Statistical Report on Internet Development in China

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Preface

With a view to fully understand and master the development of internet industry of China, as decided by national competent administrations of China in 1997, China Internet Network Information Center (CNNIC) would lead and cooperate with other entities or organizations concerning internet network in making surveys about the development of internet industry in China. Just in the same year, CNNIC issued *The First Statistical Report on Internet Development in China* in November. In order to ensure the standardization and institutionalization of such surveys, CNNIC has issued, on a regular basis, statistical reports on internet development in China in January and July each year. According to consecutive surveys and researches on net citizen scale, structural feature, internet applications and safety environment of internet in China, these reports reflect current situations of development of domestic internet industry in a strict and objective manner and provide an important reference to government departments, enterprises, etc. in mastering development trend of internet and making policies. Thus, they have been paid much attention by various groups and widely quoted by the State and other countries in the world.

Up to now, 26th statistical reports on internet development in China have been issued by CNNIC consecutively. This report is based on the 27th national internet development survey. By using contents and styles of previous reports, it incorporates the survey on internet applications in medium-sized and small enterprises, including internet access proportion, application level and intention of use in order to show the impact of internet on development of these enterprises in China.

The data acquisition in this report was greatly supported by governments, enterprises and various circles. Survey of all aspects has been successfully made under the guidance of national competent administrations like Ministry of Industry and Information Technology, and data of basic resources have been promptly acquired with close cooperation of internet enterprises or entities, survey support websites, media, etc.

The web page data acquisition was greatly supported by Netease Youdao Information Technology (Beijing) Co., Ltd and Tencent Search Technology R&D Center.

The testing on internet downloading rate in provinces of China was assisted by Compuware Corporation (Shanghai), Beijing Borui Hongyuan Development Technology Co., Ltd and Shenzhen Thunder Network Technology Co., Ltd.

The provision of domain names and website data was cooperated by the following entities:

Beijing Dongfang Wangjing Information Technology Co., Ltd, Beijing Wanwang Zhicheng Technology Co., Ltd (www.net.cn), Beijing Xinnuo Lixingye Network Communication Technologies Co., Ltd, Beijing Innovative Link Technology Co., Ltd, Beijing Xinwang Digital Information Technology Co., Ltd, CE Dongli Technology Group Co., Ltd, Era of the Internet Technology Co., Ltd. Guangdong (the former Era of the Internet Information Technology Co., Ltd. Zhuhai), Xiamen China Source Network Service Co., Ltd, Xiamen Longtop System Co., Ltd. (the former Xiamen Huashang Shengshi Network Co., Ltd.) and Xiamen Sanwu Netware Technology Stock Co., Ltd (the former Xiamen Sanwu NetWare Technology Co., Ltd.).

Hereby, we would like to extend our sincere thanks to the above entities as well as net citizens who have accepted the 27th statistical survey for internet development in China.

CNNIC

2011-01

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Abstract of Report

◇ Up to December, 2010, the number of net citizens in China has reached 457 million, with an increase of 73.3 million compared with the end of 2009. The popularity rate of internet has climbed up to 34.3%, with an increase of 5.4% compared with the end of 2009.

◇ The number of broadband net citizens has reached 450,000,000, with the popularization rate of broadband as 98.3%.

◇ The number of mobile net citizens in China has reached 303 million, with an increase of 69.3 million compared with the end of 2009. The mobile net citizens have increased to 66.2% of the overall net citizens from 60.8% at the end of 2009.

◇ The number of rural net citizens has reached 125,000,000, occupying 27.3% of all net citizens, with an increase of 16.9% compared with that of last year.

◇ The number of net citizens above 30 has continued to increase. The ratio of that has increased from 38.6% in the end of 2009 to 41.8%. The amount of net citizens receiving junior middle school education has increased to 32.8% of all the net citizens from 26.8%. The ratio of net citizens receiving senior middle school education among all net citizens has decreased for the first time from 40.2% to 35.7%, with a decrease of 4.5%.

◇ 89.2% of net citizens surf internet at home. Besides, net citizens surf internet at internet bars, at offices, on campus, or in public places, with the ratio respectively as 35.7%, 33.7%, 23.2% and 16.1%.

◇ The devices to access internet are more various, with a general increase in the application of all the devices. 78.4% of net citizens access internet by desktop computers, still the top among all the devices. Net citizens also use mobiles and laptop computers to access internet, with the ratio respectively as 66.2% and 45.7%.

◇ Average duration for net citizens to surf internet is 18.3 hours/week.

◇ Until December 2010, the amount of IPv4 addresses in China has reached 278 million. IPv4 addresses are anticipated to be exhausted by February, 2011. It's inevitable and necessary for the transition from internet to IPv6.

◇ The total number of domain names in China has fallen to 8.66 million, including 4.35 million .CN domain names. The number of websites has decreased to 1.91 million and the websites under .CN has decreased to 1.13 million, covering 59.5% of the overall websites.

◇ Despite of the high broadband popularization rate (98.3%), the average network access speed in China was only 100.9KB/s. In all provinces, Henan, Hunan and Hebei ranked top three with their access speeds, 131.2KB/s, 128.2KB/s and 124.5KB/s, individually.

◇ The utilization rate of search engine reached 81.9%; search engine became the first largest application of net citizens, with its users of 375 million. In the current days filled with rapidly expanding internet information, traditional portal websites have loosen their advantages while search function, as engine of internet development, increasingly took on the character of “new portal”.

◇ Commercial application users kept highest increase. The annual increase of online shopping users was 48.6%, with the quickest increase speed; the utilization rates of online payment and e-banking applications rapidly increased. More economic activities have been involved in the times of internet.

◇ The utilization rate of entertainment applications decreased. The utilization rates for web music, online game and web video users were reduced by 4.2%, 2.4% and 0.5% separately. After expanding of users, web music application stepped into a development period of relative stability.

◇ The number of microblog and group buying users began to take shape. The number of microblog users in China reached 63.11 million, 13.8% of net citizens; while the number of group buying users 18.75 million, 4.1% of net citizens.

◇ The mobile network application of users continued to develop. The utilization rate of instant messaging for mobile phone still ranked the first (67.7%), with mobile news (59.9%) and mobile search engine (56.6%) next to it.

◇ Until December 2010, 94.8% of medium-sized and small enterprises have been equipped with computers in contrast to 5.2% without computers. 92.7% of medium-sized and small enterprises have had access to internet. The proportion of medium-sized and small enterprises who have built their websites (including online storefronts and independent websites) has reached 43%.

◇ However, websites of medium-sized and small enterprises had a low operation level. The updating frequency in 58.8% of these enterprises was beyond one month; while the websites of medium-sized and small enterprise in which full-time teams with clear division of work were responsible for operation only accounted to 22.5%.

◇ 42.1% of medium-sized and small enterprises have done marketing and promotional work through internet; the proportion of medium-sized and small enterprises that have done marketing using email reached 21.3%; the proportion of e-commerce platform promotion arrived at 19.3% and that of marketing by searching keyword advertisement accounted to 15.4%.

◇ Internet has become one of the main channels for medium-sized and small enterprises to communicate with users and provide services to them. Currently, 57.2% of medium-sized and small enterprises are doing so by internet.

◇ Medium-sized and small enterprises that have had access to internet have a high level of internet safety protection. 91.7% have installed antivirus software; 76.5% have been equipped with firewalls and no safety prevention measures have been taken by 5.4%.

◇ Among medium-sized and small enterprises that have had access to internet, few training on internet knowledge has been offered to them. Only 22.3% of these enterprises have received training related to internet in the past one year.

◇ In 2010, the issue of basic network security in China was obviously improved. The proportion of net citizens who have suffered virus or Trojan reached 45.8%, 10.8% lower than that of 2009; the percentage of net citizens whose accounts or passwords have been stolen accounted to 21.8%, 9.7% lower than that of 2009.

Chapter Ⅰ Introduction to Investigation

I. Investigation Methods

(Ⅰ)NetCitizen Investigation

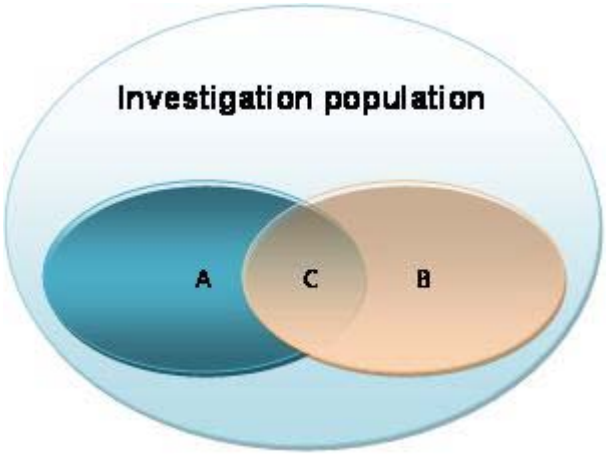
1.1 Investigation Populations

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

1.1.1 Scale of Samples

The total number of samples for investigation is 60,000, in which the number of fixed-line telephone and cell phone users is 30,000 and 30,000 separately. The samples cover 31 provinces, autonomous regions and municipalities directly under the Central Government.

1.1.2 Segmentation of Investigation Populations



A：Population covered by fixed-line telephone

B：Population covered by cell phone

C：Joint covered population (C=A∩B)

The investigation populations are divided as follows:

Sub-population A: population covered by fixed-line telephone (residents covered by home phone, personal handy phone users, students' dormitory phone users and other dormitory phone users);

Sub-population B: population covered by cell phone;

Sub-population C: population covered by 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 Sub-population C), C= A∩B.

1.2 Investigation Content

The investigation mainly concentrates on acquaintance with the quantity and structural feature of net citizens, online conditions, web applications, attitudes of net citizens towards internet and non-net citizen conditions in China. The content of investigation includes whether interviewees surf the internet, their background, internet access behavior of net citizens, online depth and online experience, etc.

1.3 Investigation Method

The investigation is carried out through the system of Computer Assisted Telephone Interview (CATI).

1.4 Difference between Investigation Populations and Target Populations

CNNIC made research on the population that phones failed to cover in the end of 2005 when the number of net citizens among this group was small. With the development of telecom industry in China, the scale of such group has been reduced at present (the number of phone users of our country in the end of 2005 was 740 million, while the total number exceeded 1.1 billion, with 1148.628 million households in November 2010). Thus, there is a hypothesis for such investigation research, i.e. the net citizens that phones fail to cover in the statistics can be omitted for such research.

（Ⅱ）Enterprise Investigation

1. Investigation Population

The groups for telephone survey include medium-sized and small enterprises, excluding privately or individually-owned businesses, located in China Mainland (except Hong Kong, Macau and Taiwan).

2. Scale of Samples

Number of samples: 5,103.

3. Methods of Controlling Randomness and Accuracy of Investigation

1) Making calls from 9:00 A.M. to 6:00 P.M. during the working days.

2) Making a survey by random calls on medium-sized and small enterprises in provinces and municipalities and according to industry. Upon the completion of survey, all dialing details were requested to be provided by surveying companies for sampling.

3) In order to prevent the impact of call completion rate on randomness, at least three

times of calls were made in case of disconnected situations.

4) In order to prevent the influence of individual opinions of interviewers on survey, for options that were not required to be read out, no prompts were given and surveying was in place.

5) Upon the completion of telephone survey, data were pretreated; variable values and logistic relationship between variables were checked and invalid samples were all deleted for treatment.

(Ⅲ) Online Investigation

Online investigation focuses on the acquaintance of utilization of typical internet applications. China Internet Network Information Center (CNNIC) conducted an online investigation from November 19 to December 31, 2010. A questionnaire was placed on the website of CNNIC and questionnaire linkage was set on the websites of government media, larger national ICP/ISP websites and information ports of all provinces to ask net citizens to be actively involved in the filling of questionnaire. After the recollection of such questionnaire, validity testing of questionnaire was carried out by technical means to screen off invalid questionnaires. There were 89639 copies of valid questionnaires received for such online investigation.

(Ⅳ) Online Automatic Search and Statistical Data Reporting

Online automatic search mainly refers to technical statistics conducted on indexes such as domain names, quantity of websites and territory distribution, etc, while statistical data for reporting mainly include number of IP addresses and international network bandwidth.

1. Amount of IP Addresses

The statistical data for IP address sub-province derive from IP address databases of Asia-Pacific Network Information Center (APNIC) and China Internet Network Information Center (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. Amount of Domain Names and Websites in China

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 using computer by China Internet Network Information Center (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. Amount 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 Terminology in this Report

◇ **Net citizen**

The Chinese citizen at the age of 6 or above who has used the internet in the first half year

◇ **Broadband net citizen**

It includes but not limited to the net citizen who has used broadband to access the internet in the first half year. The access modes of broadband include: xDSL, CABLE MODEM, optical access, power line communication, Ethernet, Wireless Broadband (e.g. 3G), etc.

◇ **Mobile net citizen**

It includes but not limited to the net citizen who has used mobile to connect and access the internet in the first half year.

◇ **Computer net citizen**

It includes but not limited to the net citizen who has computer to connect and access the internet in the first half year.

◇ **Rural net citizen**

It includes the net citizen who mainly lives in the rural area in the first half year.

◇ **Urban net citizen**

It includes the net citizen who mainly lives in the urban area in the first half year.

◇ **Juvenile net citizen**

It includes the Chinese net citizen[1] below 25.

◇ **IP address**

The IP address is the basic resource of internet which is 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 English domain name, which is a character string composed only by numbers, English letters or hyphens and divided by points (.) and a hierarchical sequential internet address mark corresponding to the IP address. The common domain names include two types: one is country code top-level domain (ccTLD), e.g. using the domains ending with .CN to indicate China; the other one is generic top-level domain (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.

◇ **Medium-sized and Small enterprises**

[1] 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 juvenile group.

The standards for medium-sized and small-sized enterprises in this report are from *Provisional Regulations on Standards of Medium-sized and Small Enterprises* issued in 2003, with the exception of privately or individually-owned businesses.

In this document, standards for medium-sized and small enterprises are formulated according to number of staff members, sales amount and total assets, etc. and in combination with industrial characters. See the following table for standards of different industries. According to data issued by national competent authorities, up to the end of March, 2009, there had been 7,565,600 legal entities[2] in China actually. It is estimated that there would be about 7,480,000 medium-sized and small enterprises, excluding large enterprises in China (85,400[3]) with legal qualifications.

Table 1 Enterprises dividing standard in China

Name of Industry	Name of Index	Unit of Account	Large-scale	Medium-scale	Small-scale
Industry Enterprises	Amount of Employees		≥2000	300~2000	＜300
	Sale Volume	10,000 Yuan	≥30000	3000~30000	＜3000
	Total Assets	10,000 Yuan	≥40000	4000~40000	＜4000
Transportation and Postal Industry Enterprises	Amount of Employees	People	≥3000	500~3000	＜500
	Sale Volume	10,000 Yuan	≥30000	3000~30000	＜3000
Wholesale Industry Enterprises	Amount of Employees	People	≥200	100~200	＜100
	Sale Volume	10,000 Yuan	≥30000	3000~30000	＜3000
Retail Industry Enterprises	Amount of Employees	People	≥500	100~500	＜100
	Sale Volume	10,000 Yuan	≥15000	1000~15000	＜1000
Hotels and Catering Enterprises	Amount of Employees	People	≥800	400~800	＜400
	Sale Volume	10,000 Yuan	≥15000	3000~15000	＜3000

◇ **Enterprise's access to internet**

The enterprise's access to internet means an enterprise works (employees can visit content and services of internet in their own enterprise) or provides services (website

[2] Development Report for National Market Entity of the First Quarter in 2009, issued by General Office of State Administration for Industry & Commerce.

[3] *Economic Work in Medium-sized and Small Enterprises in the Past Five Years and Work Priority in 2008 from Brief Reports on Medium-sized and Small Enterprises (2008, Volume 1)*, published by Office of Medium-sized and Small Enterprises, State Development and Reform Commission.

services) to users through internet.

◇ **Enterprise's website construction**

The enterprise's website construction means an enterprise has built its website or online store, including independent enterprise website constructed by itself, or online storefronts construction through the third party e-commerce platform.

◇ **Network marketing**

It refers to marketing activities by means of internet.

◇ **Search engine keyword advertisement**

It means a company purchases key words through search engine enterprise. When a user searches with this key word, the product of this company will appear on the search page so to attract the user to click link to enter into its website and enable the occurrence of exchange.

◇ **E-commerce website promotion**

It means an enterprise's network marketing on the websites of B2B, C2C and B2C, such as membership obtaining, price ranking, advertisement purchase, etc.

◇ **Affiliate marketing**

The website master participates in an affiliate plan of advertiser to obtain a link, and then put the link on its website. Wherever a user clicks the affiliate link to enter into the advertiser's website, the advertiser will pay the predetermined commission discount to the master owner.

◇ **Scope of investigation**

Unless otherwise indicated, the data in this report only refers to that of China Mainland, excluding Hong Kong, Macaw and Taiwan.

◇ **Deadline of investigation data**

The deadline for data of this statistical investigation is December 31, 2010.

Chapter Ⅱ Net Citizen Scale and Structural Feature

Ⅰ. Net Citizen Scale

(Ⅰ) Overall Net Citizen Scale

In 2010, the number of net citizens in China has continued to keep a trend of increase. The amount of net citizens has reached 457 million, by the end of 2010. The rate of internet penetration has climbed to 34.3%, with an increase of 5.4% compared with the end of 2009. The year 2010 has witnessed 73.3 million newly added net citizens with an increase of 19.1%, compared with that of 2009. Until the end of 2010, the amount of net citizens in China has taken up 23.2% of that in the world[4], and 55.4% of that in Asia.

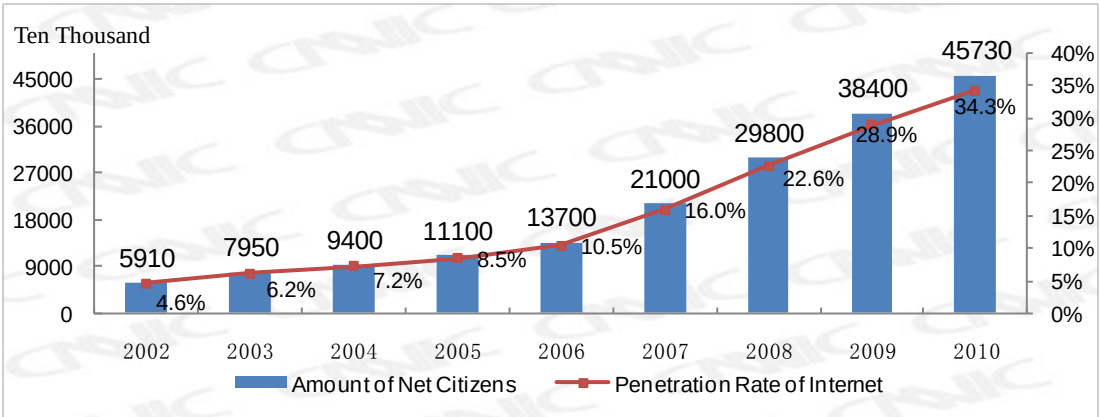


Fig. 1 Net Citizen Scale and Penetration Rate of Internet in China

The sound macro economy, practical advance of network infrastructure construction, rapid development of mobile internet, perfect network safety guarantee system and enhancement of utilization for rural information technology all contributed to steady increase of net citizens and popularization rate in 2010.

1. Consistently enhancing of policy for expanding domestic demand and advancing of release for information product demands

Since the international financial crisis, China has quickened its pace towards transformation of economic development modes and promulgated the package program to expand domestic demand. Domestic demand has become the driving force to develop our economy and final consumption contributes more to economic growth. Meanwhile,

[4] Data Source: http://www.internetworldstats.com/stats.htm

Chinese government has intensified its efforts to reform of national income distribution system and citizen incomes have obtained a quick increase. With consistent growth of citizen incomes and gradual release of the effect of expanding domestic demand by the State, the demand of groups at different levels on information products is further released, which promotes steady increase of information product consumptions and expands populations who have access to internet.

2. Steady advance of information facility resource construction and more solid foundation for internet development

In 2010, basic network resources and basic resources for international broadband services in China continuously increased and coverage rate of urban and rural broadband access network further improved, which caused rapid increase of net citizens. Shown from the data provided by Ministry of Industry and Information Technology, from January to November, 2010, internet broadband connection households for basic telecom enterprises increased by 20,911,000, to 124,889, 000; national telecom businesses earned RMB 2815.28 billion yuan, with a year-on-year increase of 20.6%. In addition, pilot programs of three-network integration (integration of telecommunications network, cable TV network and the internet) as well as cloud computing was started in the same year; mobile communication technology of new generation made a great breakthrough; the industry process of internet of the next generation was quickened, resulting in upgrading and transformation of basic layers of internet.

3. In-depth development of mobile internet, penetration of social media into users' life

In 2010, the mobile internet in China took on a trend of in-depth development; the cost of intelligence mobile phones and communications continued to become lower; experience of 3G application users was gradually lifted, which started mobile network life shared by more users. Meanwhile, with the development of social media, it was becoming more obvious for internet to replace traditional media means. The "fifth medium", displaying information based on wireless communication technology and with mobile phones as representative, contributed to media integration and information share behavior and promoted networks' in-depth penetration into people's life.

During the period of "11th Five Year Plan", the number of net citizens in China ranked the

first in the globe and popularization rate of broadband reached nearly 100%. The rapid increase of mobile net citizens, more thorough enterprise internet application as well as fast development of information technology in China guided by internet construction has strongly promoted reform of economic development, social progress and people's living methods. However, there still exist problems in the development of Chinese internet development such as large regional gap, low information technology application level, backward broadband rate and incomplete network security trust system, which has constrained the further improvement of internet development. Currently, with the continuous increase of net citizens, the internet in China is in urgent demands of quality improvement so to transform from "quantity increase" to "quality improvement".

(Ⅱ) Broadband Net Citizen Scale

In 2010, the expansion of broadband infrastructure service of China has contributed a great deal to the increase of the amount of broadband net citizens. The amount of broadband net citizens[5] has reached 450 million, with an increase of 30%, compared with that of 2009. Until the end of 2010, the popularization rate of broadband among net citizens has reached 98.3%.

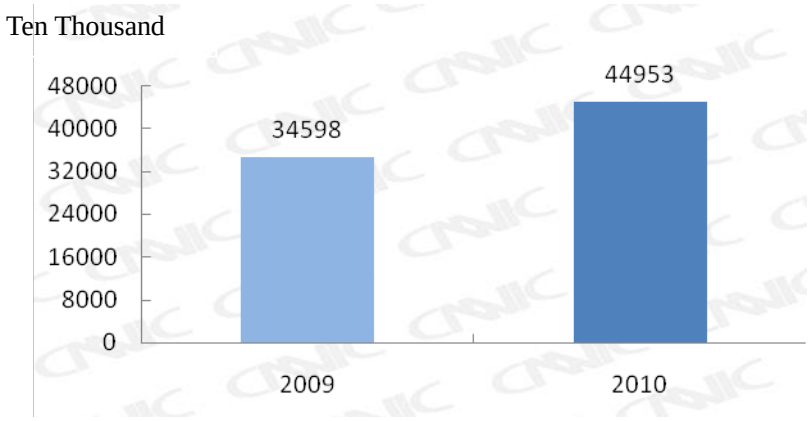


Fig. 2 Broadband Net Citizen Scale of China

（Ⅲ）Mobile Net Citizen Scale

In 2010, mobile net citizen scale continued to expand. Until December 2010, the number

[5] The broadband net citizen refers to the net citizen who has used the broadband service to access the internet, which is different from the statistics method of "number of broadband access users" of Ministry of Industry and Information Technology.

of mobile net citizens has reached 303 million, with an increase of 69.30 million compared to the end of 2009. The proportion of mobile net citizens among all net citizens was further increased, from 60.8% at the end of 2009 to 66.2%. In this year, compared with increase of traditional net citizens, mobile net citizens increased more and became the main driving force to promote the increase of total net citizens in China; mobile internet showed a great development potential.

However, compared with the development speed of mobile net citizens in 2009, the increase of mobile net citizens in China tends to become slower. The new mobile net citizens are mainly from two aspects: one is previous mobile users and the other is increased mobile users. While the two aspects failed to provide enough support to the increase of mobile net citizens, thus resulting in slower increase of mobile net citizens in 2010.

1. Shortage of potential mobile net citizens in previous mobile users

The previous mobile users were greatly reduced following the surging increase of potential mobile users in 2009, which was not enough to support rapid growth of mobile net citizens in 2010. The year 2009 was the first year for development of 3G. Although great breakthrough hasn't been made in 3G user expansion, the concept of "mobile surfing" has been rooted into people's mind due to great promotion of operators. Affected by this stimulus, number of mobile net citizens in 2009 exceeded 100 million. This surging increase of users enabled many potential mobile net citizens to become actual ones and caused reduction of potential mobile net citizens in a large scale. Under such circumstances, there was still no newer and greater stimulus factors, so increase of mobile net citizens got slower.

2. Lack of newly increased mobile users.

The new increase of actual mobile users in 2010 fell, which could not support rapid growth of mobile net citizens. At the beginning of 2010, the number of mobile users reached a high level, to 750 million and began to show a trend of growth. Although mobile users maintained a net increase of more than 100 million, 3G users also showed a rapid growth. However, among these new increases, especially 3G user increase, were mainly due to network transfer or phone number change by users. Some operators calculated 3G card

surfing users and 3G permanent phone users into 3G users, resulting in higher increase data than actual mobile phone users. Generally, excluding factors such as multiple numbers held by one person, failure to timely cancel old cards after number change and error of accounting requirements, we believe that the actual new mobile users were still deficient in 2010, thus affecting the trend of increase for mobile net citizens.

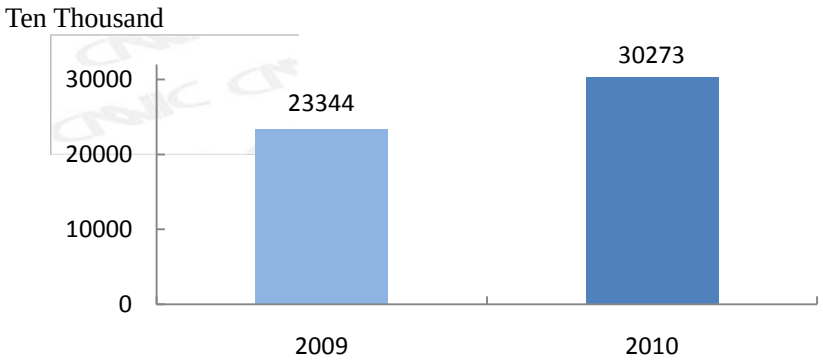


Fig. 3 Mobile Net Citizen Scale

(IV) Net Citizen Scale of Different Provinces or Municipalities

In 2010, the number of provinces (municipalities) in China with net citizens of more than 10 million increased by 3 compared with 2009, to 19. Seen from popularization rate of internet, internet development of all regions still took on an obvious difference.

Echelon 1: Internet obtained a better development, with popularization rate higher than the national average level. It mainly concentrated in the east coastal areas and part of inland provinces, including Beijing, Shanghai, Guangdong, Zhejiang, Tianjin, Fujian, Liaoning, Jiangsu, Xinjiang, Shanxi, Shandong, Hainan, Chongqing and Shaanxi (14 provinces/municipalities), the number of which was increased by 4 compared to 2009. The popularization rate of internet in Beijing reached 69.4% and Shanghai and Guangdong 64.5% and 55.3% individually.

Echelon 2: The popularization rate of internet was lower than the national average level but higher than the global average level. It includes: Qinghai, Hubei, Jilin, Hebei, Inner Monongalia and Heilongjiang (6 provinces/municipalities), the number of which was reduced by 2 compared to 2009.

Echelon 3: Internet experienced a backward development, with its popularization rate

lower than the global average level. It mainly concentrated in the middle and southwest parts of China, including Ningxia, Tibet, Hunan, Henan, Guangxi, Gansu, Sichuan, Anhui, Yunnan, Jiangxi, Guizhou (11 provinces / municipalities), the number of which was reduced by 2 compared to 2009.

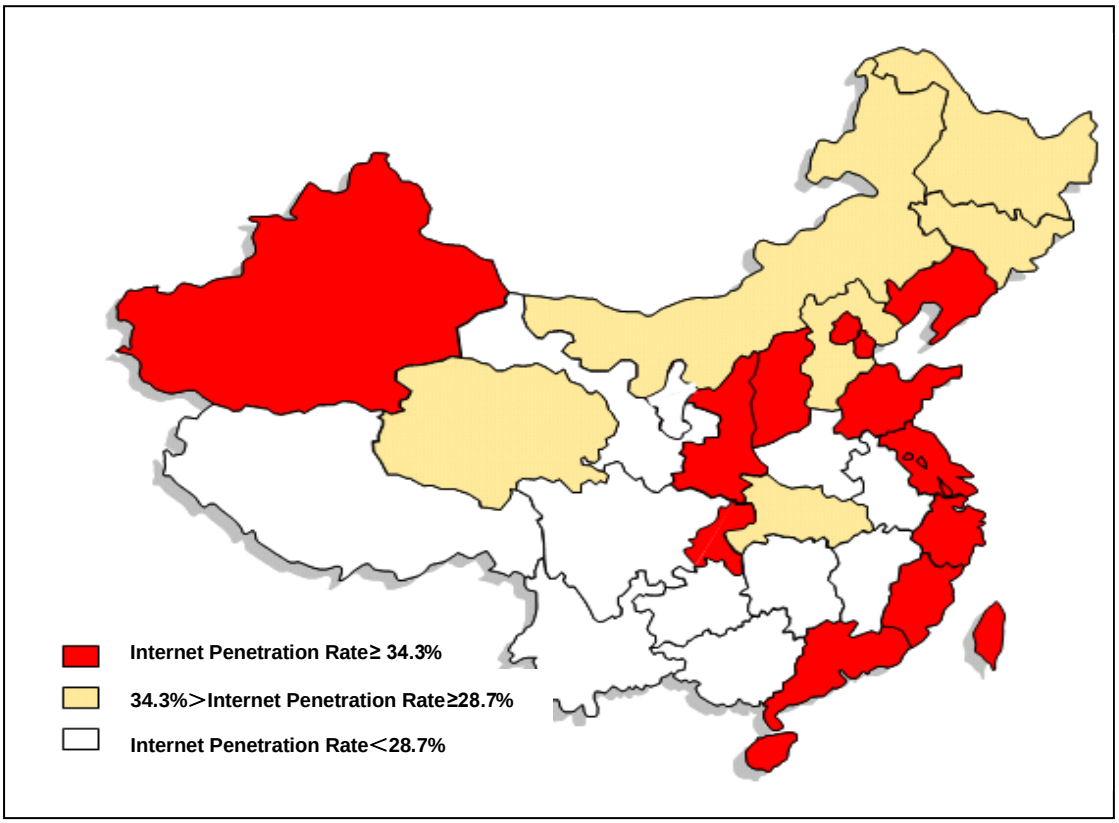


Fig. 4 Internet penetration rate in different provinces of China

As shown from the development speed, the number of net citizens in the middle and southwest regions increased quicker. Tibet, Guizhou, Shaanxi and Anhui were listed as top ones with annual increase of net citizens in those countries, 52.7%, 31.1%, 30.2% and 30.2% individually. As Beijing, Guangzhou and Shanghai had a relatively huge number of net citizens, the increase speed of net citizens was lower.

Table 2 Net Citizen Scale and Increasing Rate of Different Provinces of China in 2010

Province	Amount of Net Citizens（10000）	Internet Penetration Rate	Growth Rate of Net Citizens	Ranking of Internet Penetration Rate	Ranking of Growth Rate of Net Citizens
Beijing	1218	69.4%	10.5%	1	29

Shanghai	1239	64.5%	5.8%	2	31
Guangdong	5324	55.3%	9.5%	3	30
Zhejiang	2786	53.8%	13.6%	4	27
Tianjin	648	52.7%	14.8%	5	26
Fujian	1848	50.9%	13.4%	6	28
Liaoning	1916	44.4%	20.1%	7	21
Jiangsu	3306	42.8%	19.6%	8	22
Xinjiang	819	37.9%	29.1%	9	7
Shanxi	1250	36.5%	17.5%	10	25
Shandong	3332	35.2%	20.3%	11	19
Hainan	303	35.1%	24.3%	12	8
Chongqing	990	34.6%	23.3%	13	12
Shaanxi	1295	34.3%	30.2%	14	3
Qinghai	188	33.6%	21.8%	15	15
Hubei	1902	33.3%	29.5%	16	6
Jilin	882	32.2%	21.5%	17	16
Hebei	2197	31.2%	19.3%	18	23
Neimenggu	747	30.8%	29.9%	19	5
Heilongjiang	1127	29.5%	23.6%	20	11
Ningxia	175	28.0%	24.3%	21	9
Tibet	81	27.9%	52.7%	22	1
Hunan	1747	27.3%	24.3%	23	10
Henan	2417	25.5%	20.4%	24	18
Guangxi	1226	25.2%	19.0%	25	24
Gansu	655	24.8%	22.4%	26	13
Sichuan	1998	24.4%	22.2%	27	14
Anhui	1392	22.7%	30.2%	28	4
Yunnan	1021	22.3%	20.9%	29	17
Jiangxi	950	21.4%	20.2%	30	20
Guizhou	751	19.8%	31.1%	31	2

Ⅱ. Network Access

(Ⅰ) Device

In the year of 2010, the diversification of devices used for surfing the internet has been strengthened, with an increase in the application of all kinds of devices. The desktop computer remained to rank the top (78.4%) among devices for surfing the internet; the proportion of mobile phones to surf the internet increased to 66.2% and the ratio of laptop computers to surf the internet arrived at 45.7%. The application of lap-top computer for surfing internet has increased by 15%, with the application of mobile phone and desk-top

computer increasing by 5.4% and 5%.

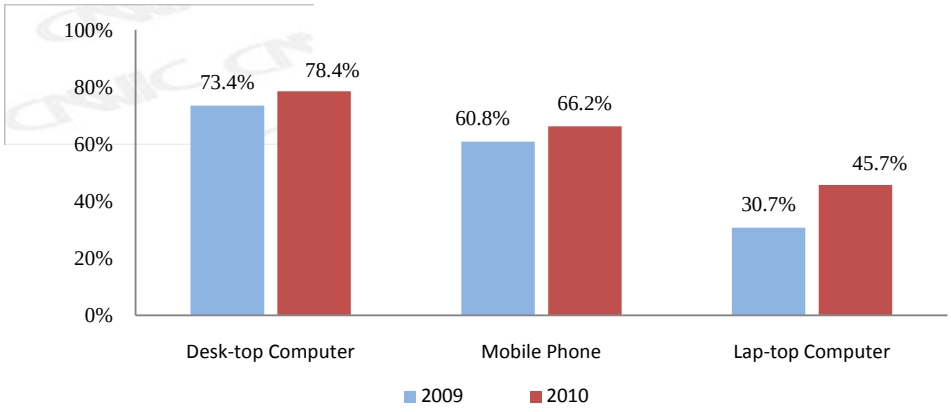


Fig. 5 Internet Access Devices of Net Citizens

(Ⅱ) Location

With the constant improvement of the family to access the internet using computer, the proportion of net citizens who surf the internet using computer at home has continued to increase, to 89.2%. The proportion of net citizens surfing the internet in net bars, in offices, at schools or at public places has respectively increased to 35.7%, 33.7%, 23.2% and 16.1%.

The proportion of net citizens surfing internet at home, in offices or at public places has respectively increased by 6%, 3.5% and 0.4%, compared with those of the year 2009.

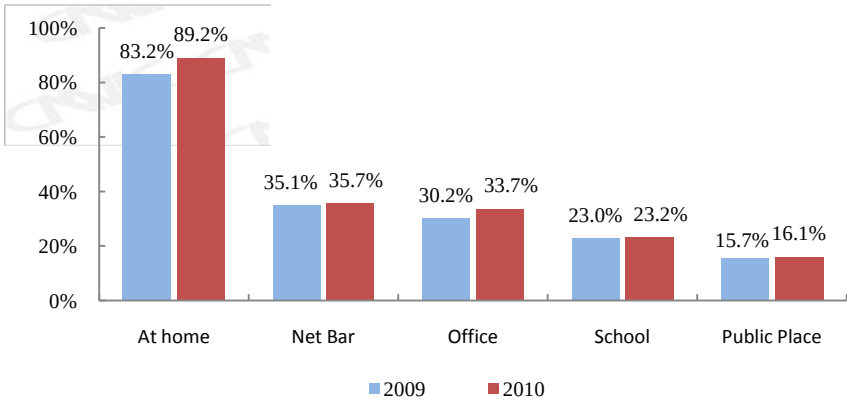


Fig. 6 Internet access location of net citizens

(Ⅲ) Duration

In the year of 2010, the average duration for net citizens surfing internet every week has

amounted 18.3 hours, and that of net citizens surfing internet every day has amounted 2.6 hours.

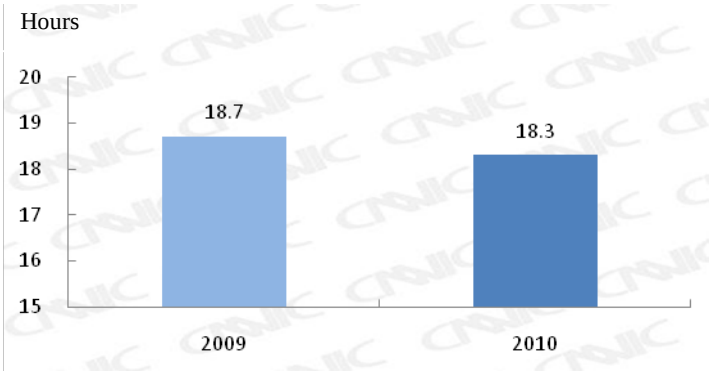


Fig. 7Average Weekly Online Duration of Net Citizens

Ⅲ. Structural Feature of Net Citizens

(Ⅰ)Gender structure

At present, the proportion of male to female among net citizens in China is 55.8: 44.2. The proportion of male net citizens has continued to increase, nearly 11.6% larger than that of female.

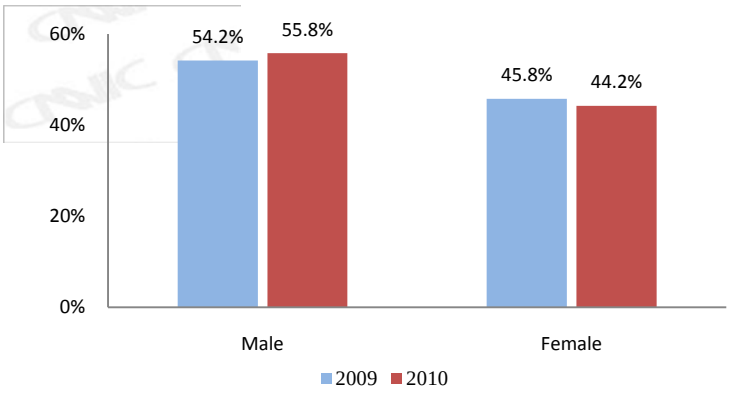


Fig. 8 Gender Structure of Net Citizens from December 2009 to December 2010

(Ⅱ)Age structure

The age structure of net citizens continues to develop towards maturity. In 2010, the proportion of net citizens at the age of 30 and above has increased from 38.6% in the end of 2009 to 41.8% at the end of 2010. There was a decrease in the amount of net citizens aged 10 to 19, which was mainly resulted from the decline in the population of that age

group.

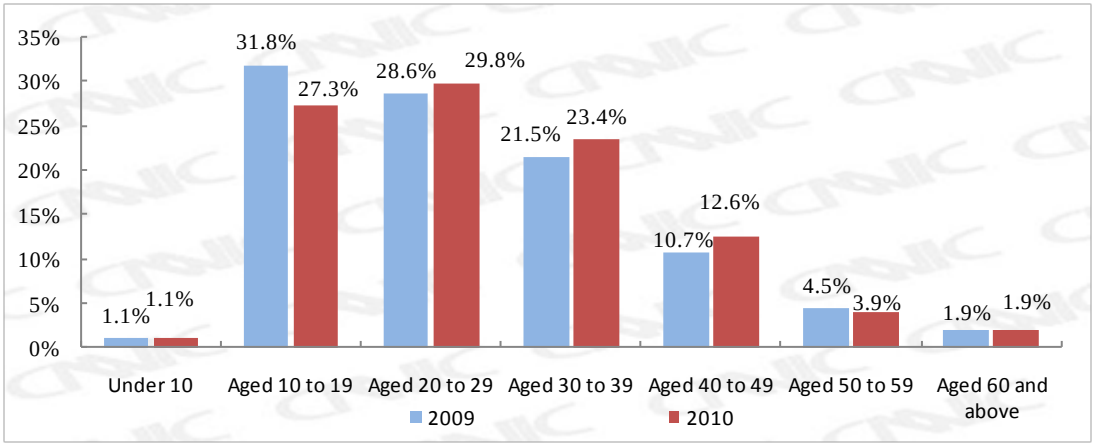


Fig. 9 Age structure of Net Citizens from December 2009 to December 2010

(Ⅲ) Structure of Education Background

During the year 2010, there was a sharp increase in the number of net citizens with junior middle school background, from 26.8% to 32.8%, with an increase of 6%. The amount of net citizens with senior middle school background declined for the first time, from 40.2% to 35.7%, with a drop of 4.5%. The amount of net citizens with professional training school, undergraduate education and above kept a comparatively small proportion.

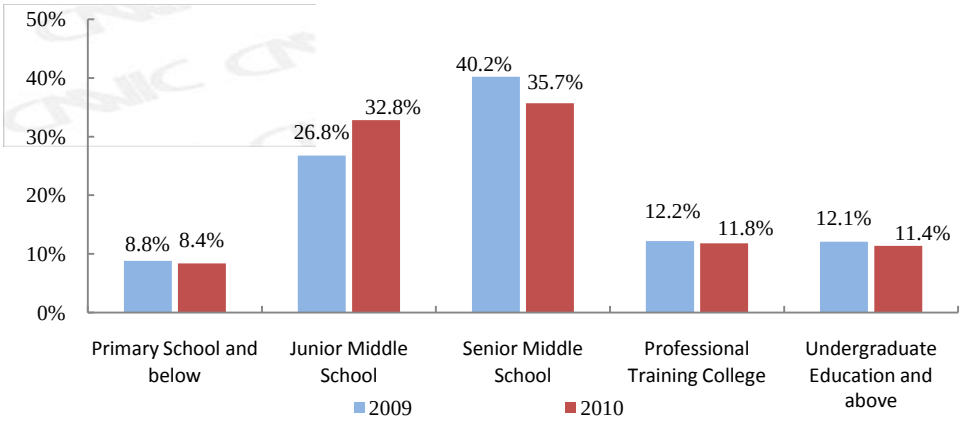


Fig.10 Education Background of Net Citizens from December 2009 to December 2010

(Ⅳ) Occupational Structure

In terms of occupation, among net citizens, the proportion of students, ordinary employees of enterprises, self-employed laborers has continued to increase in 2010, respectively reaching 30.6%, 16.2% and 14.9%. The proportion of workers from the industry of agriculture, forestry, animal husbandry or fishery has increased much faster from 2.8% to

6%, while that of the jobless/ laid off workers/ unemployed has decreased from 9.8% to 4.9%.

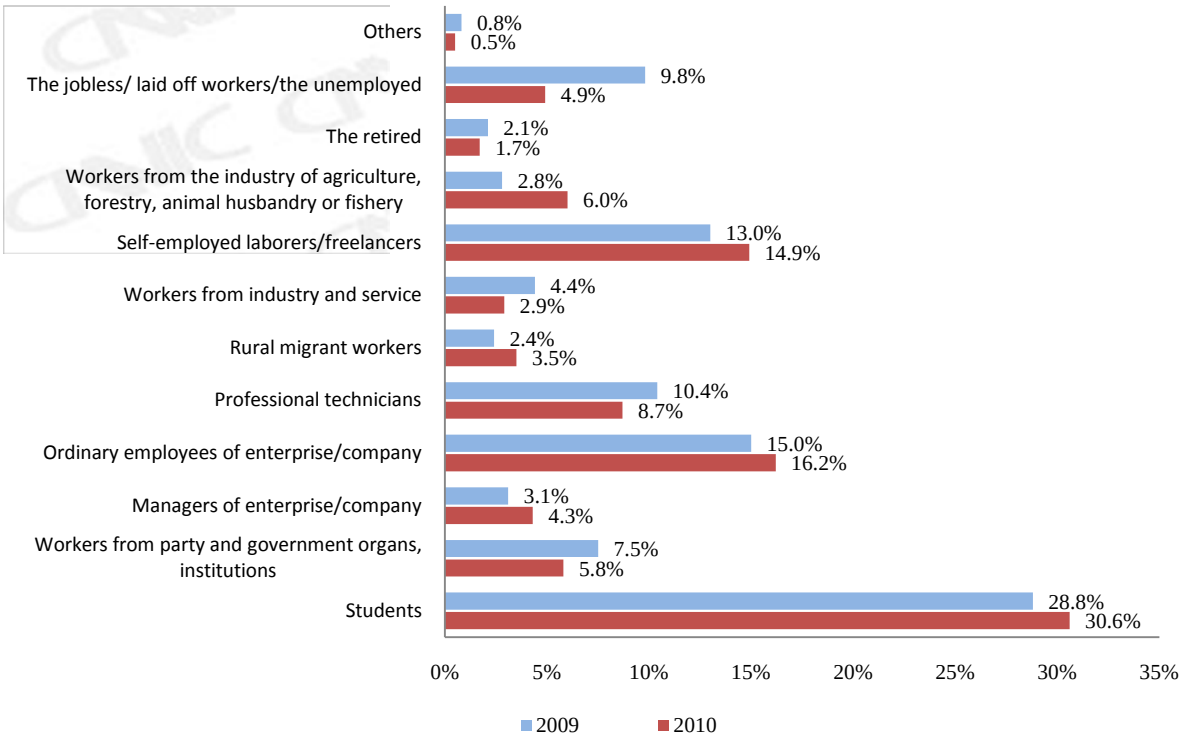


Fig.11 Occupational Structure of Net Citizens from December 2009 to December 2010

(Ⅴ) Income Structure

Internet continues to cover persons with low income. Compared to the end of 2009, the proportion of net citizens with individual monthly income below 500 yuan has increased from 18% to 19.4% and that of net citizens with income between 501 yuan to 2,000 yuan has increased from 41.7% to 42.8%. The proportion of net citizens without any income has decreased from 10% to 4.6%.

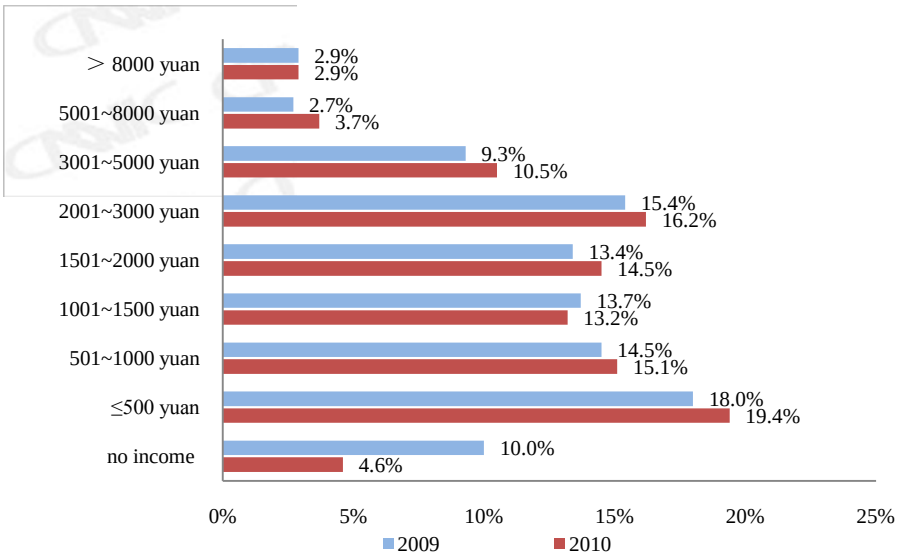


Fig. 12 Individual Monthly Income of Net Citizens from December 2009 to December 2010

(Ⅵ) Rural and Urban Structures

With the rapid development of informationization construction, the internet access conditions in rural areas are improved with more qualified hardware devices, promoting the sustained increase of net citizen scale of rural areas. Until December 2010, the number of rural net citizens has reached 125 million, 27.3% of the overall net citizens, with an increase of 16.9% in the whole year.

People in rural areas become more aware of the application of information technology. By means of government leading and community involvement, there is a great improvement in the popularity of information services, with “farmer-network-company” becoming the typical mode for information application in rural areas. With the help of e-commercial trading platform, farmers are able to directly access relevant markets, promoting the development of manufacturing industry and its supporting industries, enhancing the upgrading and transition of industry structures in rural areas, and driving the popularity of information application in neighboring regions. However, the increasing speed of rural net citizen scale is relatively low to that of urban net citizen scale, in that the population in rural areas has decreased with the urbanization of more and more rural population.

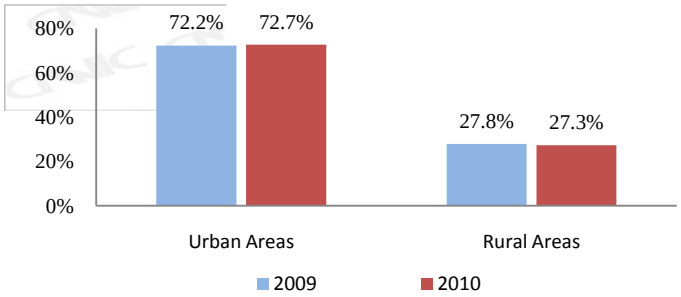


Fig. 13 Rural and Urban Structure of Net Citizens from December 2009 to December 2010

Chapter Ⅲ Basic Resources of Internet

Ⅰ. Overview of Basic Resources

Until December 2010, the amount of IPv4 addresses has reached 278 million. It is anticipated that IANA IPv4 address will have been exhausted until February 2011. It is inevitable and necessary for the transition from internet to IPv6 network.

The amount of domain names in China has decreased to 8.66 million, including 4.35 million .CN domain names. The amount of websites has decreased to 1.91 million, and that of websites under .CN is 1.13 million, 59.5% of the overall websites. This decrease was caused by relevant measures carried out for a better network security, and this has also improved internet basic resources.

The international bandwidth has reached 1,098,956.82Mbps, with an increase of 26.9% in the year 2010.

Table 3 Comparison on Basic Resources of China Internet from December 2009 to December 2010

	December 2009	December 2010	Growth in 2010	Growth rate in 2010
IPv4	232,446,464	277,636,864	45,190,400	19.4%
Domain Name	16,818,401	8,656,525	-8,161,876	-48.5%
CN Domain Name	13,459,133	4,349,524	-9,109,609	-67.7%
Website	3,231,838	1,908,122	-1,323,716	-41.0%
Website under CN	2,501,308	1,134,379	-1,366,929	-54.7%
International Bandwidth (Mbps)	866,367.20	1,098,956.82	232,590	26.9%

Ⅱ. IP Address

Until December 2010, the number of IPv4 addresses has reached 278 million. It is anticipated that IANA IPv4 address will have been exhausted until February 2011. It is more inevitable and necessary for the transition from internet to IPv6 network. IPv6 uses a 128-bit address, whereas IPv4 uses only 32 bits. The new address space supports 2^{128} (about 3.4×1038) addresses. This expansion provides considerable flexibility in allocating addresses and routing traffic, alleviating IPv4 address exhaustion. So far, some systems

and device manufacturers have started to support IPv6, but more supports are needed from the aspects of policies, technical standards, and relevant institutions to ensure the successful transition from IPv4 to IPv6.

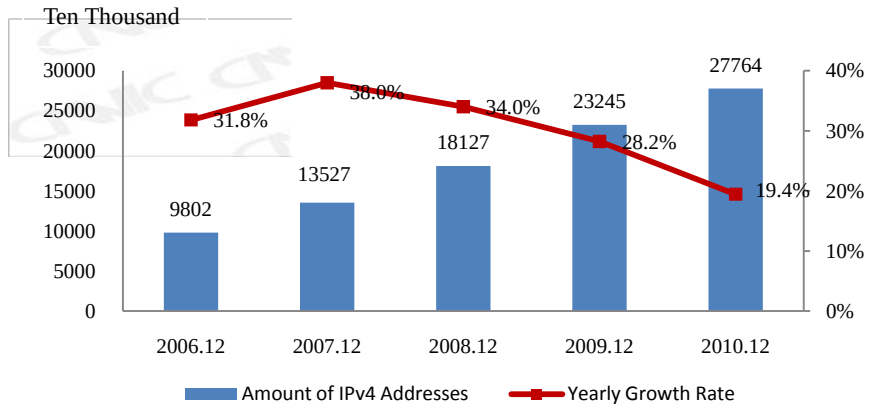


Fig.14 Change of IPv4 Address Resources in China from December 2006 to December 2010

Ⅲ. Domain Name

The total number of domain names in China has decreased to 8.66 million, with 4.35 million .CN domain names, 50.2% of all the domain names.

Table 4 Amount of Classified Domain Names in China

	Amount	Proportion among All Domain Names
CN	4,349,524	50.2%
COM	3,713,244	42.9%
NET	488,478	5.6%
ORG	105,279	1.2%
Total	8,656,525	100%

At present, among CN domain names, the second-level domain names ending with .CN still have the largest proportion, 60.5% of total CN domain names and the next is .COM.CN domain names (31.2%).

Table 5 Number of Classified CN Domain Names in China

	Amount	Proportion among all CN Domain Names
cn	2,629,697	60.5%
com.cn	1,357,969	31.2%
net.cn	169,455	3.9%
adm.cn	67,889	1.6%

org.cn	64,290	1.5%
gov.cn	52,155	1.2%
ac.cn	4,276	0.1%
edu.cn	3,774	0.1%
mil.cn	19	0.0%
Total	4,349,524	100%

Ⅳ. Website

Until December 2010, the amount of websites owned by registrants within the territory of China (including domestic access and foreign access), has been deduced to 1.91 million, with a yearly drop of 41%. This decrease was caused by relevant measures carried out for a better network security, and this has also improved internet basic resources, such as websites. With the decrease in amount of websites, there has been a growing number of web pages and web page bytes.

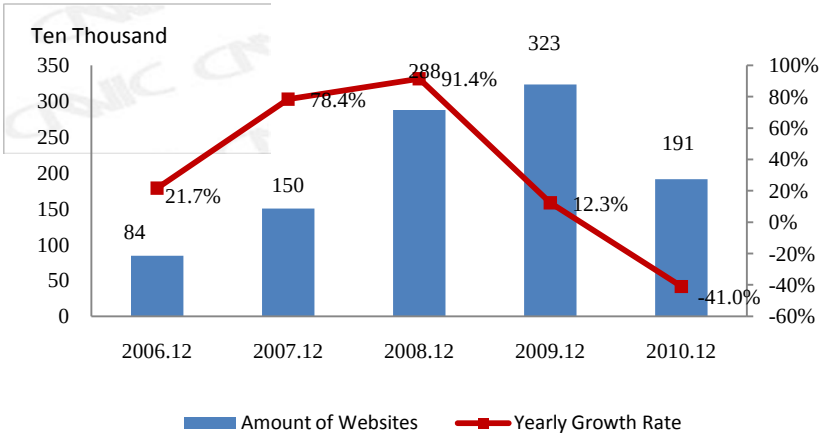


Fig.15 Change of Website Scale in China from December 2006 to December 2010

(＊Websites under .EDU.CN are not included.)

Ⅴ. Web Page

The web page scale can show how colorful the internet information is. Since 2003, the Web pages in China have been basically doubled. In 2010, the number of web pages reached 60 billion, with annual increase of 78.6%.

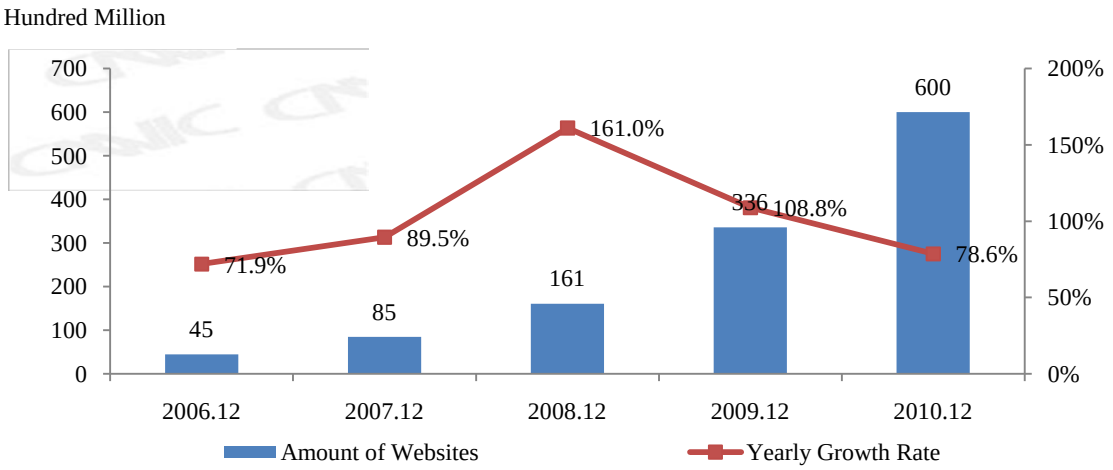


Fig.16 Change of Web Page Scale in China from December 2006 to December 2010

Seen from website details in the following table, increase of dynamic web pages was higher than static ones in 2010 and the proportion between them was reduced from 1.3:1 to 1.14:1. Meanwhile, the number of web pages per website reached 31,414, with annual increase of 202%.

Table 6 Amount of Web Pages in China[6]

	Account Unit	2009	2010	Growth Rate
Amount of Web Pages		33,601,732,128	60,008,060,093	78.6%
Static Web Pages		18,998,243,013	31,908,739,278	68.0%
	Proportion among all web pages	56.54%	53.17%	——
Dynamic Web Pages		14,603,489,115	28,099,320,815	92.4%
	Proportion among all web pages	43.46%	46.83%	——
Ratio of Static Web Pages to Dynamic Web Pages		1.3:1	1.14:1	——
Length of Web Pages (amount of bytes)	KB	1,059,950,881,533	1,922,538,540,426	81.4%
Average Amount of Web		10,397	31,414	202%

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

Pages of each Website				
Average Amount of Bytes of each Web Page	KB	31.5	32	1.6%

Ⅵ. International Network Bandwidth

The international network bandwidth in China continues to develop, which had reached 1,098,956.82Mbpas by the end of 2010, with a yearly increase rate of 26.8%.

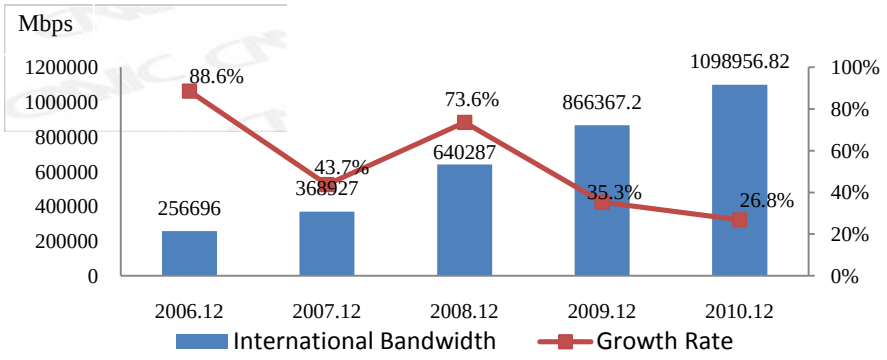


Fig. 17 Change of international bandwidth in China from December 2006 to December 2010

Table 7 International Bandwidth for Key Networks

	International Bandwidth(Mbps)
China Telecom	660612.82
China Unicom	357433
China Mobile Internet	49124
CSTNet	18120
CERNET	11655
China International Economy and Trade Net	2
Total	**1098956.82**

Ⅶ. Internet Access Speed

CNNIC, together with its partners, simulates and tests internet access speed by the means of IDC[7].

Specific testing method: select top 20 prevailing internet websites in China as target and use the testing results on these websites to indicate the overall internet access speed in

[7] IDC speed testing: put server in the IDC machine room, run virtual testing platform, simulate user's access to target websites and obtain testing data.

China. We chose sample points in 31 provinces or municipalities, divided the whole day into 24 hours, tested every one hour, visited 20 target internet websites through machine simulation and obtain the average access speed.

Although the popularization rate of broadband among net citizens has reached 98.3%, the average internet access speed in the whole country was only 100.9KB/s, far behind the global level (230.4KB/s)[8]. Among all provinces, Henan, Hunan and Hebei ranked the top three with their average access speed, 131.2KB/s, 128.2KB/s and 124.5KB/s individually. However, it is not enough to completely reflect the application experience of net citizens in Chain only by IDC testing. Later, CNNIC will consecutively add Lastmile[9] to test data so to reflect the average access speed of internet among Chinese net citizens in a more truthful way.

Table 8 Average Internet Access Speed in Different Provinces of China

Ranking	Provinces	Download Speed(KB/s)
1	Henan	131.2
2	Hunan	128.2
3	Hebei	124.5
4	Tianjin	120.4
5	Sichuan	116.9
6	Heilongjiang	115.7
7	Guangxi	115.5
8	Hainan	110.1
9	Liaoning	109.0
10	Guangdong	108.1
11	Gansu	106.3
12	Neimenggu	105.9
13	Beijing	105.7
14	Guizhou	105.7
15	Jilin	105.6
16	Fujian	104.0
17	Shanxi	101.4
18	Qinghai	100.0
19	Xinjiang	99.4
20	Chongqing	97.0

[8] *Internet Development Report of the Second Quarter in 2010* issued by Akamai

[9] Lastmile speed testing: visiting target website through actual users to obtain testing data. This kind of testing data will be possibly affected by browser, third party service provider and content delivery network, etc.

21	Zhejiang	92.6
22	Hubei	88.6
23	Yunnan	88.3
24	Shandong	87.8
25	Jiangxi	87.3
26	Anhui	84.0
27	Ningxia	83.1
28	Shaanxi	82.0
29	Tibet	76.6
30	Jiangsu	74.4
31	Shanghai	73.2
	Average	100.9

＊These data are obtained first by means of comparing data of Compuware Corporation (Shanghai) and data of Beijing Borui Hongyuan Development Technology Co., Ltd, and then follows the verification according to data of Shenzhen Thunder Network Technology Co., Ltd.

Ⅷ. Internet Basic Resource Index

Basic resources are base of internet, whose development will directly constrain the growth quality of the overall internet. We measure the overall development level of basic internet resources from four dimensions: number of IP addresses[10] per thousand net citizens, number of domain names per thousand net citizens, number of websites per thousand net citizens and international bandwidth per thousand net citizens.

◆ **Methods for calculation of basic resource index**

This index is based on Statistical Reports on Internet Development in China issued by CNNIC twice a year for comprehensive calculation. Starting from the end of 2009, CNNIC has expanded its previous pure .CN domains to all domains in its domain accounting. The base period of data in this report is from 2005. Considering the requirements of data stability, this report selects the average value of data for four times from the end of 2005 to the middle of 2007.

Calculation of index weight: By means of weighting by experts. Government representatives, industry representatives, technical experts of internet, accounting experts, totaling 14, gave scores. The calculation result is as follows:

Table 9 Index Weight

	Number of IP	Number of Domain	Number of	Number of International

[10] The number of IP addresses refers to that of the Ipv4 addresses.

	Addresses	Names	Websites	Bandwidth
Weight	0.3004	0.2435	0.2727	0.1833

Index value of basic indicators= quantity per net citizen in this term/ quantity per net citizen in the base period*100

Basic resource index = 0.30048 * IP address index + 0.2435 * domain name index + 0.2727 * website index + 0.1833 * international export broadband index

◆ **Calculation results of basic resource index**

Table 10 Number of Key Basic Internet Resources of China from 2005 to 2010

	IP Address (Ten Thousand)	Domain Name (Ten Thousand)	Website (Ten Thousand)	International Bandwidth (Mbps)
End of 2005	7439	259	69	136106
Middle of 2006	8479	296	79	214175
End of 2006	9802	411	84	256696
Middle of 2007	11825	918	131	312346
End of 2007	13527	1193	150	368927
Middle of 2008	15814	1485	192	493729
End of 2008	18127	1683	288	640287
Middle of 2009	20503	1626	306	747541
End of 2009	23245	1682	323	866367
Middle of 2010	25045	1121	279	998217
End of 2010	27764	866	191	1098957

Table 11 Number of Key internet Basic Resources and Index Base Volume from 2005 to 2010

	Number of IP address for every thousand people	Number of domain names for every thousand people	Number of websites for every thousand people	Number of international bandwidth for every thousand people (Mbps)
End of 2005	670.2	23.4	6.3	1.23
Middle of 2006	689.3	24.1	6.4	1.74
End of 2006	715.5	30	6.2	1.87
Middle of 2007	729.9	56.7	8.1	1.93
Base Volume	701.2	33.5	6.7	1.69
End of 2007	644.1	56.8	7.2	1.76
Middle of 2008	625.1	58.7	7.6	1.95
End of 2008	608.3	56.5	9.7	2.15
Middle of 2009	606.6	48.1	9.1	2.21
End of 2009	605.3	43.8	8.4	2.26

Middle of 2010	596.3	26.7	6.6	2.38
End of 2010	607.1	18.9	4.2	2.40

Table 12 Index and Sub-index of Basic Internet Resources

	IP Address Index	Domain Name Index	Website Index	International Bandwidth Index	Basic Resource Index
Base Volume	100	100	100	100	107.7
End of 2007	91.9	169.6	107.5	104.1	124.2
Middle of 2008	89.1	175.2	113.4	115.4	126.4
End of 2008	86.8	168.7	144.8	127.2	132.6
Middle of 2009	86.5	143.6	135.8	130.8	124.0
End of 2009	86.3	130.7	125.4	133.7	118.0
Middle of 2010	85.0	79.7	98.5	140.8	97.9
End of 2010	86.6	56.4	62.7	142.0	82.9

From 2005 to 2009, four basic resources kept a rapid increase. However, as net citizen scale in the same period maintained a rapid growth, rapid expansion of net citizen scale even diluted the increase of basic resources, making average quantities of IP addresses and domain names per thousand persons decrease rather increase.

Seen from IP address index, the IP addresses per capita have been reduced year by year from 2007 till now. IP address is the most fundamental resource of internet. Without IP address, there is no way to access internet. Therefore, the issue of IP address shall be paid much attention. If IP address index in the future were reduced, it would possibly constrain the further development of internet in our country.

Since 2007 to 2008, the international broadband index has kept a steady increase, which reflects the rapid development of internet broadband resources in China. While, the increase of broadband resources provides an important guarantee for Chinese net citizens to gradually increase their internet application experiences. However, compared to developed countries in the world, the internet access speed in China is still low.

◆ **Basic resource index trend analysis**

From the end of 2007 to the end of 2008, among four elements of basic resources, although IP address index consistently decreased, domain name index still kept highly stable due to steady growth of international broadband index and website index. This brought about a stable increase of basic resource index in a whole. From 2009, the domain name index and website index have shown a trend of decrease and it was difficult for the stable growth of international broadband index to turn around the decrease trend of other three indexes. In 2010, the domain name and website index rapidly reduced. IP address resources will be used up and basic resource index appears to drop.

Basic resource is a basic condition for internet's rapid, fast and healthy development. In order to ensure that basic resources of China's internet will not constrain the overall development of internet, we need to do the following work: guaranteeing steady recovery of basic resources of domain names, increasing inventory quantity of national domain names; promoting rapid application of IPv6 address resources, change the consistently decreased domain name quantity per capita; optimizing international broadband environment and broadband speed, promoting China internet's transformation from broadband internet to high-sped internet and maintaining steady increase of domain name and website resources.

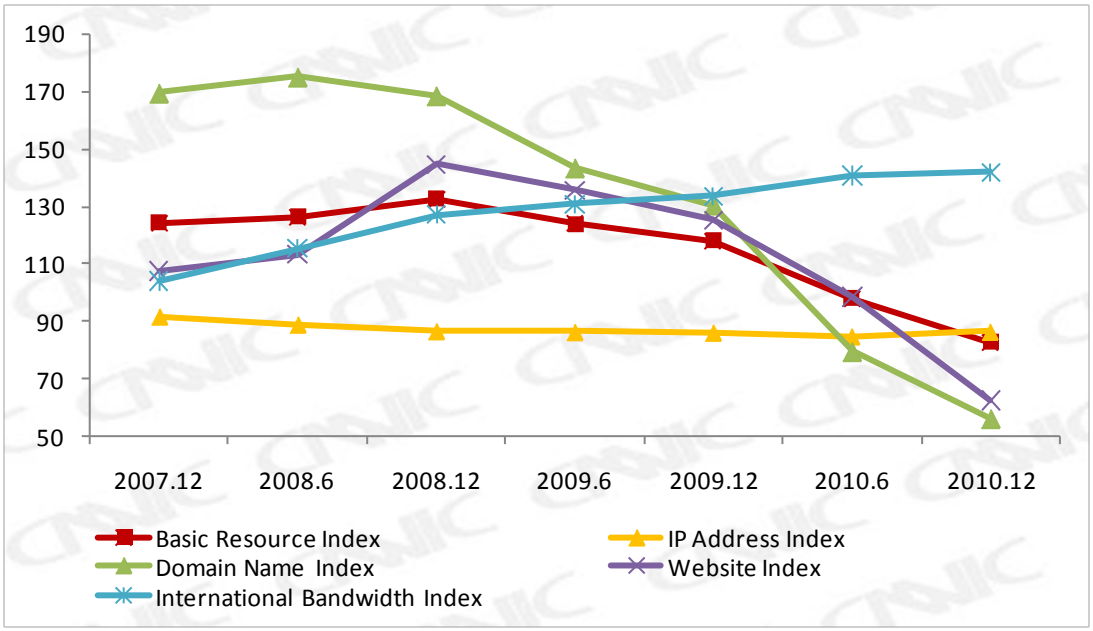


Fig. 18 Index of Internet Basic Resource of China from December 2007 to December 2010

Chapter Ⅳ Network Application Behavior of Net Citizens

Ⅰ. Overall Network Application Behavior

In 2010, the overall situations of internet applications for net citizens in China featured in the following three characters:

First, search engine became the top application for net citizens in China. Search engine, for the first time, surpassed web music with its popularization rate and became an application with the largest net citizen users. In the current days filled with rapidly expanding internet information, traditional portal websites have loosen their advantages while search function, as engine of internet development, increasingly took on the character of “new portal”.

Second, commercial application users kept highest increase. The increase of online shopping users ranked the first; commercial applications, such as online payment, e-banking, etc. were becoming more and more important. More economic activities have been involved into the times of internet.

Third, the utilization rates for entertainment applications of net citizens decreased. The utilization rates for entertainment applications, such as online game, web music, web video, etc., were reduced. After the expanding of user users, web entertainment applications stepped into a development period of relative stability.

Additionally, the scale of micro-blog and group buying users has taken into shape. Until December 2010, the number of micro-blog users in China has reached 63.11 million, with applying rate of 13.8%; the number of group buying users has arrived at 18.75 million, with applying rate of 4.1%.

Table 13 Utilization Rate of Different Network Applications

	2010		2009		
Application	**User Scale (10,000)**	**Applying Rate**	**User Scale (10,000)**	**Applying Rate**	**Growth Rate**
Search Engine	37453	81.9% ↑	28134	73.3%	33.1%
Web Music	36218	79.2% ↓	32074	83.5%	12.9%
Web News	35304	77.2% ↓	30769	80.1%	14.7%
Instant Messaging	35258	77.1% ↑	27233	70.9%	29.5%
Online Game	30410	66.5% ↓	26454	68.9%	15.0%
Blog	29450	64.4% ↑	22140	57.7%	33.0%

Web Video	28398	62.1% ↓	24044	62.6%	18.1%
E-mail	24969	54.6% ↓	21797	56.8%	14.6%
Social networking websites	23505	51.4% ↑	17587	45.8%	33.7%
Cyber Literature	19481	42.6% ↑	16261	42.3%	19.8%
Online Shopping	16051	35.1% ↑	10800	28.1%	48.6%
Forum/BBS	14817	32.4% ↑	11701	30.5%	26.6%
E-banking	13948	30.5% ↑	9412	24.5%	48.2%
Online Payment	13719	30.0% ↑	9406	24.5%	45.9%
Online Stock Operation	7088	15.5% ↑	5678	14.8%	24.8%
Microblog	6311	13.8%	--	--	--
Travel Ordering	3613	7.9% →	3024	7.9%	19.5%
Group Buying	1875	4.10%	--	--	--

In 2010, commercial applications kept a trend of rapid growth, which should contribute to scalable development of e-commerce enterprises and accumulation of users' application habits. The number of such application users increased in a large scale. Online shopping, with annual increase of 48.6%, was an application with the fastest user increase rate. The annual increase of online payment and e-banking has reached 45.8% and 48.2%, far beyond other types of internet applications.

Compared with general increase of commercial applications, the penetration rates of most entertainment applications were falling. The penetration rate into users of web music, online game and web music fell by 4.3%, 2.4% and 0.5% individually, with a relative small user increase. The entertainment applications among network application of net citizens in China are decreasing.

The social exchange applications still maintain a fast development speed. The increase of users for social networking websites, instant messaging and blog was 33.7%, 29.5% and 33% individually. Social exchange applications played a more important role in the establishment, maintenance and development of personal relationship; the importance of social media was becoming distinguished in 2010. Net citizens obviously intensified their intensions to protect their rights by social media like microblog and the mass has become the main driving force for news events spreading and driving.

(Ⅰ) Information Acquisition

1. Search Engine

In the year 2010, the number of users for search engine has reached 375 million and increased by 93.19 million, with an increase of 33.1%. The utilization rate of search engine among all net citizens has increased by 8.6%, to 81.9%, topping the utilization rate of all the other applications. Net citizens today use internet more for searching information, rather than reading news.

The fast growth of network technology has brought about rapid expansion of internet information production and consumption behavior. The integration of various terminals including PC, cell phone, flat computer, etc and rapid development of Web2.0 applications such as SNS, microblog, etc. all contribute to a sharp increase in internet information load and information sources are becoming unprecedentedly rich and colorful. However, enormous and scattered information has increased people's time and cost to obtain valid information. In 2010, in order to improve the intelligence and accuracy of Chinese information retrieve function for search engine, the business modes of search engine service suppliers were getting more diversified; the service of search engine was optimized and service level was improved in a large scale.

With the recovery of global economy, enterprises made more efforts to advertising in 2010. The publishing of more advertisements transferred from traditional media to internet. And evaluation availability of accuracy and marketing effect of internet advertisements have become a normal standard these enterprises sought. Under the circumstances of such market demands, marketing value of search engine greatly increased and market gains maintained a trend of fast increase.

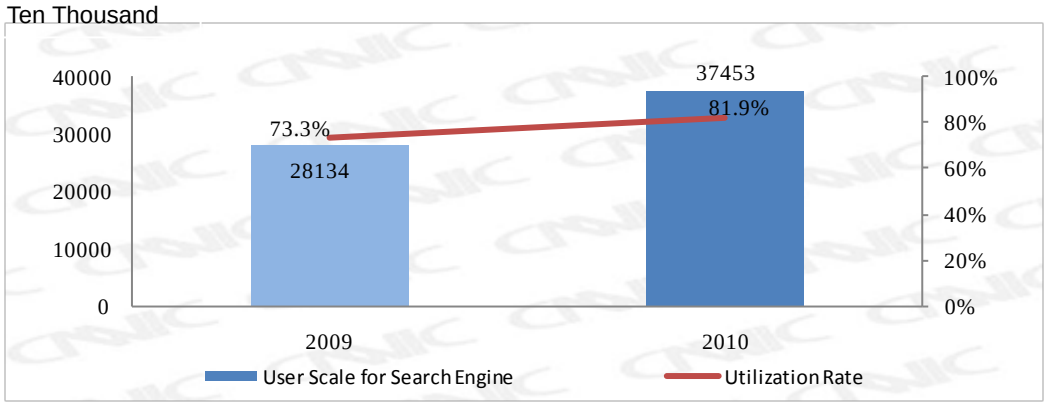


Fig.19 User Scale for Search Engine and Utilization Rate from 2009.12 to 2010.12

2. Web News

Until December 2010, the utilization rate of web news is 77.2%; the number of users has reached 353 million and increased by 45.35 million, with an increase of 14.7%.

Internet has evolved into one of major media for net citizens to acquire news information. With rapid development of network technology and its applications, reform of news spreading mechanism has been quickened. First, the rapid development of newly emerging internet media such as mobile surfing, micro-blog provides a convenient channel for users to upload their information and promotes fast growth of information produced by internet users, thus contributing to more colorful sources of web news. Second, there are more ways for net citizens to obtain news information. Third, social networking websites play an important role in news information spreading, with its interaction with users, and increase the speed, width and depth of news spreading. With more diversified and higher integration of news information channel as well as rapid growth of production and consumption behavior of internet news information, web news markets in the future will take on a more prosperous outlook.

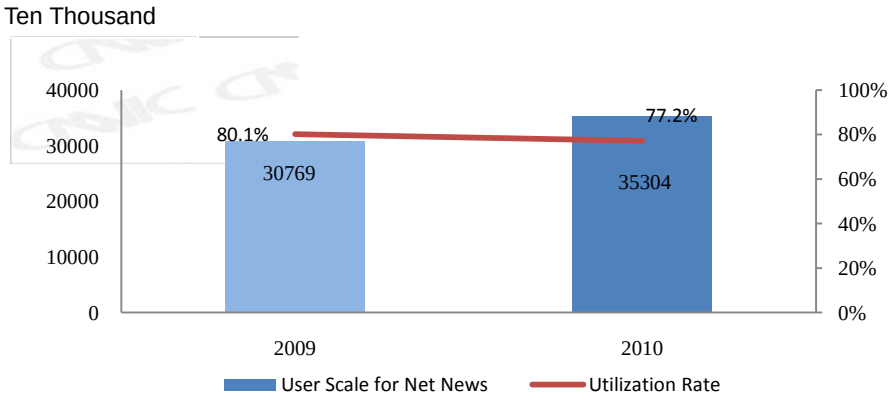


Fig. 20 User Scale for Web News and Utilization Rate from December 2009 to December 2010

（Ⅱ）Commercial Exchange

1. Online Shopping

Until December 2010, the number of online shopping users has reached 161 million; the utilization rate has increased to 35.1%, by 7%, and the increase rate of users in 2010 has reached 48.6%, topping that of the other applications.

The quicker growth of online shopping is promoted by policies, markets and such. 2010,

relevant policies have been issued by the government to promote online shopping and to normalize it. In terms of markets, traditional enterprises started to enter online retail market, allowing a more prosperous online market and a more qualified service. Along with the quick rising of group purchasing, service industries, like catering industry has started to enter online market. After ten years of B2C operation, some enterprise has been listed for the first time. There has been a further improvement in the service and influence of e-commercial companies. The benefits of group purchasing has stimulated the sharp increase of online shopping users.

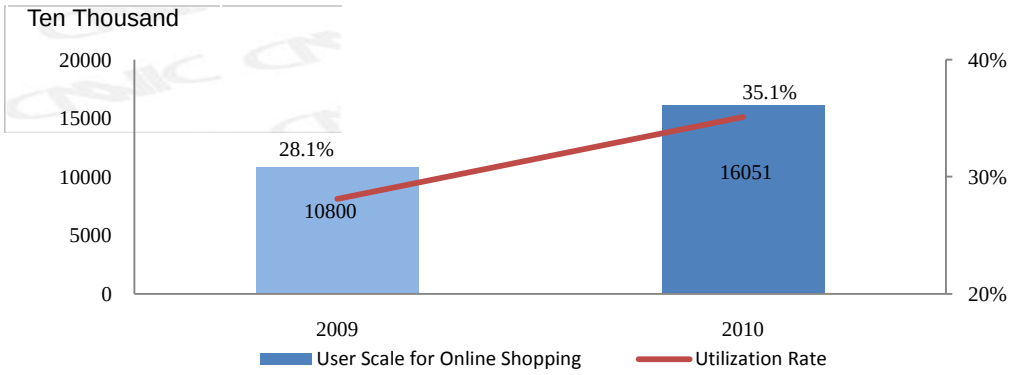


Fig. 21 User Scale for Online Shopping and Utilization Rate from 2009.12 to 2010.12

2. Group Buying

The year 2010 was the first year for group buying in China. Until December 2010, the number of group buying users in our country has reached 18.75 million. At present, bulk activities tends to expand towards cities at the second or third level more. It is estimated that group buying users in 2011 will maintain a fast growth.

Group buying, coupled with microblog, has become a spotlight of internet development in 2010. There are mainly two reasons for so prosperous group buying development. The first point is surging involvement of prevailing websites. In the initial period of Chinese group buying development in 2010, only a few group buying websites were independently operated by some enterprises, such as manzuo.com, meituan.com. Then, taobao.com, the largest online shopping website, launched ju.taobao.com; group buying services were opened by some portal websites, including sina.com, sohu.com and tencent.com. Later, renren.com, a social networking website, opened nuomi.com. Until the end of 2010, nearly all Chinese internet tycoons have been involved in group buying industry. And

group buying websites, as an effective tool to increase internet industry gains and to enhance interaction with users, has rapidly become prevailed and promoted the development of group buying industry.

The second point is close relationship with characters of group buying. Group buying has some obvious characters: first, it is a typical “light” industry. No “hardware” efforts like storage and logistics need to be considered. Only if you have your own website and employees, you can run your group buying business. Second, you can withdraw your fund from circulation very quickly by this business mode. Only making a successful group buying, you can gain your profits. The above characters of group buying make it easy to access. Third, except group buying launched by online shopping websites, items such as cosmetology, eating and drinking, entertainment, etc. are provided by other group buying websites, which has filed the gap of low service consumption in traditional online shopping.

3. Online Payment

The year 2010 has witnessed a rapid development of online payment. Until December 2010, the amount of users for online payment had reached 137 million, with the utilization rate reaching 30%i. Compared to that of 2009, the amount of users for online payment has increased by 43.13 million, with a yearly increase of 45.9%. The scale of online payment users has been three times as that of three years ago, with an increase of 104 million, compared with that of 2007.

The year 2010 can be regarded as a turning point for online payment application. The issuing of relevant regulating policies and implementation provisions by the State means the termination of free growth of online payment. The rapid development of online payment in 2010 was mainly due to the following reasons:

First, online shopping remained an important channel for net citizens to make online payment. The prosperous advance of online shopping market promoted rapid development of online payment. Second, industry expansion became a spotlight of development for online payment in 2010. Except traditional online shopping, industries like aviation, insurance and fund has begun to arrange online payment. With larger fund circulation, these industries will promote further expansion and development of online

payment. Third, as important part of online payment, mobile payment has promoted rapid development of it. Online payment service suppliers, banks and operators in all prevailing websites are increasing their efforts to mobile payment. The real-name pre-paid phone cards and rapid increase of 3G users all contributed to fast development of mobile payment.

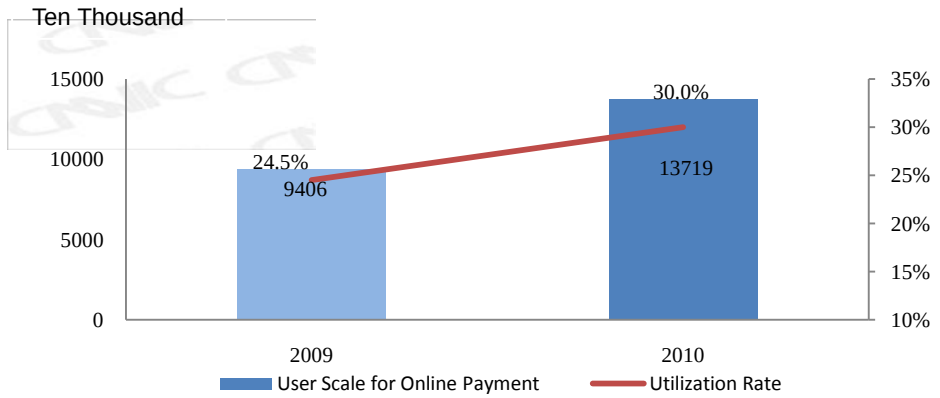


Fig. 22 User Scale for Online Payment and Utilization Rate from 2009.12 to 2010.12

4. Travel Ordering

Until December 2010, user scale for tour booking had reached 36.13 million, with the penetration rate as 7.9% among all net citizens. Compared with that of the end of 2009, the user scale has increased by 5.89 million, with an yearly growth rate of 19.5%.

The online travel ordering industry enjoys a large development potential in China where urbanization and development of information industry is promoted. In 2010, online travel ordering industry began to be segmented; direct operation of travel products was intensified; the third party agency suppliers provided more dedicated information integration services and penetration rate of search engine service products for vertical travel was increased, etc. All these segmented services have satisfied more demands from net citizens, thus travel ordering market continued its growth.

However, the development speed of travel ordering industry in 2010 was only 19.5%, obviously lower than other applications like online shopping, the reasons for which were as follows: China had a low internet population rate currently; Net citizens had a poor awareness of travel ordering and online travel ordering market was still in a stage of market nurturing. The penetration rate for online travel ordering among net citizens of

America in 2010 has reached 66%, far beyond the penetration rate (7.9%) of China in the same period.

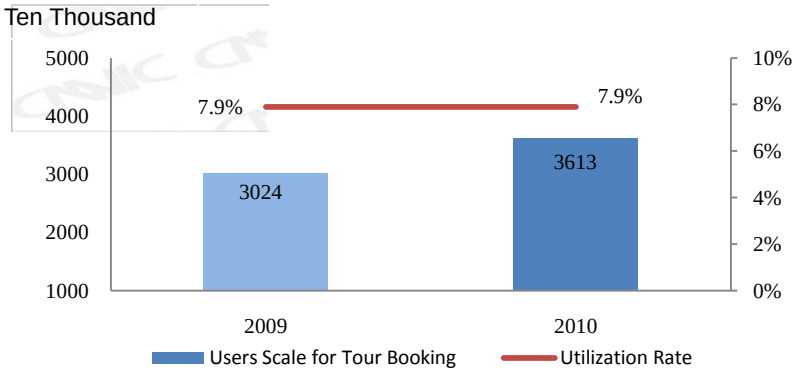


Fig. 23 User Scale for Tour Booking and Utilization Rate from 2009.12 to 2010.12

(Ⅲ) Exchange and Communication

1. Instant Messaging

Until December 2010, the number of instant messaging users in China has reached 353 million, with an yearly increase of 80.25 million, increased by 29.5%. There had been a decrease in the utilization rate of instant messaging from the year 2007, but the year 2010 witnessed a slight recovery of it, which has reached 77.1%, with an increase of 6.2%, compared with that of 2009.

With the development of mobile internet, the user scale of mobile net citizens has enlarged, and the utilization rate of instant messaging has increased greatly, topping the other applications of mobile internet. Besides, the further popularity of e-commerce and the rapid development of instant messaging tools has become another stimulator for the overall user scale for instant messaging.

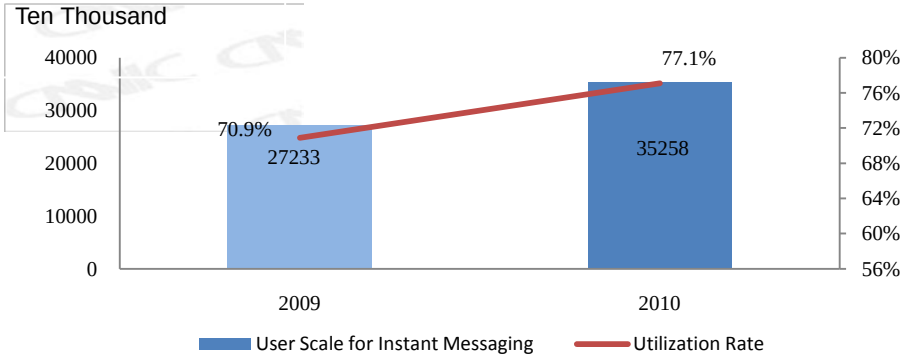


Fig. 24 User Scale for Instant Messaging and Utilization Rate from 2009.12 to 2010.12

2. Blog

Until December 2010, the user scale for blog has been enlarged to be 295 million, with an increase of 73.1 million, with the growth rate as 33%. Compared with that of 2009, the utilization rate of blog among all net citizens has increased by 6.7%, reaching 64.4%. The rapid growth of blog is closely connected with the fast development of domestic social networking websites applications, such as instant messaging, SNS, microblog, etc. First, the space log in instant messaging and blog in SNS has advanced the growth of blog application. Meanwhile, the fundamental of user relationship between instant messaging and SNS are making blog become an important medium between friends to strength mutual understanding and making in-depth exchange. Second, the microblog plays a motivation function in blog writing. The advantages of microblog in spreading has enriched ways to spread opinions of blog writers, brought about increase of browsing amount of personal blog and satisfied blog writers' wish to be concerned and recognized. However, at the same time, with the rapid increase of blog's influence, the development of blog application also faced many challenges. According to feedback from users, the "spam advertisement" in comments on blog articles is a common problem experienced by blog users. Also, blog copyright has been poorly protected; the fact that blog articles were reproduced without writers and sources noted has influenced blog writers' activeness. The above urgent issues in the future development of blog require to be solved immediately.

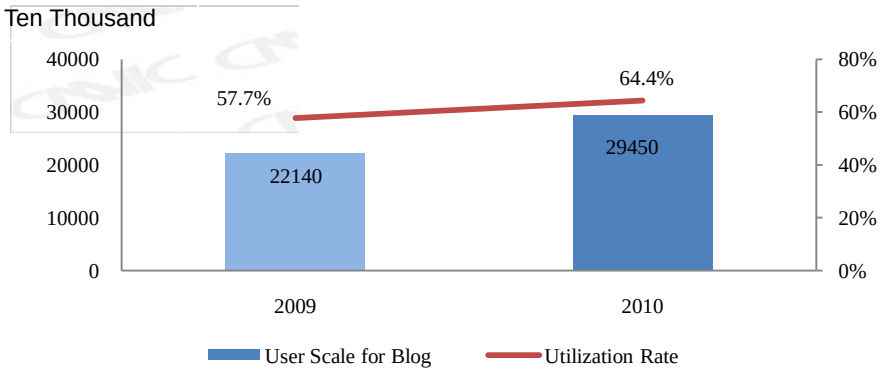


Fig. 25 User Scale for Blog and Utilization Rate from 2009.12 to 2010.12

3. Microblog

In 2010, the number of microblog users in China was 63.11 million and utilization rate among net citizens was 13.8%. The utilization rate of mobile microblog users among

mobile net citizens was 15.5%. The rapid development of mobile microblog has brought about information production of mobile terminal and rapid expansion of consumption behavior.

In 2010, microblog witnessed a quick rising. Microblog, with characters of open platform, terminal expansion, concise content and low threshold, has rapidly penetrated among net citizens and developed into an important means of social media. The embodiment is as follows: first, microblog has become an important medium of news and events acquisition, interpersonal interaction, self expression, social share and involvement of net citizens; second, it has become an important platform for social public opinion spreading, enterprise brand, production publicity and traditional media communication.

As a newly rising network application with rapid growth speed, microblog has made a profound influence on internet industry. First, microblog is becoming an important source of news and will bring about changes of communication means for news media. Second, intense integration of microblog, instant messaging, blog and social exchange users will greatly affect other social exchange network application markets; meanwhile, it will promote social networking websites' development towards platform. Third, instantaneity and fragmentation characters displayed in microblog information will speed up technical development and application of network services.

4. Social networking websites

The year 2010 has witnessed an increasing user scale for social networking websites and a growing penetration rate of it among all net citizens. Until June 2010, the number of net citizens who use social networking websites has reached 235 million, with an increase of 59.18 million. The utilization rate of micro blog reached 51.4%, with an increase of 5.6%, compared with that of the year 2009.

Despite of rapid increase in social networking websites users, some problems still exist. The first point is how to develop services that can stick users. After experiencing a stage of "national vegeteal (a social exchange game)", it has become more and more difficult to increase magnetism on users, while it has enabled more social networking websites to open their platforms as supplement. Second, advertisement remains a main source for social networking websites to gain profits; however, potential values of social networking

websites including partner relationship and real name system, etc. haven't been brought into full display. Under this circumstance, we can introduce some actual activities such as business activities, living services, etc, which can further develop the potential values of these websites.

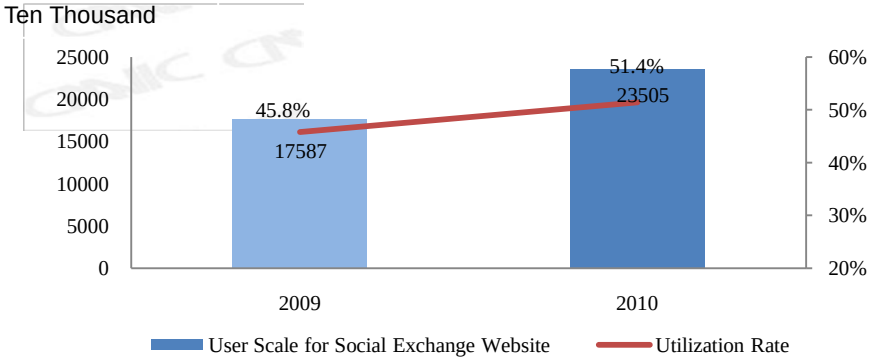


Fig. 26 User Scale for Social networking websites and Utilization Rate from 2009.12 to 2010.12

（Ⅳ）Web Entertainment

1. Online Game

Until December 2010, the user scale for online games had increased to 304 million, with an increase of 39.56 million and 15% compared with that of the end of 2010. Meanwhile, the utilization rate of online games had declined from 68.9% to 66.5%. The growth of user scale for online games has entered a slow developing period.

According to development trend shown by online gaming industry, when user increase slows down, segmentation demands on products are further increased; old age game type and colorful products enabled users to make selection more reasonably; improvement of products targeted to different users has become the key to product competition. In addition, faced with less new game users, it tends to develop towards user shifting among different games, such as shifting from small-scale leisure game user to large-scale game user, mutual penetration between web page games and large-scale online games; while, such trend also constitutes to establishment of more game operator platforms.

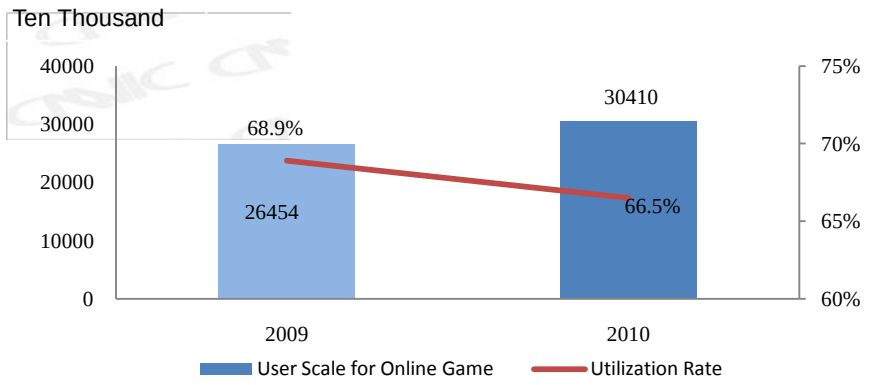


Fig. 27 User Scale for Online Game and Utilization Rate from 2009.12 to 2010.12

2. Cyber literature

Until December 2010, the utilization rate of cyber literature was 42.6% and the number of them has reached 195 million, with an increase of 19.9%, compared with that of the end of 2009. The penetration rate of cyber literature is the only application that has increased in 2010.

The rapid popularization of internet has lowered the threshold of culture writing and publishing and provided the mass with more opportunities to get involved in culture creation and reading, thus bring about prosperous cyber literature. More traditional culture writers published and spread their works through internet; cyber culture was included into traditional culture prize; publishing houses and culture websites offline cooperated together to publish books and magazines; cyber culture was edited into TV and film series, which was hotly broadcasted. The influence of cyber culture on creation subject, circulation channel and user involvement, etc. has been greatly enhanced, which will strongly promote the increase of cyber culture users

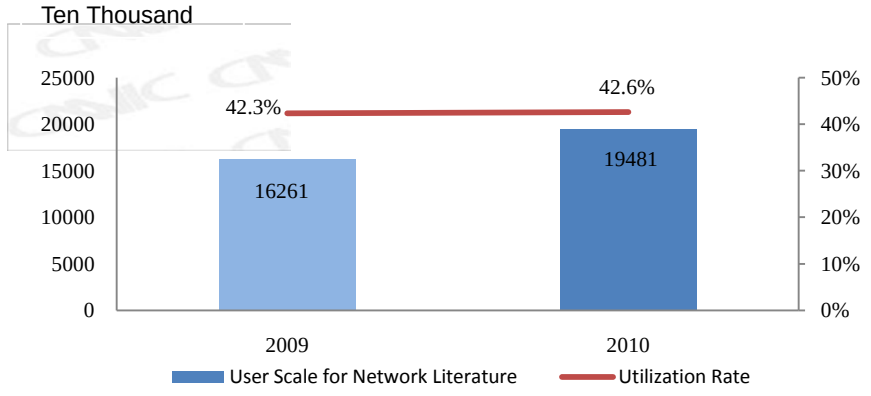


Fig. 28 User Scale for Cyber Literature and Utilization Rate from 2009.12 to 2010.12

3. Web Video

Until December 2010, the amount of web video users has reached 284 million and the utilization rate was 62.1%. Compared with that of 2009, the user scale for web video has increased by 43.54 million, with a yearly growth rate of 18.1%.

As the service level of web video in China improves, web video has developed into an important medium for people to acquire digital information such as film, TV, video, etc. Meanwhile, web video has obtained an obvious improvement in user basis, technical level, content service and industry development and become more and more important in internet industry, transforming from traditional video to high-definition video, from grassroots information to elite information and from popular risk investment to listing of video websites.

The commercial values of web video still need further developing compared with media influence and industry position of web video. Although domestic web video has obtained a fast increase in advertisement gains, there is still a broad space for increase of price per web video advertisement. Seen from profiting modes of web video, highly copyright exchange and bandwidth cost have caused great pressure on the operation of domestic web video service suppliers. Therefore, exploring new business models is crucial for domestic video industry to move towards maturity according to market demands of web video users in the country.

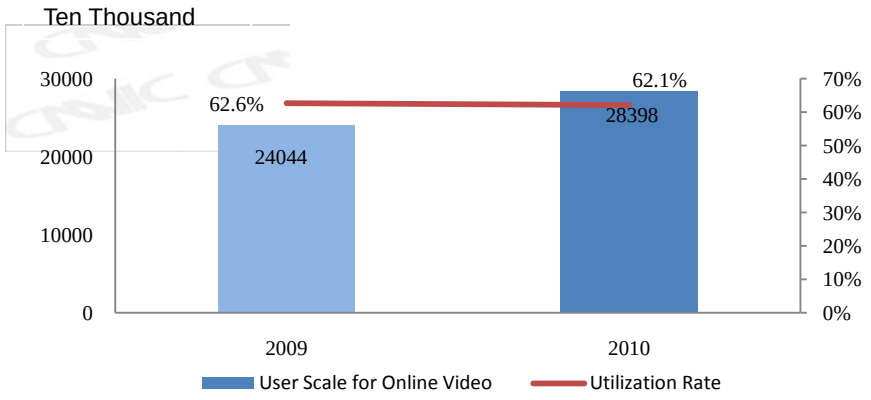


Fig. 29 User Scale for Web video and Utilization Rate from 2009.12 to 2010.12

Ⅱ. Mobile Network Application

Compared with survey data in the middle of 2010, it can be seen that the penetration rate

of all applications among mobile net citizens was increased, with a constant improvement of application level, which was mainly due to: on the one hand, increase speed of mobile net citizens slightly slowed down, which contributed less to dilution of popularization rate of applications among mobile net citizens; on the other hand, popularization rate of intelligence mobile was increased, which enabled mobile net citizens to be actively involved in various online applications of mobile phones.

As shown from the data at the end of 2010, instant messaging of mobile remained an application with the highest penetration rate (67.7%) among mobile surfing applications of net citizens. There are many reasons to explain it. First, massive user scale of instant messaging tools and its high magnetism on users ensures the demands on mobile instant chatting; second, naturally, mobile is a terminal with communication as its core part, with portable characters, which are quite suitable for meeting demands of instant messaging software. Finally, constant popularization of intelligence phones has made the use of instant messaging tools more convenient. In addition, there are many mobile phones installed with instant messaging tools, which has lowered the threshold of application by users. In consideration of the above factors, mobile instant messaging tools will continue to keep a high penetration rate and it is possible for them to replace the current short message function gradually.

Mobile web news ranked the second with its utilization rate (59.9%) among mobile surfing applications of net citizens, which was approximate to popularization rate among all net citizens. The popularization rate of web news among all net citizens was 2% lower than web music, ranking the third. Therefore, information acquisition demands were still obvious in mobile surfing applications.

Mobile search ranked the third with its penetration rate of mobile surfing application. Compared with penetration rate of internet application among all net citizens, search engine ranked the first among all surfing applications. Mobile phone, in contract to computer, has a poor operation and display ability in browser visit means[11]. With the constant popularization of intelligence terminals, the future client model[12] will surpass

[11] Browser visit means direct access to web and websites through browser.

[12] Client mode means obtaining relevant network service through certain client end, such as QQ, Sina

browser visit method and become the mainstream of mobile surfing applications. While search engine service is closely dependent on browser visit, so its penetration rate in mobile phone is lower than in computer. However, we still need to notice that client is the only means to obtain normal services while new service acquisition is still dependent on browser visit, so browser visit method will not disappear. As mobile phones are characterized by lower operation and display ability, uniform inlet services of search and navigation remain the pioneer in web page services, but they requires more intelligent, predictable and simplified user operation.

Web music and cyber culture are the most typical surfing applications of entertainment in cell phones, with high popularization rate ranking the fourth and fifth, individually. Web music ranked the second with its penetration rate in surfing application among all net citizens. But affected by cost and speed of mobile surfing, its penetration rate in mobile surfing was slightly lower than in surfing applications among all net citizens. Due to the same reasons, penetration rates of mobile online game and web video were still low.

The penetration rate of mobile social networking websites increased fast in 2010, to 36.6%, with a fine growth trend. The social exchange trend of internet has become irresistible and has occupied an important position in traditional internet. However, mobile internet is always imitating and learning from traditional internet, so its overall development is lower than traditional internet. In the future, social exchange applications of mobile phones will embrace a great development.

Although penetration rate of mobile microblog was low, it has increased to 9.4%, compared with 6.1% in the middle of 2010 , with a rapid growth trend.

The penetration rate of mobile e-commerce application in mobile surfing was still low and times of mobile E-commerce haven’t approached.

Generally, business of low rate remained the mainstream among mobile surfing applications. Although China has stepped into 3G times, the flow rate and high bandwidth of 3G haven’t obtained a rapid growth.

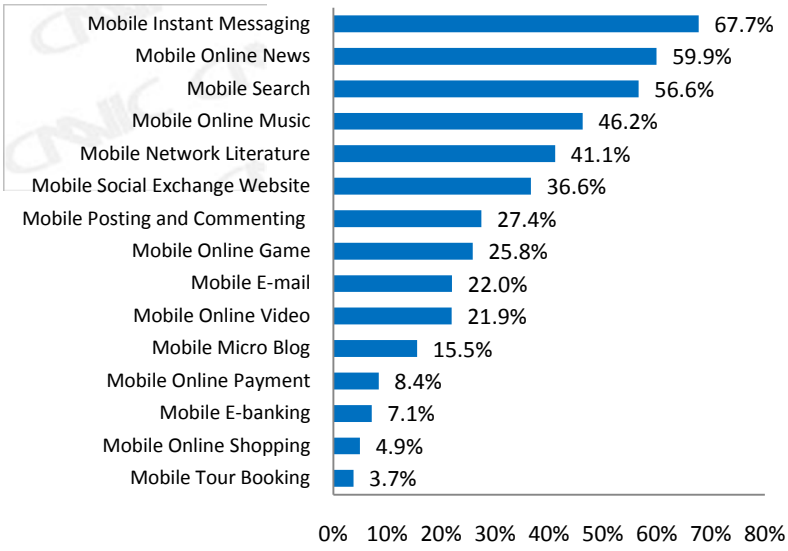
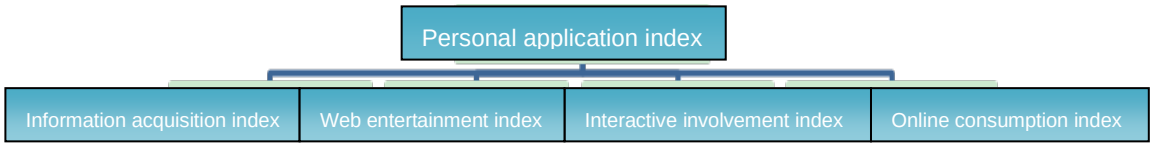


Fig. 30 Network Application Behavior of Mobile Net Citizens

Ⅲ. Network Application Index of Net Citizens

◆ Personal internet application index

Among elements of internet, resource is basis, application is core and effect is result. Personal application is the most important part of internet applications. Meanwhile, CNNIC's accumulation in internet research starts from research on personal application. CNNIC plans to evaluate personal internet application level from two dimensions, namely behavior and experience. In this report, behavior evaluation is the core and application experience will work as checking analysis to enrich and perfect behavior evaluation results.



Information acquisition index is used to evaluate internet's popularization among net citizens and its trend of change as channel of information. This report adopts two applications including search engine and web news to measure.

Web entertainment index is used to evaluate internet's applications among net citizens and its trend of change as channel of information. This report adopts three applications including web music, web video and online game to measure.

Interactive involvement index is used to evaluate internet's applications in

people's interactive communication and social involvement and its trend of change as a social exchange platform. This report adopts four indexes including email, instant messaging, blog updating and online post writing to evaluate net citizens' interactive involvement index.

Online consumption index is used to evaluate internet's penetration among net citizens and its trend of change as a platform of purchase and consumption. This report selects online shopping, online payment, online travel and hotel ordering as typical indexes of online consumption.

Table 14 Classification of Indexes

First-class Index	Second-class Index	Third-class Index
Personal Internet Application Index	Information Acquisition Index	Web News
		Search Engine
	Online Entertainment Index	Web Music
		Web Game
		Web Video
	Interactive involvement index	Instant Messaging
		E-mail
		Blog Updating
		Online Post Writing/ Replying
	Online Consuming Index	Online shopping
		Online Payment
		Travel Ordering

◆ Personal application index weigh

This index is based on the use of network applications in the statistical surveys of internet development in China made by CNNIC twice every year and calculated by weighting.

Index weight calculation: making up specific applications of secondary index and forming secondary index by means of weighting. The secondary index is formed into primary index by expert weighting. The index weight was mainly from government representatives, industry representatives, and technical experts of internet and accounting experts, totaling 14, who gave scores. The calculation result is as follows:

Table 15 Index Weigh Distribution

	interactive involvement index	information acquisition index	online entertainment index	online consumption index
Weigh	0.2337	0.3155	0.2151	0.2357

Personal internet application index = 0.2337 * interactive involvement index + 0.3155 * information acquisition index + 0.2151 * online entertainment index + 0.2357 * online consumption index.

◆ **Personal internet application index**

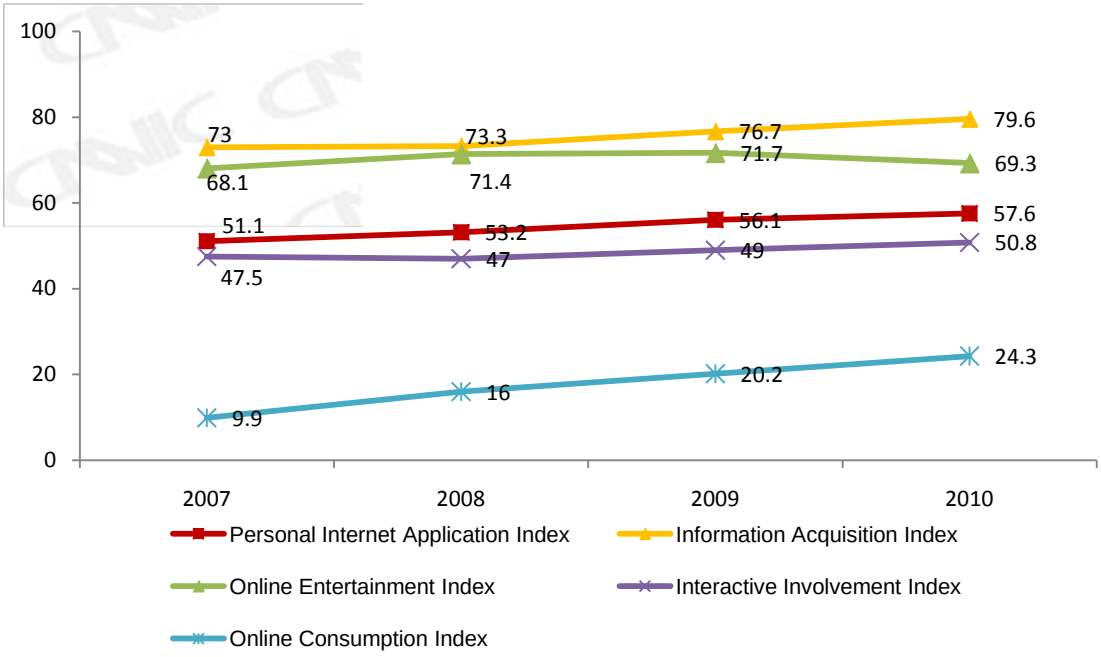


Fig.31 Internet Application Index of Net Citizens from 2007 to 2010

Seen from changes of personal internet application index, internet application level of Chinese net citizens has been in a steady increase, from 51.1 in 2007 to 57.6 in 2010. The segmented secondary index reflects structural changes of personal internet applications in China, from primary information acquisition and entertainment to business exchange and interactive involvement. From 2007 to 2010, network consumption index had the largest increase, from 9.9 to 24.3; interactive involvement index was increased from 47.5 to 50.8; while web entertainment index began to decline from 2009.

Table 16 Personal Internet Application Index from 2007 to 2010

Index classes		2007	2008	2009	2010
First-class Index	Personal Internet Application Index	51.1	53.2	56.1	57.6
Second-class Index	Information Acquisition Index	73.0	73.3	76.7	79.6
	Online Entertainment Index	68.1	71.4	71.7	69.3
	Interactive Involvement Index	47.5	47.0	49.0	50.8
	Online Consumption Index[13]	9.9	16.0	20.2	24.3

In 2010, the personal internet application index in China reached 57.6. It can be seen from specific application proportions of three-level indexes, despite of falling web entertainment index, web music, online game and web video still ranked top with their utilization rate. The score of interactive involvement index was increased mainly due to great contribution of traditional communication applications (instant messaging, email) while the utilization rate of typical sharing and involvement applications (blog updating, message posting) was still low. The growth of network consumption was mainly based on rapid growth of online shopping and payment.

Table 17 Personal Internet Application Index of 2010

First-class Index	Second-class Index	Third-class Index	Utilization Rate
Personal Internet Application Rate （57.6）	Information Acquisition Index （79.6）	Web News	77.2%
		Search Engine	82.0%
	Online Entertainment Index（69.3）	Web Music	79.2%
		Web Game	66.5%
		Web Video	62.1%
	Interactive Involvement Index （50.8）	Instant Messaging	77.1%
		E-mail	54.6%
		Blog Updating	39.9%
		Online Post Writing/ Replying	31.7%
	Online Consumption Index（24.3）	Online shopping	35.1%
		Online Payment	30.0%
		Travel Ordering	7.9%

[13] The online consumption index of 2007 refers to that by the middle of 2007, other index refers to that by the end of the year.

Chapter V Network Application Behavior of Medium-sized and Small Enterprises

Ⅰ. Network Application Basics of Medium-sized and Small Enterprises

(I) Internet Access[14]

Until December 2010, 94.8% of medium-sized and small enterprises have been equipped with computers compared to 5.2% without computers. 92.7% of medium-sized and small enterprises[15] have had access to internet, which has reached a relatively high level. It can be seen from internet access proportion of medium-sized and small enterprises in China of different scales, smaller enterprises account for a lower proportion in internet access while nearly 100% of larger enterprises have had access to internet.

The main reasons for relatively high internet proportion by medium-sized and small enterprises in China are as follows:

1. Promotion of national policies. The State and Chinese government's attention to information technology of enterprises as well as measures to greatly promote the integration of industry and information technology have played a positive role in large-scale increase of access level of medium-sized and small enterprises in China. On the one hand, it enables theses enterprise to realize the value of internet; on the other hand, it provides a guarantee with respect to policy that these enterprises can share internet services conveniently.

2. Market opportunity drive. With the continuous and rapid increase of personal internet popularization rate and fast growth of commercial internet, internet's value in medium-sized and small enterprises is enhanced and its opportunities in market are increased. These increasing market opportunities also lead these enterprises in quickening their utilization of internet.

[14] Enterprise's access to internet: The enterprise's access to internet means an enterprise works (employees can visit content and services of internet in their own enterprise) or provides services (website services) to users through internet.

[15] The survey target in this chapter is medium-sized and small enterprises, excluding privately or individually-owned businesses. According to data issued by national competent authorities, up to the end of March, 2009, there had been 7,565,600 legal entities1 in China actually. It is estimated that there would be about 7,480,000 medium-sized and small enterprises, excluding large enterprises in China (8,540,000) with legal qualifications.

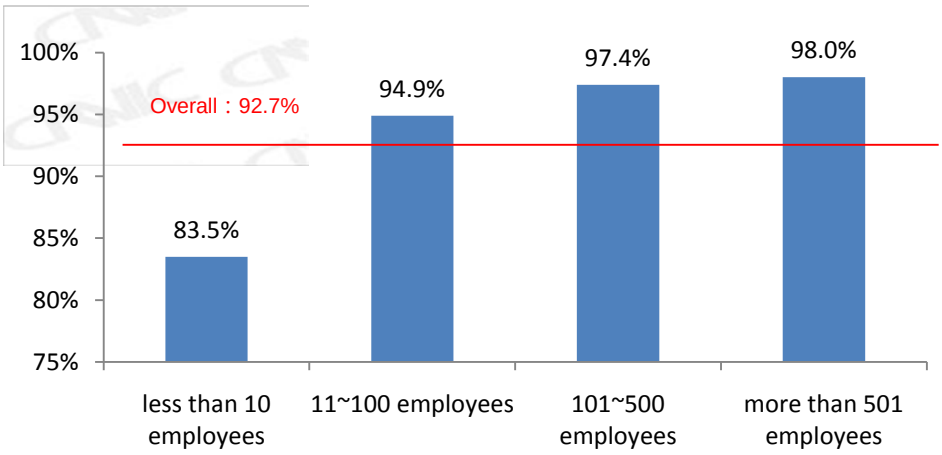


Fig. 32 Internet Access Ratio among Enterprises of Different Scales

(II) Construction of Websites and Online Stores

Enterprise websites and stores (online storefronts) are a manifestation of enterprises' in-depth application by internet. According to the current investigation, the proportion of medium-sized and small enterprises who have constructed websites[16] (owning individual websites or online stores) has reached a high level. Until December 2010, the proportion has reached 43%, with 27.8% of medium-sized and small enterprises constructing their independent enterprise websites. The proportion of enterprises who own websites or stores had a close correlation with enterprise scale and that of small-scale enterprises who constructed websites was relatively low.

[16] Enterprise's website building: The enterprise's website building means an enterprise has built its website or online store, including independent enterprise website constructed by itself, or storefronts on specialchem built through the third party e-commerce platform.

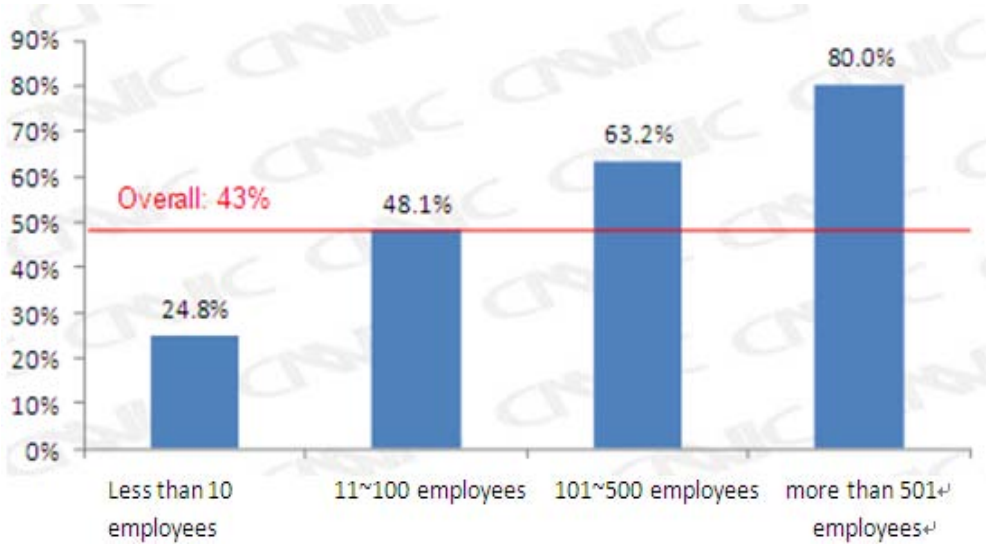


Fig. 33 Ratio of Website Constructing among Enterprises of Different Scales

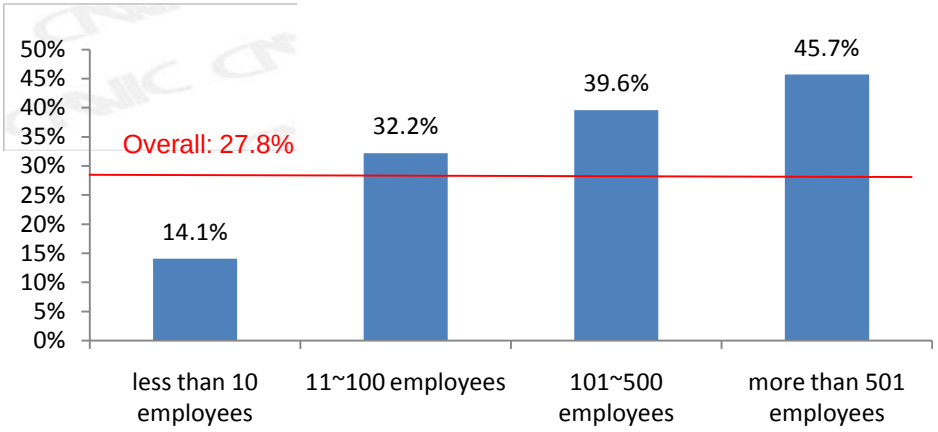


Fig. 34 Ratio of Self-governed Website Constructing among Enterprises of Different Scales

Ⅱ. Network Application Behavior of Medium-sized and small Enterprises

(I) Overview

It can be seen that among internet applications of medium-sized and small enterprises currently, customer services and enterprise management are still applications with wide popularization. But in fact, for over 99% of medium-sized and small enterprises, how to obtain client sources and expand their markets are urgent demands related to their existence. However, internet application level of small enterprises in e-commerce/network marketing is still low, which needs to be improved as a priority.

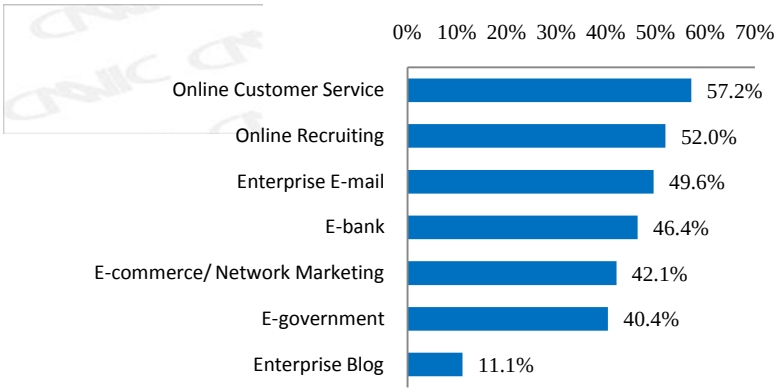


Fig. 35 Penetration Rate of Different Internet Applications among Medium-sized and Small Enterprises

(II) Website Construction among Medium-sized and small enterprises

Generally, the enterprise website functions as brand marketing, sales, customer service, etc. According to the survey targeted to website design purposes of medium-sized and small enterprises, marketing and brand publicity are the most important and core functions in the design of most enterprise websites; while sales, customer service and customer management functions are relatively low. It can be seen that most medium-sized and small enterprise would like to provide marketing functions in their websites.

However, display remains the main function for most medium-sized and small enterprises while interaction; exchange and background accounting are still deficient, which has resulted in the fact that websites of most enterprises are just empty shells.

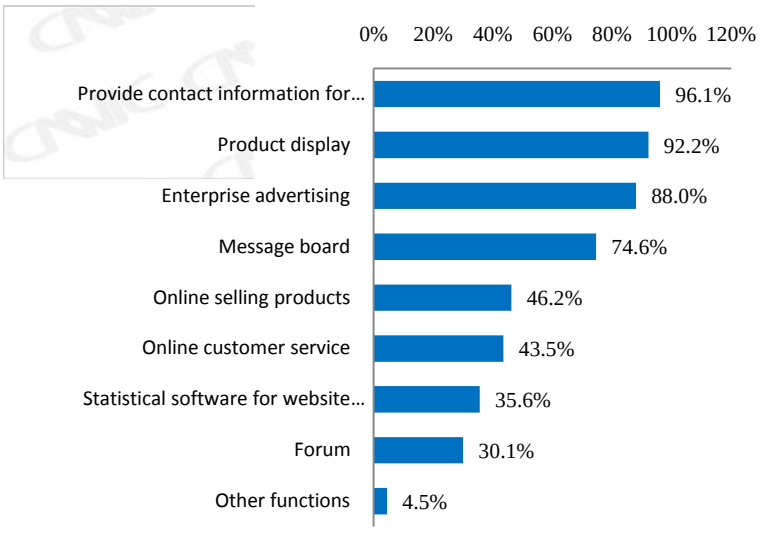


Fig. 36 Website Functions of Medium-sized and Small Enterprises

Seen from updating frequency of medium-sized and small enterprises, most medium-sized and small enterprises haven't paid enough attention to website's function as information publication. Over half of medium-sized and small enterprises hardly update information on their websites for each month. It can be shown that most medium-sized and small enterprises are still in a status of semi-stagnation. These enterprises have a low utilization of websites.

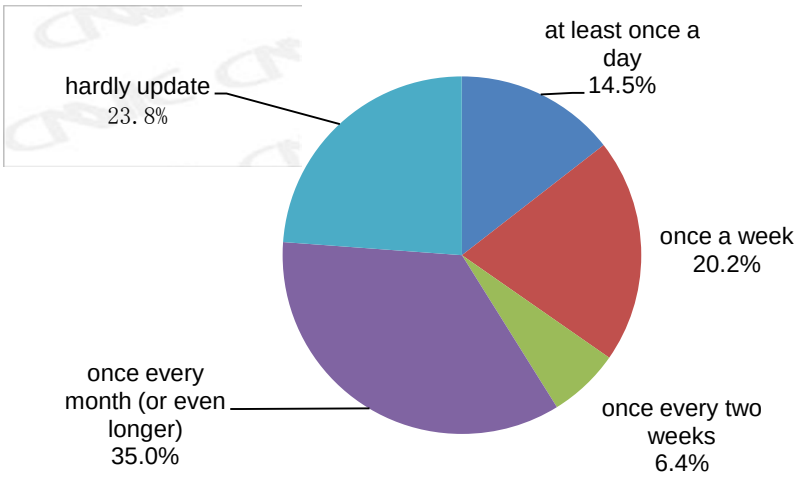


Fig. 37 Updating Rate of Websites among Medium-sized and Small Enterprises

According to enterprises' evaluation on their websites, these websites are only regarded as a tool to show their brand reputation and haven't become tools for their e-commerce activities. And only 18% medium-sized and small enterprises who have built their individual websites believed that websites have brought about flow rate and orders to them.

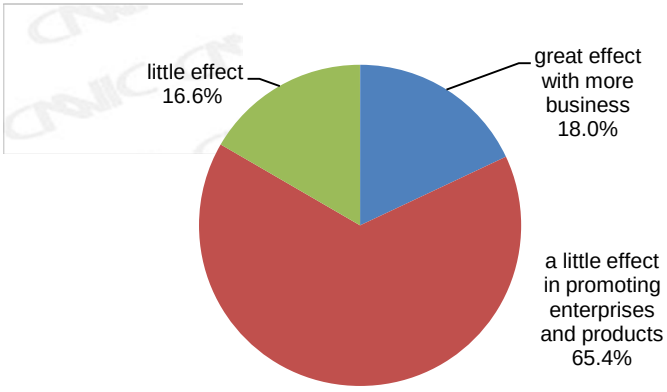


Fig. 38 Website Effectiveness Evaluation among Medium-sized and Small Enterprises

(III) Application of E-commerce and Network Marketing

E-commerce and network marketing are still main applications for enterprises to use internet. In a whole, the utilization rate of internet applications related with E-commerce and network marketing in medium-sized and small enterprises has reached 42.1%.

Among these applications, email marketing is the most frequent internet marketing method adopted by medium-sized and small enterprises and it has been used by 21.3% of these enterprises. E-mail marketing has the advantages of low cost and high arrival, etc. but shortcomings like being disgusted by the mass. However, the integration of email marketing and CRM system to send more accurate promotional information remains the most effective network marketing method. Email marketing will remain one of the most popular network marketing methods in the future.

In addition, E-commerce platform and search marketing (including keyword advertisement search, search engine optimization, etc.) are two important internet marketing methods and two marketing areas where medium-sized and small enterprises have made more efforts.

Internet name brand advertisements refers to relevant advertisement resources (such as picture link, word link and pop-up window) purchased in sites like portal websites, which is the most traditional internet advertisement method. Currently, it still occupies an important position in network marketing of medium-sized and small enterprises.

Online advertorial is another popular internet marketing means, which includes: enterprise employees publicize their brands and products through methods like forum, or hires professional “Network Forum Writer” to launch large-scale and organized internet public opinion wars. This kind of internet marketing method is increasingly favored by advertisers, but it may be faced with more strict control and influence of negative opinions in society.

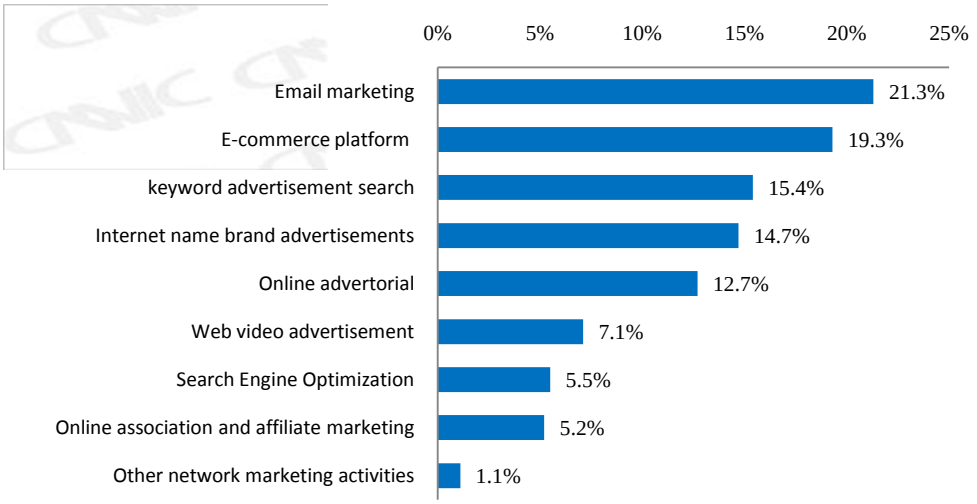


Fig. 39 Different Network Marketing Methods of Medium-sized and Small Enterprises

(IV) Application of Online Customer Service

Internet has become one of the main channels for medium-sized and small enterprises to communicate with clients and provide services to them. Now nearly 57.2% of medium-sized and small enterprises are communicating with clients through internet and providing them with consultation services.

With respect to specific online customer service methods, customer consultation by email ranked the first and 50.2% of medium-sized and small enterprises communicated and interacted with users by email. Email has the advantages of low cost, personal cost as well as hardware and software input. But it also has obvious disadvantages such as poor interaction and users' failure to get feedback in time.

In addition, instant messaging software is becoming another important means of customer service in enterprises. It is of good interactivity, through which users can obtain help and feedback in time; however, its cost is relatively higher than email, including cost of real-time reply by someone in charge.

The selection of enterprises on customer service methods of internet has a relationship with positioning of enterprises on internet channel. The medium-sized and small enterprises that adopt internet as their main marketing and distribution channel will constantly increase their efforts on customer service of internet and provide users with real-time online services by instant messaging, personal website, etc.

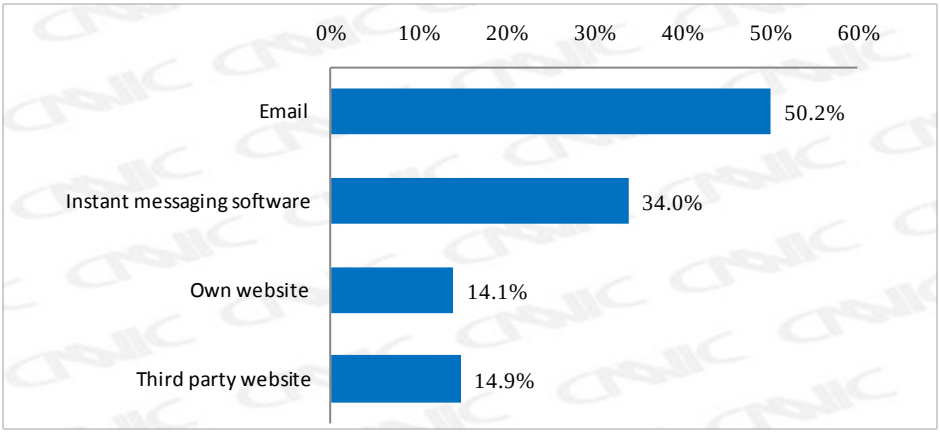


Fig. 40 Ratio of Different Methods to Provide Online Customer Service

(V) Network Application Trend of Medium-sized and Small Enterprises

Generally, medium-sized and small enterprises that have tried internet marketing deeply doubted about the effect of network marketing and E-commerce and believed that network marketing was of great difficulty, so they are not active in having a try. While, for those who have used network marketing, they have realized the value of it and they tends to maintain or increase their investment in this aspect.

Among medium-sized and small enterprises that have no websites or online stores, 66.4% of them still prefer not to build any website or online stores in the future.

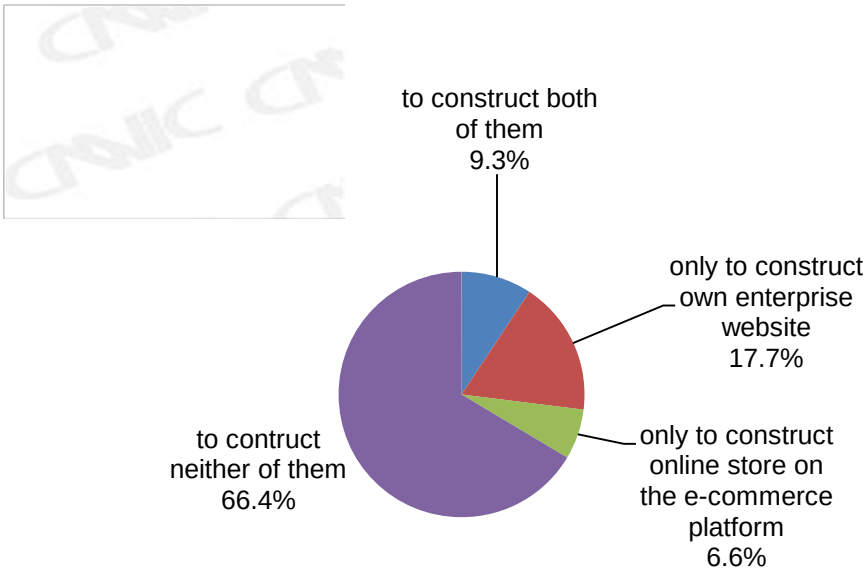


Fig. 41 Future Website Construction Trend of Medium-sized and Small Enterprises with No Website or Online Store

Among medium-sized and small enterprises that have not used e-commerce platform, 76.6% of them don't plan to do marketing or sales through E-commerce platform in the future.

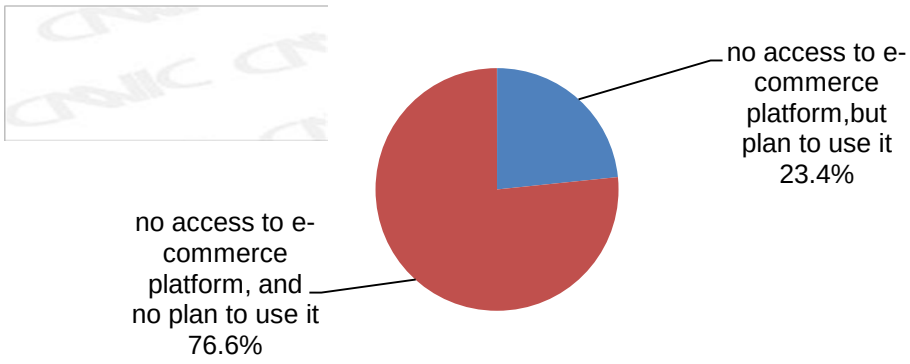


Fig. 42 Trend for Using E-commerce Platform among Medium-sized and Small Enterprises with no access to it before

Among medium-sized and small enterprises that haven't used search engine, 72.3% of them have no plan in use of search marketing in the future.

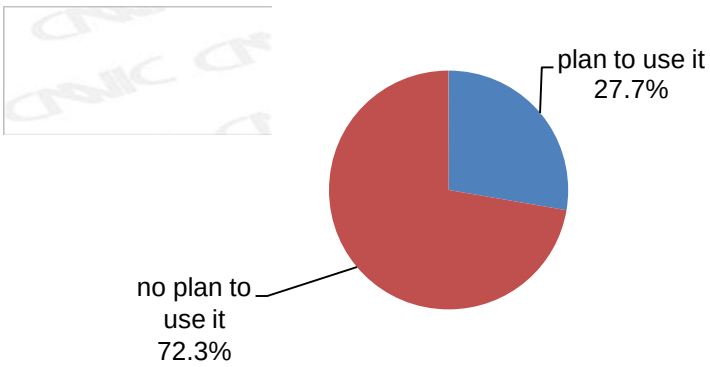


Fig. 43 Trend for Using Search Marketing among Medium-sized and Small Enterprises without access to it before

Compared with medium-sized and small enterprises who haven't used search marketing, those have used it tend to be more active in using it. Only 14.9% of search marketing advertisers plan to reduce their investment in search marketing and over 85% of medium-sized and small enterprises will maintain or increase the current investment. It can be seen that most search engine advertisers hold positive attitudes towards the effect

of search marketing.

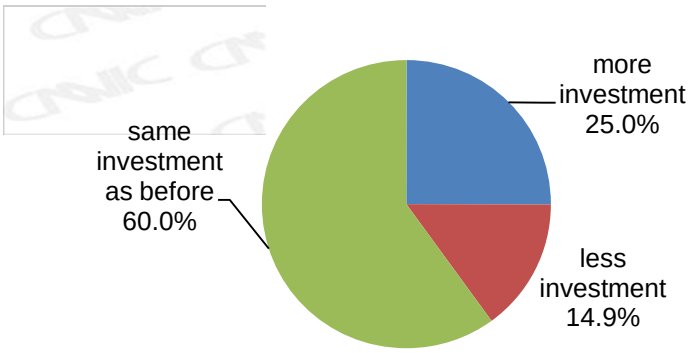


Fig. 44 Trend for Investment in Search Marketing among Search Marketing Advertisers

Ⅲ. Relevant Support on Network Application in Medium-sized and Small Enterprises

(Ⅰ) Staff and Management

Among medium-sized and small enterprises that have pursuit e-commerce or network marketing through internet, nearly half of them haven't been equipped with relevant management mechanism on internet marketing.

Among medium-sized and small enterprises that have pursuit e-commerce or network marketing, 48.3% of them have sent someone in charge to answer telephones or provide consultation online; 35.4% of them have their independent network marketing teams; and 23.3% have ordered their independent production lines according to network marketing. But generally, medium-sized and small enterprises are deficient in supporting network marketing. 40.7% of these enterprises haven't made any adjustment on relevant operation mechanism of network marketing.

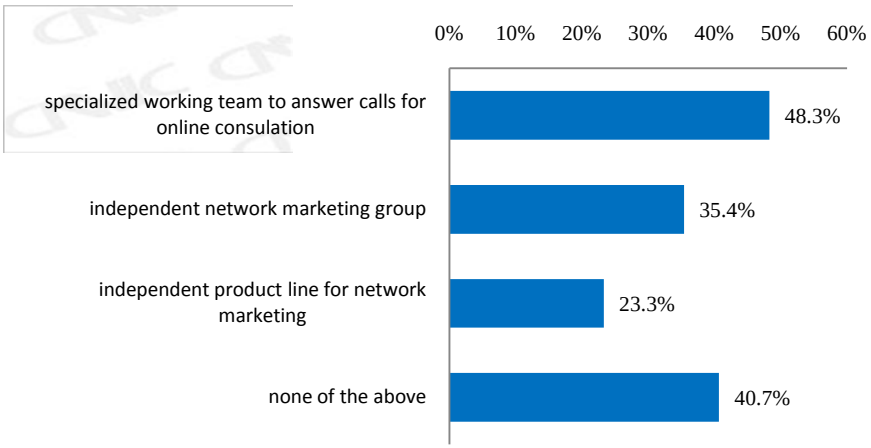


Fig. 45 Support for Internet Management among Enterprises using Network Marketing

It can be seen through analysis of website personnel input and website effect, they are of positive correlation. The more input is, the more effect it will produce.

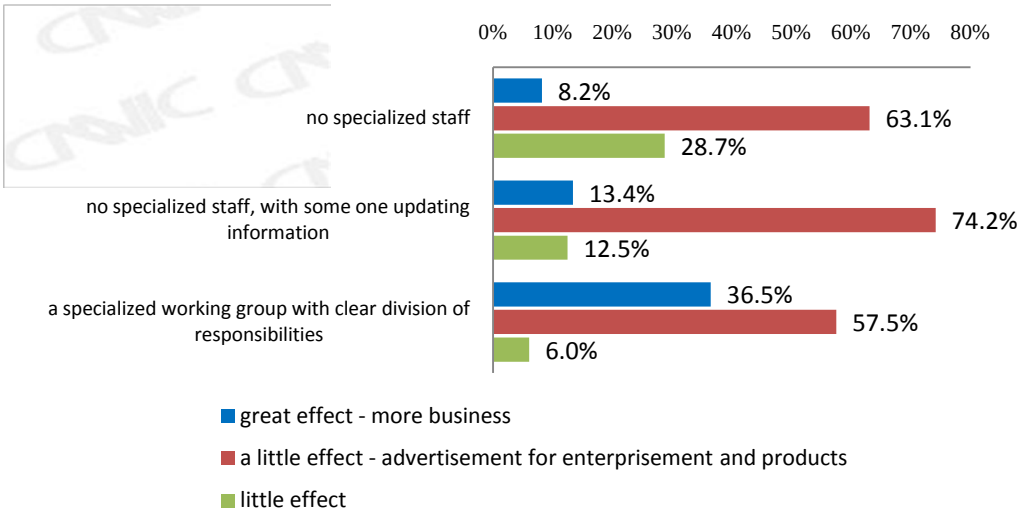


Fig. 46 Relation between Website Effect and Staff on it

However, according to the survey data, the current maintenance level of medium-sized and small enterprise websites is generally low. 22.5% of medium-sized and small enterprises have hired full-time teams. And there are only a small number of personnel who are responsible for content updating in most of medium-sized and small enterprises, with no maintenance technicians involved.

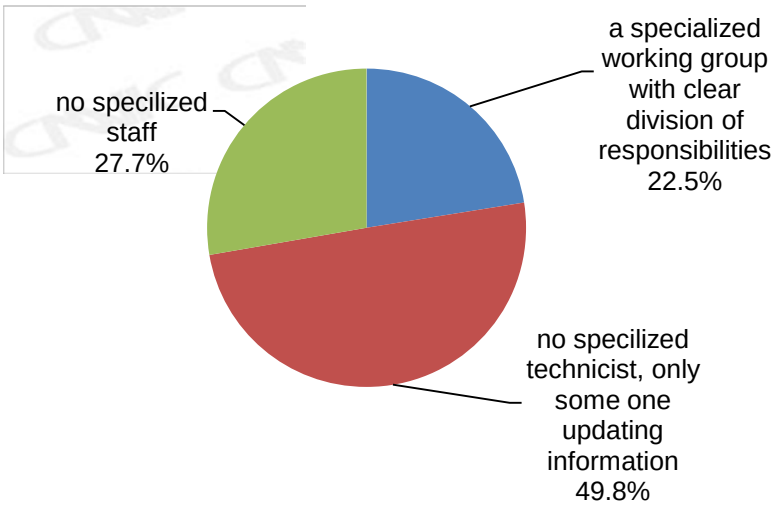


Fig. 47 Personnel on Internet Maintaining among Medium-sized and Small Enterprises

Generally speaking, medium-sized and small enterprises that have applied search marketing provide poor support to search marketing personnel. For 41.4% of medium-sized and small enterprises, there are no personnel related with search marketing, completely dependent on technical guidance provided by search engine service suppliers and agents. There are only 16.3% of medium-sized and small enterprises that have had their professional search marketing support teams.

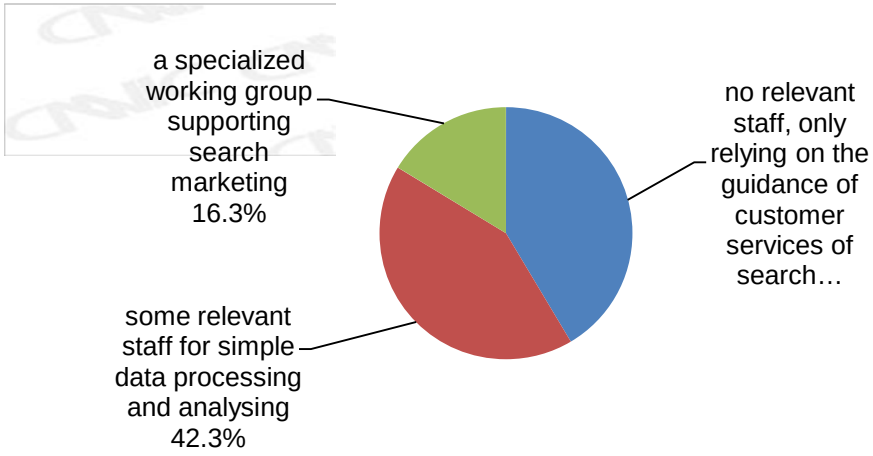


Fig. 48 Staff on Search Marketing among Medium-sized and Small Enterprises

(Ⅱ)Training of Internet Knowledge

For medium-sized and small enterprises that have had access to internet, there was a low coverage of training on internet knowledge. Only 22.3% of medium-sized and small enterprises who have connected internet received training on relevant knowledge about

internet in the past year.

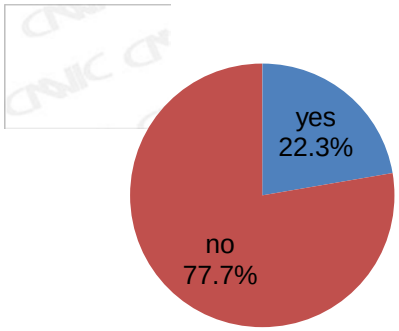


Fig. 49 Whether or not have arranged relevant training of internet knowledge

The most frequent means in training on internet knowledge adopted by most medium-sized and small enterprises is knowledge sharing between employees while the proportion that professionals make lecture is low.

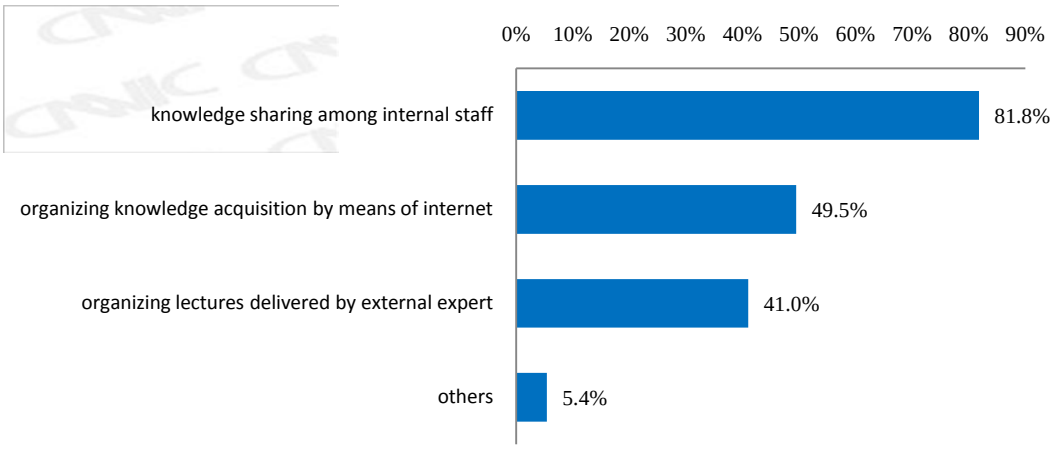


Fig. 50 Training Method Adopted by Medium-sized and Small Enterprises

Chapter VI. Network Security and Trusted Environment

Ⅰ. Network Application Security of Net Citizens

In 2010, the network and information security conditions in China were improved and safety guarantee abilities were in a steady increase. Chinese government was actively involved in construction of laws and regulations, technical standards, infrastructure as well as network security system, etc; continuously enhanced the construction of network and information safety management platform; intensified control and monitoring on communication networks as well as prevention and checking on phishing sites, illegal websites and bad information, especially active control on mobile media and technical service websites; and perfected filing of domain name registration information.

As the government continuously intensified their efforts on centralized governance on network security problems, the security problem of basic network in China has been greatly improved. In 2010, the proportion of net citizens who have suffered virus or Trojan attack reached 45.8%, 10.8% lower than 2009; the number of these groups was reduced by nearly 8 million, from 217 million to 209 million.

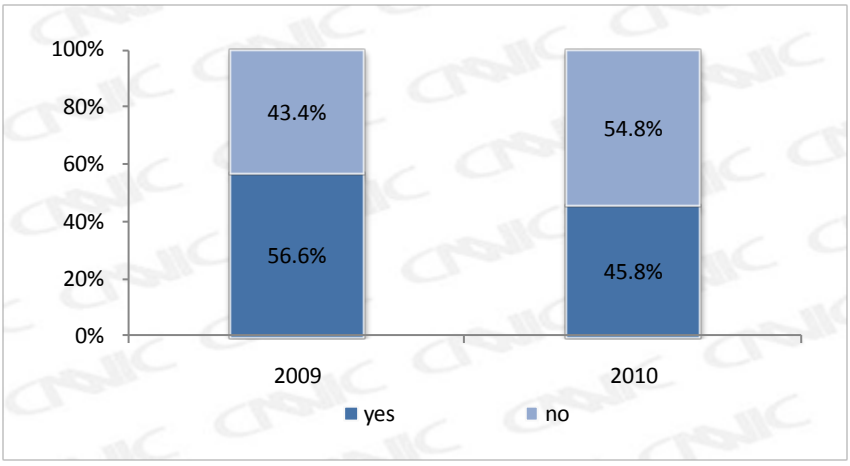


Fig. 51 Whether or not have encountered virus or been attacked by Trojan within half the year

Meanwhile, net citizens who have experienced account or password stealing accounted to 21.8%, 9.7% lower than 2009; the number of people who have confronted such affairs was reduced by more than 20 million, from 121 million in 2009 to 99.69 million.

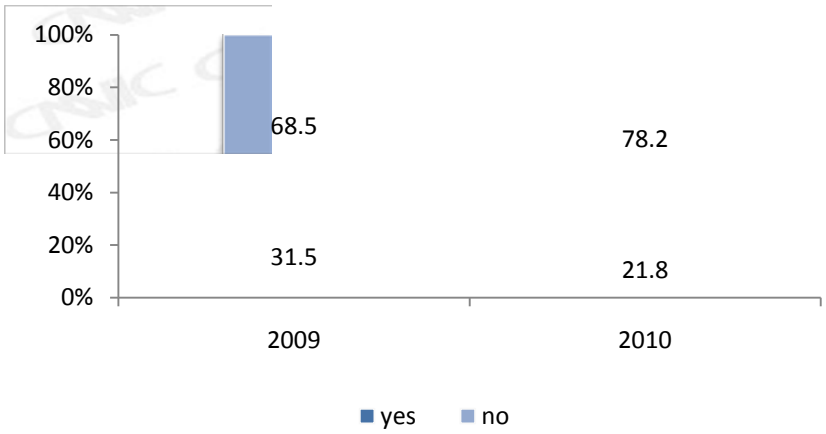


Fig. 52 Whether or not have your account numbers or passwords been stolen

Since the end of 2009 when Ministry of Industry and Information Technology implemented *Work Plan on Special Action to Further Control Obscene and pornographic Information in Mobile Phone,* a large number of unhealthy websites have been cleared. CNNIC also launched special actions on the governance of domain name registration information and achieved a phasic success. In 2010, we accepted 23,455 reports on phishing sites and handled 22,573 such websites; handled and recorded 6,168 domain names concerning pornographic information; incorporated 86 batches of domain names concerning pornographic information into black list, totaling 3,551; and notified 86 batches of registrars to delete pornographic links and seek real-name authentication. Until December 31, 2010, the domain name verification rate[17] of CN domains have reached 97.2% and newly registered real-name rate of CN domains reached 100%. The proportion of reports on unhealthy application under CN domains has been gradually reduced. As network safety guarantee system of national domains, the capability of discovering and dealing with network and information security affairs will be greatly enhanced.

Ⅱ. Safeguarding of Network Application of Medium-sized and Small Enterprises

In general, medium-sized and small enterprises have a high protection on internet. The main measure for these enterprises to pursue safety protection is to install antivirus

[17] Domain name verification rate= (quantity of domain names through real-name verification domain name quantity confirmed by email from overseas users) ÷ (inventory amount of domain names-number of domain names without real names and resolution suspended).

software. Among medium-sized and small enterprises that have had access to internet, 91.7% of these enterprises have installed antivirus software; 76.5% have installed firewalls and only 5.4% haven't taken any safety protection measures.

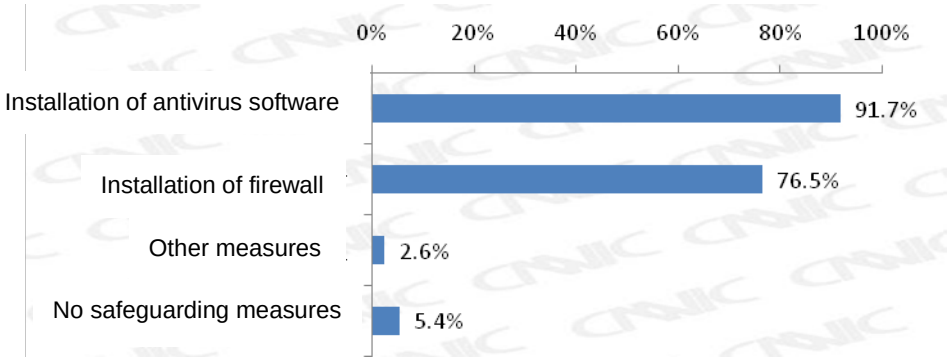


Fig. 53 Safeguarding Measures of Internet Application among Enterprises

On the other hand, medium-sized and small enterprises are not active in credibility certification. Currently, faced with surging "phishing sites" all over the country, it is urgent to construct an authoritative website certification system to standardize and set up industry standards. However, websites and enterprise credibility certification markets are in disorder and there is no brand with authority recognized enterprises and net citizens, which causes the current conditions that enterprises are not willing to make website credibility certification. However, in order to improve the security and trust level of the whole internet, we must enhance the management on identity of websites and improve enterprises and net citizens' recognition on identity certification.

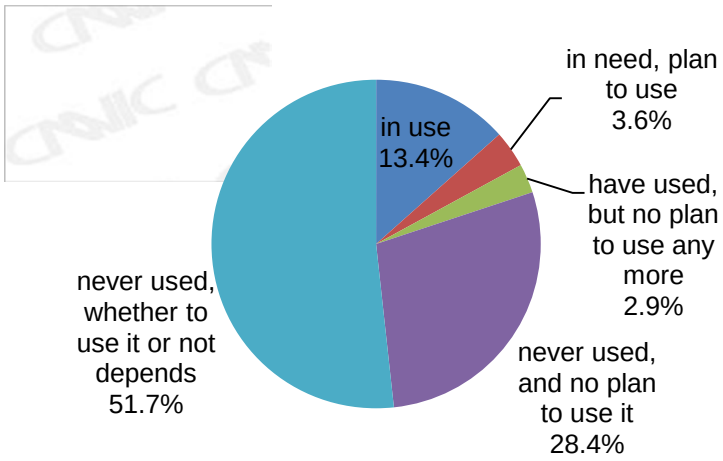


Fig. 54 Verification of Trusted Websites of Medium-sized and Small Enterprises

Appendix 1 Basic Resources of Internet

Table 1: Number of IPv4 addresses in regions of China

Region	Address quantity	Equivalence
China Mainland	277,636,864	16A+140B+103C
Taiwan	31,925,760	1A+231B+38C
Hong Kong	9,677,056	147B+168C
Macaw	326,912	4B+253C

Data Source: APNIC, CNNIC

Table 2: IPv4 address allocation according to unit in China Mainland

Name of Unit	Address quantity	Equivalence
China Telecommunications Corporation	105,011,200	6A+66B+88C
China United Network Communications Group Co., Ltd	60,819,712	3A+160B+9C
China Mobile Limited	39,550,976	2A+91B+128C
China Education and Research Network	16,387,584	250B+14C
State Information Center	4,194,304	64B
Great Wall Broadband Network Service Co., Ltd.	1,884,160	28B+192C
Beijing Education Information Network Service Center Co., Ltd.	1,835,008	28B
Beijing Teletron Telecom Engineering Co., Ltd.	1,725,440	26B+84C
Beijing Shenzhou Great Wall Telecom Technology Development Center	1,712,128	26B+32C
Oriental Cable Network Co., Ltd.	1,662,976	25B+96C
Beijing Chengyi Shidai Network Technology	1,048,576	16B
CECT-CHINACOMM Communications Co., Ltd.	1,011,712	15B+112C
Beijing Wanwang Zhicheng Science and Technology Co., Ltd.	991,232	15B+32C
China Cable Television Network Co., Ltd. Beijing	925,696	14B+32C

Beijing New Billion Telecom Technology Co., Ltd	851,968	13B
Beijing Bitong United Network Communications Group Co., Ltd	786,432	12B
Century Intercommunication Broadband Data Center Co., Ltd.	772,096	11B+200C
Beijing Gehua CATV Network Co., Ltd.	737,280	11B+64C
CST Net	731,136	11B+40C
Beijing Weishi Chuangjie Technology Development Co., Ltd.	720,896	11B
Beijing Founder Broadband Network Technology Co., Ltd.	663,552	10B+32C
Shenzhen Topway Video Communication Co., Ltd.	655,360	10B
Huabei Oil Communication Co.	557,056	8B+128C
Beijing Broad Netcom Telecom Technology Co., Ltd.	557,056	8B+128C
China Netcom Broadband Corporation Ltd.	557,056	8B+128C
China Video Communication Holdings Co., Ltd.	524,288	8B
CITIC Networks Co., Ltd.	524,288	8B
Beijing Kuancom Network Technology Co., Ltd.	524,288	8B
Guangdong Jinwanbang Technology Investment Co., Ltd.	479,232	7B+80C
Beijing Shidai Hongyuan Communication Technology Co., Ltd.	458,752	7B
Daqing Zhongji Petroleum Communication Construction Co., Ltd.	438,272	6B+176C
Shaanxi TV and Broadcasting Internet Media Co., Ltd.	438,272	6B+176C
Beijing Fibrlink Communications Co., Ltd.	407,552	6B+56C
Beijing SRIT NETech Co., Ltd. (Beijing)	385,024	5B+224C
Guangzhou Zhujiang Digital Midea Co., Ltd.	327,680	5B
Jiangxi Radio and TV Network Transmission Co., Ltd.	327,680	5B

Jinan Worldwide United Network Co., Ltd.	327,680	5B
Foshan Ruijiang Science and Technology Co., Ltd.	278,528	4B+64C
Jinan Guangdian Jiahe Broadband Network Corporation Ltd.	270,336	4B+32C
Kingdom-Union Technology (Beijing) Co., Ltd.	262,144	4B
Hubei Chutian Video Communication Network Co., Ltd.	262,144	4B
Guangdong Cable Television Network Co., Ltd.	262,144	4B
Fujian Fiber Intercommunication Co., Ltd.	262,144	4B
Shenzhen Yingda Communication Technology Co., Ltd.	249,856	3B+208C
Shanghai Aorong Information Technology Service Co., Ltd.	229,376	3B+128C
China Motion Telecom Co., Ltd.	204,800	3B+32C
Beijing Xirang Media and Culture Co., Ltd.	198,656	3B+8C
263 Network Communication Co., Ltd.	193,536	2B+244C
Bejing Sinnet Technology Co., Ltd.	188,416	2B+224C
China Cache Co., Ltd.	163,840	2B+128C
Chongqing Cable TV Network Co., Ltd.	163,840	2B+128C
Tianjin Broadcast and TV Network Co., Ltd.	143,360	2B+48C
Shenzhen Wotone Network Development Co., Ltd.	131,072	512C
Shenzhen Zhongtian United Network Co., Ltd.	131,072	2B
Beijing Hangshu Broadband Network Technology Co., Ltd.	131,072	2B
Beijing Telecom	131,072	2B
Tianjin Ruiding Digital Technology Co., Ltd.	131,072	2B
SVA Information Industry Co., Ltd.	131,072	2B
Beijing Dongfang Youchuang Network Technology Co., Ltd.	131,072	2B

Beijing Hengchuan Jianye Science and Technology Co., Ltd.	126,976	1B+240C
Shanghai Minhang TV and Broadcasting Technology Development Co., Ltd.	122,880	1B+224C
Golden-bridge Netcom Communication Co., Ltd.	122,880	1B+224C
China Entercom Communication Technology Co., Ltd.	98,304	1B+128C
Langfang Development Area Huarui Xintong Network Technology Co., Ltd.	81,920	1B+64C
Beijing CBD Telecom Co., Ltd.	73,728	1B+32C
Hangzhou Ali Information Service Co., Ltd.	73,728	1B+32C
Beijing Baidu Wangxun Technology Co., Ltd.	69,632	1B+16C
Shanghai Bailong Network Technology Co., Ltd.	67,584	1B+8C
Shenzhen Nanling Technology Development Co., Ltd.	65,536	1B
Tianjin Xinbei Broadband & Digital Network Co., Ltd.	65,536	1B
Shanghai HP Telecom Co., Ltd.	65,536	1B
Datong Coal Mine Group Communications Co., Ltd.	65,536	1B
Shenzhen Tencent Computer System Co., Ltd.	65,536	1B
Beijing CNLink Networks Limited	65,536	1B
Beijing Jinfeng Weiye Technology Co., Ltd.	65,536	1B
Beijing CAPNET Information Service Co., Ltd.	65,536	1B
Shenyang Sujiatun Media Network Co., Ltd.	65,536	1B
Beijing Zhirui Zongheng Technology Development Co., Ltd.	65,536	1B
China Digital Port Technology Co., Ltd.	65,536	1B
Liaoning Oriental Star Broadband Co., Ltd.	65,536	1B
Sichuan TV and Broadcasting Network Co., Ltd.	65,536	1B
China TravelSky Holding Company	65,536	1B
Coca Cola Enterprise Management (Shanghai) Co., Ltd.	65,536	1B

Anhui Education and Research Network Center	65,536	1B
Shanghai Hanwei Information Technology Co., Ltd.	65,536	1B
Kunshan Wanyu Data Service Co., Ltd.	65,536	1B
Pingdingshan Coal Industry Group Information Communication Technology Development Co., Ltd.	65,536	1B
Xiamen TV and Broadcasting Network Co., Ltd.	65,536	1B
21ViaNet (Shanghai), Inc.	65,536	1B
Shanghai Yovole Computer Network Co., Ltd.	65,536	1B
CCTV	65,536	1B
Shanghai Aitimu Network Science and Technology Co., Ltd.	65,536	1B
China Netcom Communication Group Company Chongqing Branch	65,536	1B
Dagang Oilfield Communications Co.	65,536	1B
China Cable Network Co., Ltd. Wenzhou Branch	65,536	1B
Beijing China Fiber Network Communication Technology Co., Ltd.	65,536	1B
Airway Communication Group Co., Ltd.	65,536	1B
Jiuzhou Changxiang Network Technology (Beijing) Co., Ltd.	65,536	1B
Hebei TV and Broadcasting Information Network Group Co., Ltd.	65,536	1B
Beijing Qianjing Shiji Telecommunication Technology Co., Ltd.	65,536	1B
Guangdong Broadcasting and Television Network Co., Ltd. Zhuhai Branch	65,536	1B
Guangzhou Tianying Information Technology Co., Ltd.	65,536	1B
Sub-total	258,830,080	15A+109B+111C
Other units	18,806,784	1A+30B+248C

Total	**277,636,864**	**16A+140B+103C**

Data source: APNIC, CNNIC

Note 1: As a national internet registrar (NIR) of China recognized by APNIC and approved by Ministry of Industry and Information Technology, has called ISP at home with some scale and Influence to form IP Address Allocation Alliance. There are 270 members in the Allocation Alliance of CNNIC at present, with 58,835,456 IPv4 addresses, equivalent to 3.5A. Most of the units above are members of IP Address Allocation Alliance, CNNIC.

Note 2: IPv4 Address Allocation Table only lists the units whose IPv4 address quantities are not less than 1B.

Note 3: The deadline for the above statistics is December 31, 2010.

Table 3 Number of IPv6 Addresses in Regions of China

Region	IPv6 Quantity (/32)
China Mainland	401/32
Taiwan	2322/32
Hong Kong	47/32
Macaw	2/32

Table 4 IPv6 Allocation of China Mainland

Name of Unit	IPv6 Quantity (/32)
China Telecommunications Corporation	258
China Education and Research Network	16
Beijing Tiandi Hulian Information Technology Co., Ltd.	16
Beijing Shenzhou Great Wall Telecom Technology Development Center	8
China United Network Communications Group Co., Ltd	2
China Mobile Limited	2
China Southern Power Grid Co., Ltd.	2
China Internet Network Information Center	1
China Science and Technology Network	1
China International E-commence Center	1
Beijing Teletron Telecom Engineering Co., Ltd.	1
China Netcom Communication Group Company Chongqing Branch	1

Tianxun Ruida Communication Technology Co., Ltd. , Dongguan Bolu Telecom Branch	1
Beijing Wanwang Zhicheng Science and Technology Co., Ltd.	1
Beijing Software and Information Service Industry Promotion Center	1
CITIC Group Company, Division of Information Management	1
Oriental Cable Network Co., Ltd	1
Beijing Guxiang Information Technology Co., Ltd.	1
Great Wall Broadband Network Service Co., Ltd.	1
Hangzhou Silk Road Telecommunication Technology Co., Ltd.	1
Pingdingshan Coal Industry Group Information Communication Technology Development Co., Ltd.	1
Xinhua News Agency	1
Beijing Founder Broadband Network Technology Co., Ltd.	1
China Organizational Name Administration Center	1
Beijing Fibrlink Communications Co., Ltd.	1
Hangzhou Ali Information Service Co., Ltd.	1
Fujian Fiber Intercommunication Co., Ltd.	1
Hangzhou Koukouxiangchuan Network Technology Co., Ltd.	1
CITIC Networks Co., Ltd.	1
Shanghai Feitong Network Technology Co., Ltd.	1
Shanghai HP Telecom Co., Ltd.	1
China Satellite Navigation and Communications Co., Ltd.	1
Guangdong Jinwanbang Technology Investment Co., Ltd.	1
Communication Science And Technology Co., Ltd. Of Changchun FAW	1
Computer Center , National Bureau of Statistics of China	1
Airway Communication Group Co., Ltd.	1
Shanghai Minhang TV and Broadcasting Technology Development Co., Ltd.	1
SVA Information Industry Co., Ltd.	1
Beijing Unihub Global Network Co., Ltd.	1

Zhongyuan Petrolem Survey Bureau, Division of Communication Management	1
Shanghai Information Network Co., Ltd.	1
Beijing Shenwei Xunteng Technology Development Co., Ltd.	1
Liaohe Oilfield Communications Co.	1
Shanghai DMT Information Network Co., Ltd.	1
Beijing Newnet Technology Development Co., Ltd.	1
Beijing Gaohua Securities Co., Ltd.	1
Union Life Insurance Co., Ltd.	1
Zhejiang Alibaba E-commerce Co., Ltd.	1
Network Information Center, University of Science and Technology of China	1
Shanghai Bailong Network Technology Co., Ltd.	1
Beijing Zhongguancun Software Park Development Co., Ltd.	1
Golden-bridge Netcom Communication Co., Ltd.	1
Chengdu Inforport Co., Ltd.	1
China Motion Telecom Co., Ltd.	1
Beijing Heju Digital Technology Co., Ltd.	1
Beijing Baidu Wangxun Technology Co., Ltd.	1
China Cable Network Co., Ltd. Wenzhou Branch	1
Shenzhen Topway Video Communication Co., Ltd.	1
Daqing Zhongji Petroleum Communication Construction Co., Ltd.	1
Guangzhou Etrunk Network Telecommunication Co., Ltd.	1
Sichuan Yilong TV and Broadcasting Network Co., Ltd.	1
Anhui Education and Research Network Center	1
Zhanjiang Wantong Dianxun Co., Ltd.	1
Pacnet Business Solutions (China))	1
Hangzhou Alibaba Advertising Co., Ltd.	1
Huabei Oil Communication Co., Information Center	1
Pingan Technology (Shenzhen) Co., Ltd.	1

Chongqing Cable TV Network Co., Ltd.	1
China Huadian Group Co., Ltd.	1
Shanghai Chenyi Network Technology Co., Ltd.	1
Shenzhen Nanling Technology Development Co., Ltd.	1
Guangdong Yingtong Network Investment Co., Ltd.	1
Beijing Neteon Technology Co., Ltd.	1
Shanghai Hanwei Information Technology Co., Ltd.	1
Beijing Guotong Intercommunication Technology Co.	1
Beijing Guotong Intercommunication Technology Co.	1
Beijing Guotong Intercommunication Technology Co.	1
Beijing Guotong Intercommunication Technology Co.	1
Tianjin Broadcast and TV Network Co., Ltd.	1
China Video Communication Holdings Co., Ltd.	1
Beijing Zhongyi Yingshi Communication Technology Co., Ltd.	1
Institute of High Energy Physics, Chinese Academy of Sciences	1
Shanghai Xinjue Information Technology Co., Ltd.	1
Beijing Online Communication Technology Limited	1
Shandong Information Center	1
Hubei Chutian Video Communication Network Co., Ltd.	1
Shanghai Yitong Communication Technology Co., Ltd.	1
Shenzhen Tencent Computer System Co., Ltd.	1
Beijing Xirang Media and Culture Co., Ltd.	1
Beijing Tongniu Information Technology Co., Ltd.	1
Beijing Chengyi Shidai Network Technology Engineering Co., Ltd.	1
China Cultural Relics Information Consulting Center	1
Guangdong Cable Television Network Co., Ltd.	1
263 Network Communication Co., Ltd.	1
China Cable Television Network Co., Ltd.	1
Beijing Sibo Zhanke Technology Co., Ltd.	1

Kingdom Union Technology (Beijing) Co., Ltd.	1
Guangdong Cable Television Network Co., Ltd.	1
Coca Cola Enterprise Management (Shanghai) Co., Ltd.	1
Shanghai Shuxun Information Technology Co., Ltd.	1
Century Intercommunication Broadband Data Center Co., Ltd.	1
Beijing capnet Co., Ltd.	1
Cect Chinacomm Co., Ltd.	1
Shenzhen Hairuiya Technology Co., Ltd.	1
Total	**401**

Data source: APNIC, CNNIC

Note 1: /32 in IPv6 Address Allocation Table is an address expression method of IPv6 and the corresponding address quantity is $2^{(128-32)}=2^{96}$.

Note 2: The deadline for the above statistics is December 31, 2010.

Table 5 IPv4 Address Numbers in Different Provinces

Provinces	Proportion
Beijing	22.8%
Guangdong	10.3%
Zhejiang	5.1%
Jiangsu	5.4%
Shanghai	4.6%
Shandong	4.6%
Hebei	3.2%
Liaoning	3.2%
Henan	2.6%
Hubei	2.4%
Sichuan	2.6%
Fujian	2.1%
Hunan	2.1%
Shaanxi	1.8%
Anhui	1.6%
Heilongjiang	1.3%
Guangxi	1.4%
Chongqing	1.6%
Jilin	1.2%
Tianjin	1.2%
Jiangxi	1.6%

Shanxi	1.3%
Yunnan	1.0%
Neimenggu	0.9%
Xinjiang	0.7%
Hainan	0.5%
Guizhou	0.5%
Gansu	0.4%
Ningxia	0.3%
Qinghai	0.2%
Tibet	0.1%
Others	11.6%
Total	100%

Data Resource：APNIC, CNNIC

Note 1: Provinces above refer to that of the IP address owner.

Note 2: The deadline for the above statistics is December 31, 2010.

Table 6 Number of Domain Names and CN Domain Names in Different Provinces

Provinces	Domain Name		CN Domain Name	
	Number	Proportion among all domain names	Number	Proportion among all CN domain names
Beijing	1,536,112	17.8%	961,158	22.1%
Guangdong	1,100,587	12.7%	458,856	10.6%
Zhejiang	1,063,756	12.3%	751,882	17.3%
Shanghai	760,071	8.8%	288,915	6.6%
Fujian	661,647	7.6%	242,111	5.6%
Jiangsu	442,540	5.1%	188,451	4.3%
Shandong	405,466	4.7%	131,914	3.0%
Sichuan	271,549	3.1%	64,097	1.5%
Hebei	260,101	3.0%	82,328	1.9%
Henan	226,645	2.6%	69,660	1.6%
Hubei	192,203	2.2%	110,591	2.5%
Hunan	165,514	1.9%	100,960	2.3%
Liaoning	160,814	1.9%	72,041	1.7%
Chongqing	108,747	1.3%	48,509	1.1%
Anhui	97,609	1.1%	42,381	1.0%
Shaanxi	96,363	1.1%	38,662	0.9%
Tianjin	95,796	1.1%	39,177	0.9%
Heilongjiang	90,548	1.0%	58,634	1.3%
Jiangxi	76,284	0.9%	34,268	0.8%
Shanxi	62,897	0.7%	23,021	0.5%
Guangxi	61,865	0.7%	31,649	0.7%

Jilin	57,509	0.7%	20,561	0.5%
Hainan	45,797	0.5%	15,082	0.3%
Yunnan	45,379	0.5%	21,534	0.5%
Neimenggu	35,896	0.4%	15,401	0.4%
Guizhou	31,870	0.4%	15,128	0.3%
Xinjiang	26,945	0.3%	10,463	0.2%
Ningxia	19,956	0.2%	9,997	0.2%
Gansu	19,111	0.2%	9,318	0.2%
Qinghai	12,935	0.1%	3,035	0.1%
Tibet	7,619	0.1%	3,910	0.1%
Others	412,620	4.8%	382,056	8.8%
Total	8,652,751	100%	4,345,750	100%

Note: .EDU.CN is not included in the total of domain names.

Table 7 Number of Website in Different Provinces

	Number	Proportion
Guangdong	304,357	16.0%
Beijing	282,674	14.8%
Shanghai	190,613	10.0%
Zhejiang	189,823	9.9%
Jiangsu	117,666	6.2%
Fujian	105,034	5.5%
Shandong	90,544	4.7%
Hunan	68,425	3.6%
Hebei	53,005	2.8%
Sichuan	51,715	2.7%
Henan	51,192	2.7%
Hubei	51,163	2.7%
Heilongjiang	39,073	2.0%
Liaoning	35,949	1.9%
Chongqing	31,011	1.6%
Tianjin	25,138	1.3%
Shaanxi	22,940	1.2%
Anhui	22,561	1.2%
Jiangxi	16,648	0.9%
Shanxi	14,528	0.8%
Guangxi	14,341	0.8%
Jilin	13,290	0.7%
Yunnan	10,269	0.5%
Neimenggu	9,011	0.5%
Hainan	8,350	0.4%
Guizhou	6,899	0.4%
Gansu	4,802	0.3%

Xinjiang	3,885	0.2%
Ningxia	3,412	0.2%
Qinghai	1,859	0.1%
Xizang	1,287	0.1%
Others	66,658	3.5%
Total	1,908,122	100%

Note: Websites under .EDU.CN are not included in the total of websites..

Table 8 Number of Websites under Different Domain Names

	Number	Proportion among all websites under .CN
.cn	711,803	62.7%
com.cn	330,681	29.2%
net.cn	34,256	3.0%
gov.cn	31,981	2.8%
org.cn	16,220	1.4%
adm.cn	8,512	0.8%
ac.cn	925	0.1%
mil.cn	1	0.0%
Total	1,134,379	100.0%

Note: Websites under .EDU.CN are not included in the total of websites under .CN.

Table 9 Proportion of Websites of Different Coding

Web Page Coding Type	Proportion
Chinese (simplified)	96.3%
Chinese (Traditional)	3.0%
English	0.6%
Others	0.2%
Total	100%

Table 10 Proportion of Website of Different Updating Cycle

Web Page Updating Cycle	Proportion
One week	4.8%
One month	21.0%
Three months	6.1%
Six months	5.0%
More than 6 month	63.1%
Total	100%

Table 11 Proportion of Web Pages with Different Suffix

Web Page Suffix	Proportion
.html	21.8%
htm	6.7%
/	11.3%
shtml	2.4%
asp	10.8%
php	19.8%
txt	0.0%
nsf	0.0%
xml	0.1%
jsp	0.9%
cgi	0.2%
pl	0.0%
aspx	5.3%
do	0.5%
dll	0.0%
jhtml	0.1%
cfm	0.1%
php3	0.0%
phtml	0.1%
Others	20.1%
Total	100%

Table 12 Proportion of Web Pages of Different Multi-media Forms

Different multi-media forms of Web Pages	Proportion (among multi-media web pages)
jpg	34.2%
gif	15.4%
zip	0.0%
swf	0.0%
doc	0.1%
pdf	0.4%
rm	0.0%
mid	0.0%
ram	0.0%
mp3	0.0%
ppt	0.0%
mpg	0.0%
Others	49.9%
Total	100%

Table 13 Number of Web Pages in Different Provinces

	Total	Static	Dynamic	Static/Dynamic
Beijing	15,440,008,863	8,590,788,397	6,849,220,466	1.25：1
Guangdong	6,918,706,489	3,943,993,071	2,974,713,418	1.33：1
Shanghai	6,412,008,811	3,453,489,031	2,958,519,780	1.17：1
Jiangsu	6,255,461,700	3,057,540,481	3,197,921,219	0.96：1
Zhejiang	6,118,516,593	3,254,807,276	2,863,709,317	1.14：1
Fujian	2,846,968,808	1,498,777,630	1,348,191,178	1.11：1
Henan	2,637,856,869	1,244,657,466	1,393,199,403	0.89：1
Hubei	1,681,851,408	839,477,040	842,374,368	1：1
Hebei	1,459,042,633	794,591,215	664,451,417	1.2：1
Sichuan	1,413,178,721	606,682,580	806,496,141	0.75：1
Shandong	1,323,597,734	629,670,103	693,927,631	0.91：1
Tianjin	1,222,212,408	895,291,146	326,921,262	2.74：1
Anhui	1,091,410,517	436,903,265	654,507,252	0.67：1
Shaanxi	810,472,769	422,272,243	388,200,527	1.09：1
Jiangxi	795,982,916	429,279,532	366,703,384	1.17：1
Hunan	785,071,455	442,886,534	342,184,921	1.29：1
Liaoning	690,392,558	362,748,817	327,643,740	1.11：1
Guangxi	344,319,347	156,041,035	188,278,312	0.83：1
Chongqing	264,862,913	112,250,721	152,612,192	0.74：1
Gansu	259,884,323	167,284,334	92,599,988	1.81：1
Heilongjiang	232,276,813	102,796,063	129,480,750	0.79：1
Hainan	204,109,394	80,611,978	123,497,416	0.65：1
Shanxi	170,338,485	76,790,668	93,547,817	0.82：1
Yunnan	160,024,025	44,904,508	115,119,517	0.39：1
Jilin	118,105,556	46,727,418	71,378,138	0.65：1
Guizhou	117,691,431	49,889,704	67,801,728	0.74：1
Xinjiang	102,081,119	36,425,461	65,655,658	0.55：1
Neimenggu	93,903,086	49,665,699	44,237,387	1.12：1
Ningxia	25,987,656	10,106,239	15,881,417	0.64：1
Qinghai	9,035,483	5,162,989	3,872,494	1.33：1
Tibet	2,699,210	1,710,493	988,717	1.73：1
Overall	60,008,060,093	31,908,739,278	28,099,320,815	1.14：1

Table 14 Number of Web Page Bytes of Different Provinces

	Page size（KB）	Average number of bytes of each web page（KB）
Beijing	572,789,433,655	36
Guangdong	200,093,118,558	29
Zhejiang	191,487,801,471	32
Shanghai	189,898,702,748	33

Jiangsu	155,872,216,831	31
Fujian	96,422,360,767	30
Henan	76,825,240,793	29
Tianjin	64,513,702,060	38
Hebei	57,286,656,662	35
Shandong	46,970,088,386	34
Hubei	42,234,330,398	29
Sichuan	31,236,561,697	30
Liaoning	30,903,557,375	35
Anhui	29,318,816,937	30
Jiangxi	24,822,745,054	30
Shaanxi	21,562,669,350	33
Hunan	21,274,606,838	28
Guangxi	13,770,942,997	34
Heilongjiang	9,806,983,883	32
Hainan	9,283,066,674	38
Chongqing	7,787,633,576	29
Shanxi	5,498,081,688	29
Yunnan	4,853,052,737	29
Jilin	4,393,329,549	34
Neimenggu	3,882,418,898	29
Gansu	2,893,675,263	30
Xinjiang	2,682,142,209	28
Guizhou	2,523,215,449	25
Ningxia	1,055,462,752	32
Qinghai	427,202,712	34
Tibet	168,722,458	51
Overall	1,922,538,540,426	33

Table 15 Proportion of Web Pages with Different Updating Cycles in Different Provinces

	Updating once every week	Updating once every month	Updating once every three months	Updating once every six months	Updating once during more than six months
Beijing	5.01%	20.54%	6.19%	5.12%	63.14%
Guangdong	4.08%	20.38%	5.61%	4.94%	64.99%
Shanghai	4.40%	20.50%	5.96%	4.64%	64.50%
Jiangsu	4.46%	19.17%	5.08%	4.17%	67.12%
Zhejiang	4.81%	21.36%	6.08%	4.83%	62.93%
Fujian	5.81%	25.27%	6.77%	4.96%	57.19%
Henan	4.95%	24.33%	6.11%	4.65%	59.96%

Hubei	4.08%	19.60%	5.67%	4.89%	65.76%
Hebei	5.39%	23.45%	7.61%	5.74%	57.81%
Sichuan	3.68%	17.64%	5.29%	3.79%	69.60%
Shandong	5.46%	21.31%	6.32%	5.35%	61.57%
Tianjin	7.41%	23.53%	7.89%	7.78%	53.39%
Anhui	4.61%	22.26%	5.53%	4.75%	62.85%
Shaanxi	4.03%	19.71%	5.29%	4.19%	66.79%
Jiangxi	5.66%	23.42%	5.64%	4.68%	60.60%
Hunan	4.71%	22.83%	5.44%	4.88%	62.15%
Liaoning	6.25%	25.22%	8.13%	6.91%	53.49%
Guangxi	5.60%	23.20%	6.73%	5.55%	58.92%
Chongqing	4.59%	19.72%	6.80%	5.64%	63.25%
Gansu	2.78%	12.66%	5.25%	6.30%	73.02%
Heilongjiang	5.30%	27.26%	8.34%	5.60%	53.51%
Hainan	5.30%	19.62%	5.83%	7.57%	61.68%
Shanxi	5.23%	22.70%	6.42%	5.42%	60.22%
Yunnan	3.74%	20.98%	7.23%	4.65%	63.40%
Jilin	4.69%	23.84%	7.71%	5.03%	58.73%
Guizhou	3.85%	17.08%	6.61%	6.35%	66.12%
Xinjiang	3.79%	21.73%	3.58%	4.16%	66.74%
Neimenggu	3.92%	22.68%	10.37%	6.06%	56.97%
Ningxia	9.71%	22.71%	5.90%	7.26%	54.42%
Qinghai	3.34%	26.46%	7.71%	5.55%	56.94%
Tibet	3.17%	17.43%	8.90%	4.54%	65.95%
Overall	4.83%	21.01%	6.06%	4.97%	63.13%

Table 16 Proportion of Different Web Page Coding in Different Provinces

	Chinese Simplified	Chinese Traditional	English	Others
Beijing	98.95%	0.34%	0.51%	0.20%
Zhejiang	99.02%	0.27%	0.61%	0.10%
Guangdong	98.46%	0.72%	0.61%	0.21%
Shandong	99.24%	0.33%	0.32%	0.11%
Fujian	98.43%	0.40%	0.99%	0.18%
Shanghai	99.05%	0.39%	0.34%	0.22%
Liaoning	99.43%	0.02%	0.20%	0.35%
Hunan	99.37%	0.18%	0.41%	0.04%
Chongqing	99.58%	0.10%	0.27%	0.05%
Tianjin	98.53%	0.71%	0.49%	0.27%
Sichuan	99.52%	0.11%	0.31%	0.06%
Jiangsu	98.86%	0.54%	0.48%	0.12%
Gansu	98.75%	0.83%	0.40%	0.02%
Henan	99.51%	0.10%	0.33%	0.06%

Hebei	99.46%	0.24%	0.19%	0.11%
Jiangxi	98.93%	0.76%	0.23%	0.08%
Yunnan	99.57%	0.16%	0.23%	0.04%
Hubei	99.42%	0.26%	0.22%	0.10%
Shaanxi	98.89%	0.66%	0.35%	0.10%
Qinghai	92.79%	0.77%	3.49%	2.95%
Guangxi	99.44%	0.21%	0.29%	0.06%
Anhui	98.92%	0.60%	0.24%	0.24%
Heilongjiang	97.29%	2.26%	0.23%	0.22%
Jilin	99.60%	0.04%	0.25%	0.11%
Hainan	99.65%	0.13%	0.20%	0.02%
Neimenggu	99.60%	0.11%	0.19%	0.10%
Xinjiang	97.93%	1.65%	0.28%	0.14%
Guizhou	97.03%	1.92%	0.52%	0.53%
Shanxi	99.68%	0.04%	0.23%	0.05%
Ningxia	99.71%	0.01%	0.16%	0.12%
Tibet	99.44%	0.43%	0.06%	0.07%
Overall	96.26%	2.96%	0.59%	0.19%

Appendix 2 Investigation Support Units

（Ⅰ）Investigation support websites (without order)

CNTV	International Online
Guangming Website	Eastday

（Ⅱ）Investigation Inlet website (in the sequence of investigation linkage listed by websites)

sina.com	kaixin001.com	Sznews.com
Funshion.com	39.net	Uusee.com
qq.com	Onlinedown.net	Hlj.net
Gw.com	Yninfo.com	Eastmoney.com
It.com	He-nan.com	51.com
Ku6.com	FX168.com	24K99.com
99qh.com	ifeng.com	Jlonline.com
PPStream	bitauto.com	ucar.com
Netease	tudou.com	youku.com
Soufang.com	fanshu.com	

（Ⅲ）Bandwidth investigation support units

Beijing Communications Co. IDC

（Ⅳ）Investigation assistance units (without order)

China Telecommunications Corporation

China United Network Communications Group Co., Ltd

China Mobile Limited

CERNIC

CSTNet

China Telecommunications Broadcast Satellite Corporation

China International E-commerce Center

China Great Wall Intercommunication Network Center

Netease Youdao Information Technology (Beijing) Co., Ltd

Tencent Search Technology R&D Center

Beijing Zhongke Sanfang Network Technology Co., Ltd.

Chongqing Zhijia Information Technology Co., Ltd.(Online Liberation Monument)

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