue to release. The momentum of development of electric commercial enterprises is strong. Online shopping supply capacity gradually grows. Service level continues to deepen. Those factors will effectively create room for further growth, and promote online shopping to grow steadily in the future for a long time.

Appendix 1 Table of Basic Internet Resources

Table 1 Number of IPv4 addresses in each region of China

Region	Number of addresses	Equivalent number
Mainland China	330,439,936	19A+178B+29C
Taiwan	35,381,504	2A+27B+225C
Hong Kong Special Administration Region	11,544,576	176B+40C
Macau Special Administration Region	324,864	4B+245C

Source: APNIC and CNNIC

Table 2 Allocation of IPv4 addresses among the organizations in Mainland China

Organization name	Number of addresses	Equivalent number
China Telecommunications Corporation	125,761,280	7A+126B+247C
China United Network Communications Corporation	69,751,040	4A+40B+81C
China Mobile Limited	49,906,688	2A+249B+132C
China Education and Research Network	16,649,728	254B+14C
China Tietong Telecom	15,795,200	241B+4C
State Information Center	4,194,304	64B
Great Wall Broadband Network Service Co., Ltd.	2,147,328	32B+196C
Beijing Education Information Network Service Center Co., Ltd.	2,097,152	32B
Beijing Teletron Telecom Engineering Co., Ltd.	1,725,440	26B+84C
Oriental Cable Network Co., Ltd. (OCN)	1,662,976	25B+96C
HiChina Zhicheng Technology Ltd.	1,261,568	19B+64C
China Cable Television Network Co., Ltd.	1,187,840	18B+32C
China Great Wall Telecommunication Technology Development Center	1,056,768	16B+32C
Beijing Chengyi Times Network Technology Engineering Co., Ltd.	1,048,576	16B
CECT-CHINACOMM COMMUNICATIONS Co., Ltd.	1,011,712	15B+112C
Beijing Gehua CATV Network Co., LTD.	999,424	15B+64C
China Science & Technology Network	928,768	14B+44C
21 Viatnet Group, Inc.	903,168	13B+200C
Beijing Bitong United Network Technology Service Co., Ltd.	786,432	12B

Beijing Weishi Chuangjie Technology Development Co., Ltd.	720,896	11B
Shenzhen Topway Video Communication Co., Ltd.	720,896	11B
Beijing Shidai Hongyuan Network Communication Co., Ltd.	720,896	11B
Beijing Founder Broadband Network Service Co., Ltd.	663,552	10B+32C
Beijing Xinbilin Telecom Technology Co., Ltd.	589,824	9B
CNCBB	557,056	8B+128C
Beijing Kuandaitong Telecom Technology Co., Ltd.	557,056	8B+128C
Huabei Oil Communication Corporation Information Center	557,056	8B+128C
CITIC Networks	524,288	8B
Beijing Kuancom Network Technology Co., Ltd.	524,288	8B
WASU	524,288	8B
Shaanxi Broadcast & TV Network Intermediary (Group) Co., Ltd.	503,808	7B+176C
SOIDC	479,232	7B+80C
JiNan TianDi Network Tech Corp.	458,752	7B
Daqing Zhongji Petroleum Telecommunication Construction Co., Ltd.	438,272	6B+176C
Fibrlink Communications Co., Ltd.	407,552	6B+56C
SRIT NETeck Co., Ltd.	385,024	5B+224C
Alibaba Cloud Computing Co., Ltd.	335,872	5B+32C
Jiangxi Broadcast & TV Network Transmission Co., Ltd.	327,680	5B
Guangzhou Digital Media	327,680	5B
ChinaCach	294,912	4B+128C
Jinan Broadcast & TV Jiahe Broadband Network Co., Ltd.	270,336	4B+32C
ChinaFIC	262,144	4B
Guangdong CATV Network Co., Ltd.	262,144	4B
Shenzhen Zhongtian Network Technology Co., Ltd.	262,144	4B
Chongqing CATV Network Co., Ltd.	262,144	4B
Hubei Chutian Shitong Network Co., Ltd.	262,144	4B
263 Network Communications Co., Ltd.	259,072	3B+244C
China Motion Telecom	205,824	3B+36C
Beijing Xirang Media Co., Ltd.	198,656	3B+8C
Shanghai Yovole Cloud Computing Network Co., Ltd.	196,608	3B

Beijing SINNET Technology Co., Ltd.	189,440	2B+228C
Gold-bridge Netcom Telecommunication Co., Ltd.	188,416	2B+224C
Pacnet Business Solutions (Shenzhen) Limited	163,840	2B+128C
Efly Network	147,456	2B+64C
Tianjin Broadcast & TV Network Co., Ltd.	144,384	2B+52C
Shenzhen Tencent Computer System Co., Ltd.	131,072	2B
SVA Information Industry Co., Ltd.	131,072	2B
Beijing Dongfang Youchuang Network Technology Co., Ltd.	131,072	2B
Henan Xinfei Jinxin Computer Co., Ltd.	131,072	2B
Shenzhen Wotong Network Development Co., Ltd.	131,072	2B
Shanghai Yixuan Network Technology Co., Ltd.	131,072	2B
HSKW	131,072	2B
Shanghai DMT Information Network Co., Ltd.	126,976	1B+240C
Beijing Hengchuan Jianye Technology Co., Ltd.	122,880	1B+224C
CNISP	122,880	1B+224C
Beijing CNLink Networks Limited.	118,784	1B+208C
China Entercom	98,304	1B+128C
Langfang Development Zone Huarui Xintong Network Technology Co., Ltd.	82,944	1B+68C
Beijing CBD Telecom Co., Ltd.	73,728	1B+32C
Beijing Guanghuan Xuntong Digital Technology Co., Ltd.	73,728	1B+32C
Coca-Cola Enterprise Management (Shanghai) Co., Ltd.	73,728	1B+32C
Beijing Baidu Netcom Science and Technology Co., Ltd.	69,632	1B+16C
Shanghai BENALONG Network Technology Co., Ltd.	67,584	1B+8C
Hebei TV Network Group Co., Ltd.	66,560	1B+4C
SCCN	66,560	1B+4C
Shanghai Atm Network Technology Co., Ltd.	65,536	1B
Beijing Qianjing Shiji Telecom Technology Co., Ltd.	65,536	1B
GWtel	65,536	1B
Beijing Channelshare Network Technology (Beijing) Co., Ltd.	65,536	1B
Shanghai HPT	65,536	1B
Shanxi Datong Coal Mine Group Communication Co., Ltd.	65,536	1B
Beijing Jinfeng Weiye Technology Co., Ltd.	65,536	1B
Dagang Oilfield Communication Co., Ltd.	65,536	1B

China Digital Harbor Technology Co., Ltd.	65,536	1B
Liaoning Oriental Star Broadband Co., Ltd.	65,536	1B
Beijing Xinnet Digital Information Technology Co., Ltd.	65,536	1B
Shanghai Highway Information Technology Co., Ltd.	65,536	1B
Kunshan Wanyu Data Service Co., Ltd.	65,536	1B
Hangzhou Silk Road Telecommunication (SRT)	65,536	1B
Guangdong Broadcast & TV Network (Zhuhai) Co., Ltd.	65,536	1B
Shanghai ViaCloud	65,536	1B
Guangdong Takewin Infomation Technology Development Co.,Ltd.	65,536	1B
Beijing Shanxun Wanglian Telecom Technology Co., Ltd.	65,536	1B
Beijing Sina Internet Information Service Co. Ltd.	65,536	1B
Zhongguang Cable Information Network (Wenzhou) Co., Ltd.	65,536	1B
China International Electronic Commerce Center	65,536	1B
Airway Communication Group Co., Ltd.	65,536	1B
Beijing Yingtong Tiandi Information Consulting Co., Ltd.	65,536	1B
Shenzhen NOVA Technology Development Co. Ltd.	65,536	1B
Tianjin Xinbei Broadband Digital Network Co., Ltd.	65,536	1B
Nanchang Zhongtian Feihua Communication Co., Ltd.	65,536	1B
SNDA Computer (Shanghai) Co., Ltd.	65,536	1B
CAPNET	65,536	1B
Shenyang Sujiatun District Media Network Co., Ltd.	65,536	1B
Beijing Zhirui Zongheng Technology Development Co., Ltd.	65,536	1B
TravelSky Holding & TravelSky Technology Limited	65,536	1B
Anhui Provincial Education and Scientific Research Computer Network Center	65,536	1B
Pingdingshan Information Communication Technology Co., Ltd. of Zhong Ping Energy Chemical Group	65,536	1B
Xiamen Broadcast & TV Network Co., Ltd.	65,536	1B
CCTV	65,536	1B

Subtotal	317,144,576	18A+231B+62C
Others	13,295,360	202B+223C
Total	330,439,936	19A+178B+29C

Source: APNIC and CNNIC

Note 1: *As a NIR certified by APNIC and approved by Ministry of Industry and Information Technology, CNNIC organized ISPs with certain scale and influence to build up an IP address allocation federation. At present, CNNIC Allocation Federation totally has 289 members, holding 74,301,696 IPv4 addresses, about 4.43A . Most of the above listed are members of CNNIC Allocation Federation;*

Note 2: *Only the organizations with number of IPv4 addresses greater than 1B are listed in the IPv4 address allocation table.*

Note 3: *The data statistics are as of Dec.31, 2011.*

Table 3 Number of IPv6 addresses in China

Region	**Number of IPv6 addresses**（/32）
Mainland China	9398 blocks /32
Taiwan	2329 blocks /32
Hong Kong SAR	84 blocks /32
Macau SAR	3 blocks /32

Table 4 IPv6 address allocation in China

Organization name	**Number of IPv6 addresses（/32）**
China Telecommunications Corporation	4098
China Mobile Limited	4098
China United Network Communications Corporation	1026
China Science & Technology Network	17
BII Group Holding Ltd.	16
China Education and Research Network	16
China Great Wall Telecommunication Technology Development Center	8
China Southern Power Grid Co., Ltd.	2
CNNIC	1
China International Electronic Commerce Center	1
Beijing Teletron Telecom Engineering Co., Ltd.	1
China Network Communication (Chongqing) Co., Ltd.	1
TISSON Ruida Communication Technology Company Dongguan Bolu Branch	1
HiChina Zhicheng Technology Ltd.	1
Beijing Software and Information Promotion Center	1
Management Information Department of CITIC Group	1
Oriental Cable Network Co., Ltd. (OCN)	1
Beijing Guxiang Information Technology Co., Ltd.	1

Great Wall Broadband Network Service Co., Ltd.	1
Hangzhou Silk Road Telecommunication (SRT)	1
Pingdingshan Coal Mine Group Communication Technology Development Co., Ltd.	1
Xinhua News Agency	1
Beijing Founder Broadband Network Service Co., Ltd.	1
China Organizational Name Administration Center	1
FibrLINK Communications Co., Ltd.	1
Hangzhou Ali Information Service Co., Ltd.	1
ChinaFIC	1
Hangzhou Koubei Network Technology Co., Ltd.	1
CITIC Networks	1
Shanghai SMARTEL Network Technology Co., Ltd.	1
Shanghai HPT	1
China Satellite Navigation and Communication Co., Ltd.	1
Guangdong Jinwanbang Technology Investment Co., Ltd.	1
Communication Science And Technology Co., Ltd. Of Changchun FAW	1
Computer Center of NBS	1
Airway Communication Group Co., Ltd.	1
CNISP	1
SVA Information Industry Co., Ltd.	1
Unihub Global Network	1
Communication Department of Zhongyuan Petroleum Exploration Bureau of Sinopec	1
Shanghai Information Network Co., Ltd.	1
Sunway Internet Co., Ltd.	1
Liaohe Oilfield Communication Co., Ltd.	1
Shanghai DMT Information Network Co., Ltd.	1
Beijing Xinnet Technology Development Co., Ltd.	1
Beijing Gao Hua Secuties Co., Ltd.	1
Union Life Co., Ltd.	1
Zhejiang Alibaba E-business Co., Ltd.	1
USTC Network Information Center	1
Shanghai BENALONG Network Technology Co., Ltd.	1
Zhongguancun Software Park Development Co., Ltd.	1
Gold-bridge Netcom Telecommunication Co., Ltd.	1
Chengdu Information Harbor Co., Ltd.	1
China Motion Telecom	1
Beijing Heju Digital Technology Co., Ltd.	1

Beijing Baidu Netcom Science and Technology Co., Ltd.	1
Zhongguang Cable Information Network (Wenzhou) Co., Ltd.	1
Shenzhen Topway Video Communication Co., Ltd.	1
Daqing Zhongji Petroleum Telecommunication Construction Co., Ltd.	1
Guangzhou Etrunk Telecom Network Communication Co., Ltd.	1
Yilong County Broadcast and TV Network Co., Ltd., Sichuan	1
Anhui Provincial Education and Scientific Research Computer Network Center	1
Zhanjiang Wantong Telecom Co., Ltd.	1
Pacnet Business Solutions (Shenzhen) Limited	1
Hangzhou Alibaba Advertisement Co., Ltd.	1
Huabei Oil Communication Corporation Information Center	1
Pingan Technology (Shenzhen) Co., Ltd.	1
Chongqing CATV Network Co., Ltd.	1
China Huadian Corporation	1
Shanghai Chenyu Network Technology Co., Ltd.	1
Shenzhen NOVA Technology Development Co. Ltd.	1
Guangdong Eastern Fibernet Investment Co., Ltd.	1
NETEON	1
Shanghai HPT	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Beijing E-tone Technology Co., Ltd.	1
Tianjin Broadcast & TV Network Co., Ltd.	1
WASU	1
Beijing WINTIMES Communication Technology Co., Ltd.	1
Institute of High Energy Physics CAS	1
Shanghai New Vision Information Technology Co., Ltd.	1
Beijing Anlai Information Communication Technology Co., Ltd.	1
Shandong Information Center	1
Hubei Chutian Shitong Network Co., Ltd.	1
Shanghai Yitong Communication Technology Co., Ltd.	1

Shenzhen Tencent Computer System Co., Ltd.	1
Beijing Xirang Media Co., Ltd.	1
Beijing Topnew Information Technology Co., Ltd.	1
Beijing Chengyi Times Network Technology Engineering Co., Ltd.	1
China Relic Information Consultation Center	1
Guangdong CATV Network Co., Ltd.	1
263 Network Communications Co., Ltd.	1
China Cable Television Network Co., Ltd.	1
Beijing CIBONet Technology Co., Ltd. (Guangzhou Branch)	1
Kingdom Union Technology (Beijing) Co., Ltd.	1
Guangdong Broadcast & TV Network (Zhuhai) Co., Ltd.	1
Coca-Cola Enterprise Management (Shanghai) Co., Ltd.	1
Shanghai Data Solution Information Technology Co., Ltd.	1
21 Viatnet Group, Inc.	1
CAPNET	1
CECT-CHINACOMM COMMUNICATIONS Co., Ltd.	1
Shenzhen HRY Technology Co., Ltd.	1
Beijing Jinfeng Weiye Technology Co., Ltd.	1
Hebei TV Network Group Co., Ltd.	1
CCTV International Network Co., Ltd.	1
Beijing Yingtong Tiandi Information Consulting Co., Ltd.	1
Beijing BTM	1
Beijing Shanxun Wanglian Telecom Technology Co., Ltd.	1
Qingdao CATV Network Co., Ltd.	1
CCTV	1
Qinhuangdao CHINYO Electronics Co., Ltd.	1
Dalian Hutong Technology Development Co., Ltd.	1
SNDA Computer (Shanghai) Co., Ltd.	1
Easynet China	1
SCCN	1
KNET	1
Lin’an Tianjian Comptuer Network Co., Ltd.	1
Tianjin Longchi Shenzhou Network Technology Co., Ltd.	1

China International Data System Co., Ltd.	1
CSR Corporation Limited	1
Shenzhen Information and Network Center	1
Shandong Datong Network Information Co., Ltd.	1
Jinan UPNET	1
Total	**9398**

Source: APNIC and CNNIC

Note 1: */32 as shown in the IPv6 address allocation table is a method to present IPv6 addresses, the corresponding number of addresses is* $2^{(128-32)}=2^{96}$.

Note 2: *The above data is as of Dec.31, 2011.*

Table 5 proportion of IPv4 address in each province

Province	Proportion
Beijing	25.6%
Guangdong	9.6%
Zhejiang	5.3%
Jiangsu	4.8%
Shanghai	4.5%
Shandong	4.9%
Hebei	2.9%
Liaoning	3.4%
Henan	2.7%
Hubei	2.4%
Sichuan	2.8%
Fujian	2.0%
Hunan	2.4%
Shaanxi	1.7%
Anhui	1.7%
Heilongjiang	1.2%
Guangxi	1.4%
Chongqing	1.7%
Jilin	1.2%
Tianjin	1.1%
Jiangxi	1.8%
Shanxi	1.3%
Yunnan	1.0%
Inner Mongolia	0.8%
Xinjiang	0.6%
Hainan	0.5%
Guizhou	0.4%
Gansu	0.5%
Ningxia	0.2%
Qinghai	0.2%
Xizang	0.1%
Others	9.3%
Total	100.0%

Source: APNIC and CNNIC

Note 1: *The above IP address statics are for the provinces where the IP address owners are located.*

Note 2: *The above data statistics are as of Dec.31, 2011.*

Table 6 Number of provincial domain names and number of provincial CN domain names

Province	Domain name		Including: CN domain names	
	Number	Proportion	Number	Proportion
Guangdong	1,401,965	18.1%	783,362	22.2%
Beijing	1,061,328	13.7%	471,979	13.4%
Zhejiang	874,559	11.3%	571,111	16.2%
Shanghai	681,291	8.8%	238,773	6.8%
Fujian	528,072	6.8%	156,841	4.4%
Jiangsu	406,578	5.2%	146,310	4.2%
Shandong	383,059	4.9%	100,639	2.9%
Sichuan	236,557	3.1%	51,931	1.5%
Hebei	216,685	2.8%	46,473	1.3%
Henan	197,583	2.6%	58,669	1.7%
Liaoning	142,505	1.8%	44,869	1.3%
Hubei	141,973	1.8%	59,823	1.7%
Hunan	124,135	1.6%	52,586	1.5%
Anhui	93,898	1.2%	36,098	1.0%
Shaanxi	93,282	1.2%	31,002	0.9%
Chongqing	91,217	1.2%	30,327	0.9%
Tianjin	83,414	1.1%	26,418	0.7%
Heilongjiang	67,775	0.9%	35,743	1.0%
Jiangxi	61,083	0.8%	20,728	0.6%
Shanxi	56,625	0.7%	16,455	0.5%
Jilin	51,012	0.7%	13,859	0.4%
Guangxi	50,518	0.7%	21,159	0.6%
Yunnan	41,387	0.5%	17,082	0.5%
Hainan	35,825	0.5%	9,794	0.3%
Inner Mongolia	29,052	0.4%	9,609	0.3%
Xinjiang	24,541	0.3%	8,266	0.2%
Guizhou	24,068	0.3%	8,385	0.2%
Gansu	16,104	0.2%	6,310	0.2%
Ningxia	13,668	0.2%	5,099	0.1%
Qinghai	11,251	0.1%	1,722	0.0%
Xizang	3,887	0.1%	983	0.0%
Others	499,652	6.5%	442,196	12.5%
Total	**7,744,549**	**100.0%**	**3,524,601**	**100.0%**

Note: The number of provincial domains doesn't cover .EDU.CN.

Table 7 Number of provincial websites

	Number	**Proportion**
Beijing	384,881	16.8%
Guangdong	383,928	16.7%
Shanghai	237,680	10.4%
Zhejiang	216,855	9.4%
Fujian	151,096	6.6%
Jiangsu	126,298	5.5%
Shandong	109,402	4.8%
Sichuan	71,724	3.1%
Hebei	65,749	2.9%
Henan	63,128	2.8%
Hubei	51,506	2.2%
Liaoning	47,744	2.1%
Hunan	39,855	1.7%
Shaanxi	30,041	1.3%
Tianjin	26,362	1.1%
Anhui	25,805	1.1%
Chongqing	24,854	1.1%
Shanxi	17,316	0.8%
Heilongjiang	16,668	0.7%
Jilin	16,336	0.7%
Jiangxi	16,032	0.7%
Guangxi	13,342	0.6%
Inner Mongolia	10,015	0.4%
Hainan	9,987	0.4%
Yunnan	9,907	0.4%
Guizhou	6,071	0.3%
Gansu	4,505	0.2%
Xinjiang	4,263	0.2%
Ningxia	3,074	0.1%
Qinghai	1,754	0.1%
Xizang	762	0.0%
Others	108,622	4.7%
Total	2,295,562	100.0%

Table 8 Number of websites under .CN

Type	**Number**	**Proportion**
cn	748,352	78.6%
com.cn	145,844	15.3%
net.cn	17,817	1.9%
gov.cn	26,477	2.8%
adm.cn	3,583	0.4%
org.cn	8,867	0.9%
ac.cn	662	0.1%
mil.cn	8	0.0%
Total	951,609	100.0%

Note: The number of websites under CN doesn't cover those under .EDU.CN.

Table 9 Webpage situation classified by coding

Webpage coding type	Proportion
Chinese	97.2%
Traditional Chinese	1.6%
English	1.0%
Other	0.2%
Total	100.0%

Table 10 Webpage situation classified by update cycle

Webpage update cycle	Proportion
One week	3.4%
One month	20.0%
Three months	4.3%
Six months	8.5%
Above six months	63.8%
Total	100.0%

Table 11 Webpage situation classified by suffix form

Webpage suffix form	Proportion
.html	24.4%
htm	5.1%
/	17.1%
shtml	2.7%
asp	7.2%
php	19.2%
txt	0.0%
nsf	0.0%
xml	0.0%
jsp	0.7%
cgi	0.1%
pl	0.0%
aspx	4.5%
do	0.5%
dll	0.0%
jhtml	0.0%
cfm	0.0%
php3	0.0%
phtml	0.1%
Other suffix	18.3%
Total	100.0%

Table 12 Webpage situation classified by multi-media form

Webpage multi-media form	Proportion (in multi-media webpage)
jpg	38.4%
gif	8.3%
zip	0.0%
swf	0.0%
doc	0.1%
pdf	0.5%
rm	0.0%
mid	0.0%
ram	0.0%
mp3	0.0%
ppt	0.0%
mpg	0.0%
Other multi-media	52.7%
Total	100.0%

Table 13 Number of provincial webpage

	Total	Static state	Dynamic state	Proportion of Static and Dynamic
Beijing	29,930,424,880	23,274,705,999	6,655,718,881	3.5:1
Guangdong	8,801,688,609	6,044,005,308	2,757,683,301	2.19:1
Zhejiang	8,182,509,849	5,453,031,445	2,729,478,404	2:01
Shanghai	6,901,553,074	4,639,181,028	2,262,372,046	2.05:1
Jiangsu	5,224,453,739	3,127,152,077	2,097,301,662	1.49:1
Henan	4,809,358,506	3,006,880,929	1,802,477,577	1.67:1
Fujian	3,524,628,981	2,120,421,818	1,404,207,163	1.51:1
Shandong	2,546,669,383	1,540,406,840	1,006,262,543	1.53:1
Tianjin	2,532,319,650	1,972,457,267	559,862,383	3.52:1
Hebei	2,182,635,029	1,412,330,132	770,304,897	1.83:1
Hubei	1,734,660,413	1,075,913,421	658,746,992	1.63:1
Sichuan	1,453,212,803	830,727,555	622,485,248	1.33:1
Jiangxi	1,363,560,479	955,786,695	407,773,784	2.34:1
Anhui	1,247,590,630	637,447,056	610,143,574	1.04:1
Hunan	1,040,882,735	656,027,555	384,855,180	1.7:1
Liaoning	971,844,193	540,729,137	431,115,056	1.25:1
Shaanxi	758,564,207	389,015,525	369,548,682	1.05:1
Guangxi	618,524,470	336,576,897	281,947,573	1.19:1
Hainan	560,394,654	231,612,450	328,782,204	0.7:1
Chongqing	471,595,785	259,636,129	211,959,656	1.22:1
Shanxi	435,950,269	244,272,629	191,677,640	1.27:1
Heilongjiang	415,088,897	214,127,365	200,961,532	1.07:1
Yunnan	194,597,558	68,839,560	125,757,998	0.55:1
Xinjiang	153,534,321	60,922,085	92,612,236	0.66:1
Jilin	144,083,975	66,255,813	77,828,162	0.85:1
Gansu	117,685,156	58,946,350	58,738,806	1:01
Guizhou	113,796,442	57,706,209	56,090,233	1.03:1
Inner Mongolia	98,398,864	58,399,702	39,999,162	1.46:1
Ningxia	34,141,016	17,672,275	16,468,741	1.07:1
Qinghai	13,166,414	9,658,854	3,507,560	2.75:1
Xizang	4,783,412	4,133,417	649,995	6.36:1
Nationwide	86,582,298,393	59,364,979,522	27,217,318,871	2.18:1

Table 14 Number of provincial webpage byte

	Size of total page（KB）	**Number of byte of average each webpage （KB）**
Beijing	1,229,281,887,117	41
Guangdong	321,267,052,786	37
Zhejiang	309,022,635,231	38
Shanghai	261,969,567,817	38
Jiangsu	188,925,286,700	36
Henan	166,321,489,803	35
Fujian	116,566,876,652	33
Shandong	115,801,581,602	45
Tianjin	99,221,640,133	39
Hebei	82,109,673,989	38
Hubei	58,619,536,383	34
Sichuan	47,970,607,404	33
Jiangxi	45,248,628,373	33
Anhui	43,472,378,140	35
Liaoning	36,832,005,234	38
Hunan	33,769,342,135	32
Shaanxi	29,362,565,540	39
Guangxi	29,051,345,976	47
Hainan	22,906,541,506	41
Heilongjiang	16,308,487,442	39
Chongqing	16,277,563,305	35
Shanxi	13,068,956,591	30
Yunnan	6,604,563,775	34
Jilin	5,392,894,027	37
Xinjiang	4,788,429,533	31
Gansu	4,014,729,078	34
Guizhou	3,716,238,356	33
Inner Mongolia	3,664,779,638	37
Ningxia	1,226,559,702	36
Qinghai	478,850,437	36
Xizang	266,930,603	56
Nationwide	3,313,529,625,009	38

Table 15 Proportion of webpage classified by update cycle for province

	One week	One month	Three months	Six months	Above six months
Beijing	4.66%	21.63%	4.60%	7.78%	61.33%
Guangdong	2.76%	18.48%	4.09%	8.35%	66.31%
Zhejiang	3.18%	20.33%	4.32%	8.51%	63.66%
Shanghai	2.81%	20.39%	4.51%	8.50%	63.79%
Jiangsu	2.90%	20.45%	4.37%	8.95%	63.33%
Henan	2.66%	20.56%	3.72%	9.61%	63.45%
Fujian	2.86%	18.22%	4.29%	8.93%	65.70%
Shandong	3.10%	20.02%	4.04%	7.98%	64.86%
Tianjin	4.25%	20.80%	4.26%	9.22%	61.48%
Hebei	3.78%	20.07%	6.22%	8.44%	61.49%
Hubei	2.22%	17.65%	4.15%	8.50%	67.49%
Sichuan	2.01%	18.43%	3.61%	10.46%	65.49%
Jiangxi	2.44%	18.55%	3.52%	8.47%	67.02%
Anhui	2.59%	19.16%	4.10%	9.16%	64.98%
Hunan	2.66%	19.27%	3.79%	9.09%	65.19%
Liaoning	3.74%	19.27%	5.09%	8.22%	63.67%
Shaanxi	3.08%	19.52%	4.05%	8.31%	65.04%
Guangxi	2.81%	19.29%	4.49%	9.26%	64.15%
Hainan	3.95%	19.14%	4.43%	7.57%	64.90%
Chongqing	2.89%	17.49%	3.83%	7.97%	67.83%
Shanxi	2.21%	17.02%	3.51%	11.26%	66.01%
Heilongjiang	2.42%	17.95%	4.47%	8.15%	67.01%
Yunnan	2.19%	16.50%	5.13%	8.07%	68.10%
Xinjiang	1.74%	15.15%	2.63%	7.41%	73.07%
Jilin	2.49%	15.92%	5.54%	7.82%	68.22%
Gansu	2.35%	14.67%	4.19%	8.31%	70.48%
Guizhou	3.16%	15.84%	6.11%	10.82%	64.07%
Inner Mongolia	2.55%	14.31%	5.41%	8.54%	69.19%
Ningxia	3.80%	18.25%	5.24%	8.63%	64.07%
Qinghai	1.55%	13.83%	4.20%	9.28%	71.14%
Xizang	1.15%	9.25%	6.48%	9.62%	73.50%
Nationwide	3.40%	19.99%	4.32%	8.51%	63.78%

Table 16 Proportion of webpage classified by coding type for province

	Simplified Chinese	Chinese-Traditional	English	Other
Beijing	98.53%	0.24%	1.14%	0.09%
Guangdong	98.61%	0.57%	0.66%	0.16%
Zhejiang	98.34%	0.50%	1.08%	0.08%
Shanghai	98.54%	0.28%	0.99%	0.19%
Jiangsu	98.58%	0.57%	0.74%	0.11%
Henan	99.42%	0.16%	0.27%	0.15%
Fujian	97.67%	0.42%	1.26%	0.65%
Shandong	98.96%	0.46%	0.45%	0.13%
Tianjin	99.69%	0.06%	0.15%	0.10%
Hebei	99.45%	0.23%	0.24%	0.08%
Hubei	99.51%	0.11%	0.31%	0.07%
Sichuan	99.47%	0.10%	0.34%	0.10%
Jiangxi	98.91%	0.51%	0.49%	0.09%
Anhui	99.21%	0.27%	0.35%	0.17%
Hunan	99.21%	0.50%	0.18%	0.11%
Liaoning	99.45%	0.14%	0.24%	0.17%
Shaanxi	99.25%	0.14%	0.42%	0.19%
Guangxi	99.65%	0.07%	0.24%	0.04%
Hainan	99.61%	0.05%	0.31%	0.03%
Chongqing	99.80%	0.03%	0.11%	0.07%
Shanxi	99.33%	0.34%	0.26%	0.08%
Heilongjiang	98.61%	1.00%	0.23%	0.15%
Yunnan	99.62%	0.15%	0.16%	0.07%
Xinjiang	97.31%	1.46%	0.54%	0.69%
Jilin	99.21%	0.19%	0.42%	0.18%
Gansu	98.94%	0.45%	0.42%	0.19%
Guizhou	97.83%	1.72%	0.14%	0.30%
Inner Mongolia	95.31%	4.27%	0.16%	0.27%
Ningxia	99.76%	0.01%	0.21%	0.02%
Qinghai	94.20%	3.07%	1.83%	0.90%
Xizang	99.88%	0.03%	0.07%	0.03%
Nationwide	97.23%	1.64%	0.96%	0.17%

Appendix 2 Survey Supporting Organizations

(I) Websites supporting the survey (not listed in particular order)

CNTV□Gmw.cn□□□
Gmw.cn□□□
□□
□

(II) Portal websites for survey (listed in the sequence of provision of survey connection)

Sina.com.cn□NetEase□Sohu.com□□Taobao.com□meituan.com□vancl.com□□
NetEase□Sohu.com□□Taobao.com□meituan.com□vancl.com□□Renren.com□58.com□tudou.com□□qq.com□youku.com□soufun.com□
Sohu.com□□Taobao.com□meituan.com□vancl.com□□Renren.com□58.com□t

udou.com□□qq.
com□youku.co
m□soufun.com
□□ifeng.com□
□Taobao.com□
Taobao.com□m
eituan.com□van
cl.com□□Renre
n.com□58.com
□tudou.com□□
meituan.com□v
ancl.com□□Re
nren.com□58.co
m□tudou.com□
vancl.com□□R
enren.com□58.c
om□tudou.com
□□qq.com□yo
uku.com□soufu
n.com□□ifeng.c
om□he-nan.com
□yninfo.com□
□Renren.com□
Renren.com□58
.com□tudou.co
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ouku.com□souf
un.com□□ifeng
.com□he-nan.co
m□yninfo.com
□□funshion.co
m□kaixin001.co
m□hexun.com□
58.com□tudou.c
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q.com□youku.c
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ninfo.com□□fu
nshion.com□kai
xin001.com□he
xun.com□□lash
ou.com□55tuan.
com□FX168□
youku.com□sou
fun.com□□ifen
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m□kaixin001.co
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exun.com□□las
hou.com□55tua
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□hexun.com□□
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exun.com□□las
hou.com□55tua
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hexun.com□□la
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5tuan.com□FX1
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(III) Organizations supporting the survey (not listed in particular order)

China Telecommunications Corporation
China United Network Communications Corporation
China Mobile Limited
China Education and Research Network
China Science & Technology Network Center
ChinaSat
China International Electronic Commerce Center
CGWNET
SFN
CQHOT
East.net(China)Co., Ltd.
Sinonets Co., Ltd.
Beijing Innovative Linkage Technology Co., Ltd.
Beijing Xinnet Digital Information Co., Ltd.
Guangdong Todaynic.com International Limited
Tencent SOSO
NETEASE Youdao Information Technology (Beijing) Co., Ltd.
Xiamen Longtop Online Co., Ltd. (its brand BIZCN)
Xiamen Jingtong science and Technology Industrial Co., Ltd.
Chinasource Internet Service Co., Ltd.
HiChina,
CE Dongli Technology Company Limited