Statistical Report on Internet Development in China

(January 2015)

China Internet Network Information Center

Preface

In 1997, China's state competent departments authorized China Internet Network Information Center (CNNIC) to organize relevant Internet entities to jointly carry out an Internet development survey. Ever since then, CNNIC has published 34 statistical reports on Internet development in China, and this report is the 35th report. Internet has become a key sector that affects the development of our society and economy and changes people's lifestyle. All the reports of CNNIC have witnessed the whole development process of China's soaring Internet industry. With precise and objective data, the reports provide significant basis for government departments and companies to understand the development of Internet in China and make relevant decisions. Therefore, they have attracted much attention from all circles and have been cited widely both at home and abroad.

Since 1998, CNNIC has been issuing the Statistical Report on Internet Development in China every January and July by convention. Based on continued research on basic resources, the scale of Internet users, structural features, access modes and network application, the 35th report introduces new research on O2O, online video, online game and some other hot topics.

Data collection in this report also received great support from the government, enterprises and all walks of life. All surveys went on smoothly and data collection of basic resources was completed in time in close cooperation with other Internet organizations, survey support websites and media. We hereby express our sincere gratitude to all of them. Meanwhile, we would like to extend our sincere thanks to Internet users who have participated in our 35th statistical survey.

China Internet Network Information Center

January 2015

Contents

Abstract

1. Basic Information

◇ As of the end of 2014 China had 649 million Internet users, with an increase of 31.17 million. The Internet penetration rate reached 47.9%, up 2.1% year on year.

◇ As of the end of 2014 the size of mobile Internet users in China reached 557 million, an annual increase of 56.72 million. Mobile Internet users accounted for 85.8% of the total netizen population, while this percentage was 81.0% in 2013.

◇ As of the end of 2014, rural netizens accounted for 27.5% of the total, reaching 178 million, up by 1.88 million annually.

◇ In December 2014 the proportion of Chinese netizens using desktops or laptops to access the Internet was 70.8% and 43.2% respectively. The utilization ratio of mobile phones as a means to access the Internet was 4.8 percentage points more than that at the end of 2013, reaching 85.8%, and this percentage was 34.8% for tablet PC and 15.6% for TV.

◇ According to a survey conducted in December 2014, the proportion of Chinese netizens who believed that the country's network environment was safe or very safe, who trusted Internet information, who took a positive attitude toward Internet sharing, who liked posting comments on the Internet, or who depended or heavily depended on the Internet was respectively 48.6%, 54.5%, 60.0%, 43.8% and 53.1%.

◇ As of the end of 2014 China had a total of 20.6 million domain names, 53.8% or 11.09 million of which were ended with ".CN", up 2.4%; there were 3.35 million websites, an annual increase of 4.6%; and the international Internet gateway bandwidth was 4,118, 663Mbps, up 20.9% annually.

◇ The proportion of Chinese enterprises using computers or the Internet to handle office affairs was respectively 90.4% and 78.7% as of the end of December 2014, with a utilization ratio of fixed broadband reaching 77.4%. Meanwhile, the enterprises carrying out online sales and online procurement accounted for 24.7% and 22.8% respectively, and 24.2% of the enterprises carried out marketing and promotion via the Internet.

2. Trends and Features

Chinese netizens scale growth at a lower rate, and the netizens transformation becomes more difficult

In the year of 2014 China had 31.17 million new netizens, obviously less than previous years. Non-netizens' willingness to use the Internet continued to decline, only 11.1% of them shows that they would use the Internet in the future, compared with 16.3% in 2011. Such a trend is expected to continue in the coming years. 61.3% of the non-netizens attributed their unwillingness to use the Internet to their ignorance of computer/network knowledge.The lack of computer/network knowledge and application skills is the main cause of the big gap between netizens and non-netizens.

Internet penetration among regions differs greatly , and rural areas in urgent need of attention

Although China has made significant progress in Internet development, with inter-provincial gap in Internet penetration rate[1] narrowing to 0.24 in 2014 from 3.37 in 1997, an obvious difference still exists between developed and underdeveloped provinces. Internet development in underdeveloped provinces will need long-term arduous efforts. At the same time, rural-urban gap in this regard has a tendency of broadening despite a continuous increase in rural netizen population and Internet penetration. As of the end of 2014, Internet penetration rate between the rural and the urban areas differences amounted to 34 percentage points. Partly because the urbanization process covered some of the achievements of Internet provement in rural areas, but the unbalanced economic development amongs regions was the root cause. How to narrow such a digital gap needs further research and exploration.

Tablet PC became netizens' main Internet-access device and network TV provided a new mode of home entertainment

Entertaining and convenience, tablet PC became an important entertainment device. By the end of 2014, tablet PC utilization ratio had reached 34.8%, with higher ratios seen in well-educated (university or above) groups and high-income (RMB 5000 or above per month) groups, 51.0% and 43.0% respectively. Thanks to the development of network and broadband technologies, network TV as a combination of the Internet and traditional TV has gradually become an emerging mode of home entertainment with the advantages of being shareable, controllable and intelligent. By the end of 2014 its utilization ratio had risen to 15.6%.

The foundation status of instant messaging was further consolidated

As the biggest Internet application, instant messaging was used by more and more netizens, enjoying a utilization ratio of 90.6%. The usage of mobile instant messaging maintained a steady growth in 2014, the utilization ratio was 91.2%, up by 5.1 percentage points over the end of 2013. Mobile instant messaging not only can be used at any time at almost any place but also possesses social communication and positioning functions.Therefore, it has evolved from a mere communication tool into a user access to payment, game-playing, O2O, etc. With an increasingly huge user scale, mobile instant messaging will be of great commercial value for other value-added services.

Mobile travel booking entered into a period of explosive growth

Mobile commercial applications saw explosive growth in 2014, mobile shopping, mobile payment and mobile banking users increasing by 63.5%, 73.2% and 69.2% respectively, far exceeding the growth rate of users of other mobile applications. Mobile travel booking had not been very hot during the past years, jumped by 194.6% in 2014, the fastest growth among all mobile commercial applications.As the formation of citizen leisure system, mobile travel booking has entered a new development stage.

Internet wealth management was less hot but stable in scale

By the end of 2014, 78.49 million netizens has been purchased Internet wealth management products, up 14.65 million over the end of June 2014. The utilization ratio of Internetwealth management was 12.1%, increasing by 2 percentage points in the same period. Due to declining yields plus a rebound of the Chinese stock market that attracted a considerable amount of investment, the user population of Internet wealth management turned from explosive growth into

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[1]It refers to the coefficient of inter-provincial variation in penetration rate, i.e., the ratio of standard deviation to the mean value, reflecting the degree of difference. The bigger and coefficient, the larger the inter-provincial difference in Internet penetration rate.

moderate growth, and the speed of new-product launch also showed a decline.

Internet penetration reached a high level in enterprises and the network application level will make a breakthrough due to the Internet commercial mode innovation

The Internet infrastructure has been done in enterprises. The proportion of compute-using in office basically maintains at 90%, with an Internet penetration of around 80%. Of all the enterprises that using the Internet dealing with daily work, fixed broadband access rate has been above 95% for many consecutive years. But there is still a big improvement for practical Internet use. On the one hand, not so many enterprises were willing to use the Internet to enhance internal operation efficiency; on the other hand, not so many enterprises were ready to use the Internet for marketing promotion, E-commerce or other external operation purposes. In addition, traditional operation ideas and methods continues a strong influence on these enterprises. With the development of various Internet commercial modes, the Internet will combine with economic activities more closely, produce bigger influence on traditional commercial modes, blur the boundary between traditional enterprises and Internet companies, and become an absolutely necessary tool in the daily operation of an enterprise.

O2O is shifting from incremental development to qualitative development in first-tier cities, and nationwide market demand for medical and home-service O2O needs to be released

O2O enterprises made their first deployment in first-tier cities, where they attracted a large number of users, especially heavily-dependent users with strong consumption power and Internet application skills, by catering for their needs. In these cities, moderately- and heavily-dependent users accounted for 39.2% of the total, whose O2O consumption was shifting from incremental to qualitative growth. O2O services were being deployed in second- and third-tier cities, where huge potential consumption will boost the incremental development of the O2O market. O2O catering and leisure services, which started earlier together with group buying, are turning mature and being refined. Meanwhile, medical and home-service O2O is just starting and will see big development due to strong market demand.

Surpassing PC, mobile phones became the first terminal for watching network video programs

In 2014 the overall scale of network video users continued to grow but the utilization ratio declined slightly. Both the scale of mobile video users and the utilization ratio kept increasing but the growth rate began to decline. The network video industry entered a steady development period. In the past two years the proportion of PC-end video watchers kept shrinking while that of mobile-end watchers kept growing. As of the end of 2014 the proportion of mobile-end video watchers was 71.9% and the utilization ratio of desktops/laptops for video watching was 71.2%. Therefore, mobile phones became the first terminal for watching network video programs. Both tablet PC and traditional TV enjoyed a utilization ratio of around 23%, being important devices for watching network video programs.

PC-end online games continued to be the mainstay of market, the share of mobile-end online games further expanded, and TV games became a new hot spot of market

From the perspective of user base, online time and game proceeds, PC-end online games attracted most valuable heavily-dependent users and remained the mainstay of market. But its growth rate was on the decline because the entire netizen population almost stopped increasing, the percentage of young netizens was shrinking due to changes in demographic structure, and avid

PC-end game players were less and less as with the increase in age. On the other hand, however, new commercial modes were being explored for PC-end online games. For instance, a combination of online activities with offline activities or even with TV programs, or an integration of competitive games with competitive sports, were gradually becoming a promising commercial mode and development direction of PC-end online games. Mobile-end online games experienced an explosive growth in the first half of 2014 and entered into the period of steady growth in the second half of the year. This trend is expected to continue in 2015 and the market share of mobile-end online games will continue to expand. The ban on game consoles was lifted in 2014, making TV games a new market focus. Judging from the present situation of the TV game market, what will swiftly seize the market in the coming year is not game consoles but Internet TV/box. In terms of user base, user base growth rate and market promotion, Internet TV/box developed faster than game consoles. Faced with various factors such as costs, channels and policies, console makers remained cautious and took a wait-and-see attitude instead of being eager to advance. It is expected that Internet TV/box will be the foremost booster of the 2015 TV game market and game consoles will have a long way to go.

Chapter Ⅰ Introduction

I. Survey Methodology

(I) Survey on Individual Internet Users

1.1 Survey Population

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

◇ Sample size

There were 76,000 survey samples in total, including 38,000 for fixed-line telephones and the other 38,000 for mobile phones, covering 31 provinces, autonomous regions and municipalities directly under the Central Government in Mainland China.

◇ Division of survey population
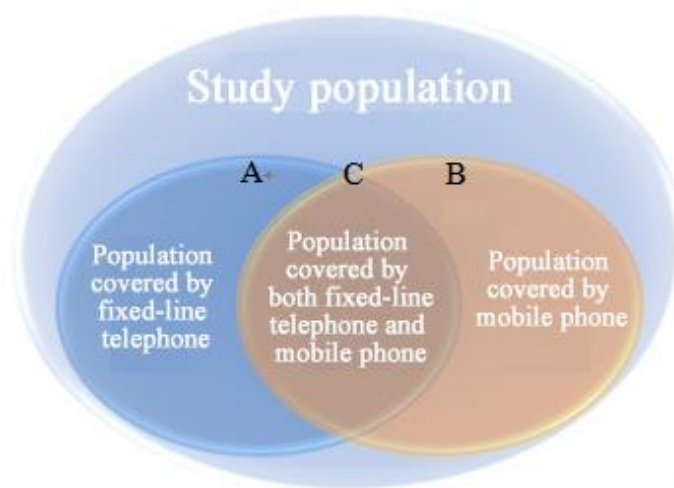
The survey population can be divided into three categories:

Subpopulation A: Survey subpopulation using fixed-line telephones (including residents with home phones, PHS users, students with dormitory telephones, and other users with dormitory telephones);

Subpopulation B: Survey subpopulation with mobile phones;

Subpopulation C: Survey subpopulation with both fixed-line telephones and mobile phones (there is overlap between subpopulation A and subpopulation B, the overlapped part is subpopulation C), C=A∩B.

1.2 Sampling Method

CNNIC surveys subpopulation A, B and C. Double sampling is adopted for the survey so as to cover more Internet users. The first sampling frame is subpopulation A, the people with fixed-line telephones. The second sampling frame is subpopulation B, the people with mobile

phones.

For the survey population with fixed-line telephones, stratified two-stage sampling is adopted. To ensure the sufficient representativeness of samples, the whole country is divided into 31 tiers according to the province, autonomous region and municipality directly under the central government and the sampling is made independently at each tier.

The self-weighted sampling method is adopted for each province. The sample sizes are allocated for each district, city and prefecture (including the governed districts and counties) in accordance with the proportion of the people at the age of 6 or above in the city covered by fixed-line telephones in the total population covered in the whole province.

Sampling in subpopulation B is similar to that in subpopulation A. The whole country is divided into 31 tiers according to the provinces, autonomous regions and municipalities directly under the central government, and sampling is made independently in each tier. Samples are allocated in accordance with the proportion of the residents in each district or city to make the sample allocation in each province conform to the self-weighting method.

To ensure that the probability for residential fixed-line telephones to be taken as samples is basically the same for all districts, cities and prefectures, that is, bureau numbers covering more residential telephones are more likely to be sampled, and to ensure the operability of investigation work, sampling of residential telephones in each district, city and prefecture is conducted by following the procedures below:

For mobile phone user groups, all mobile bureau numbers in each district, city and prefecture are sampled; a certain quantity of 4-digit random numbers are generated according to the effective sample size randomly in combination with the valid sample size in each district, city or prefecture, and then combined with the mobile phone numbers in each district, city or prefecture to form a number library (local number + the random 4-digit number); randomly order the number library; dial and visit the randomly ordered number library. Survey of the subpopulation with fixed-line telephones is similar to that of the subpopulation with mobile phones: a random number is generated to form a telephone number with the local number, and then these numbers are dialed and visited. To avoid repeated sampling, only the people with fixed-line telephones are visited.

1.3 Survey Methodology

The computer-assisted telephone interviewing (CATI) system is adopted for the survey.

1.4 Differences between Survey Population and Targeted Population

A study for the population who are not covered by telephones in 2005 by CNNIC shows that Internet users are very few in this subpopulation. Currently, the subpopulation is downsizing gradually with the development of our telecom industry. In this survey, there is an assumption, i.e.

Internet users who are not covered by fixed-line telephones and mobile phones are negligible.

(II) Enterprise Survey

2.1 Survey Target

The overall targets of the telephone survey are those enterprises which have registered with industry and commerce administration authorities at all levels, and obtained the License of Business Corporation and the corporate capacity in accordance with Administrative Regulations of The People's Republic of China Governing the Registration of Legal Corporations and Regulations of the People's Republic of China on Administration of Registration of Companies.

2.2 Sampling Method

This survey adopts the approach of stratified random sampling.

Thirty-one provinces, municipalities directly under the Central Government and autonomous regions are divided into Eastern China, Central China, West China and Northeast China based on their economic development according to relevant standards issued by National Bureau of Statistics of the PRC:

- East China consists of 10 provinces and municipalities directly under the Central Government, namely Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan.
- Central China consists of 6 provinces, namely Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan.
- West China consists of 12 provinces and municipalities directly under the Central Government: Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia and Xinjiang.
- Northeast China consists of 3 provinces: Liaoning, Jilin and Heilongjiang.

Business entities are divided into eighteen major industry categories according to the statistical standard issued by National Bureau of Statistics of the PRC. Based on the similarity and differences in the use of Internet by industries, CNNIC combines the eighteen major industry categories into nine industrial categories:

No.	Industry name
1	Agriculture, forestry, animal husbandry, and fishing
	Mining
	Production and supply industries for electric power, fuel gas and water
2	Manufacturing
3	Construction
	Transportation, storage and postal industries
4	Information transmission, computer service and software
	Finance
	Leasing and commercial service
5	Wholesale and retail
6	Accommodation and catering
	Resident service and other services
7	Real estate
8	Scientific research, technical service and geological survey
	Water conservancy, environment and public facility management
9	Education
	Health, social security and social welfare
	Culture, sports and entertainment

Cross stratification is conducted by two indicators: region and combined industries, with a total of 4*9=36 layers. Samples are equally distributed at each layer according to the distribution of business entities by province, city and industry in the second economic census in 2008. Business entities are randomly sampled from each layer for investigation, and the ultimate effective samples cover a total of 3000 enterprises.

2.3 Implementation Method of the Survey

This project adopts the approach of Computer Assisted Telephone Interview (CATI). Randomness and accuracy of the survey are controlled as follows:

1) Calls are made from 9 am to 6 pm on working days.

2) After the survey is accomplished, the telephone investigation company is asked to provide the detailed dialing information of all the phones for random checks.

3) To avoid the randomness being influenced by the put-through rate, numbers that cannot be connected will be dialed for at least three times.

4) To avoid the influence of investigator's personal perspective to the investigation, it is stated that items that are not needed to be read out cannot be given any prompt and the questions should be asked properly.

5) After telephone survey, the data are pre-processed to check the logical relation between the value of a variable and the variable itself. Unqualified samplings shall be all deleted.

(Ⅲ) Online Survey

Online survey focuses on the use of typical Internet applications. CNNIC conducted online survey from December 1 to December 31, 2014. The questionnaire is on the CNNIC website, and the links are available on major websites of China. Internet users voluntarily participated in and filled out the questionnaire.

(Ⅳ) Automatic Online Search and Data Report

Automatic online search is used to conduct technical statistics about quantity of domain names and websites, and their geographical distribution. Statistical data for reporting mainly includes the number of IP addresses and international Internet gateway bandwidth.

4.1. Total Number of IP Addresses

The data of IP addresses counted by provinces come from the IP address databases of Asia-Pacific Network Information Center (APNIC) and CNNIC. Registered data that can clearly distinguish the provinces of the addresses in each database can be added respectively by provinces to generate data of each province. As address allocation is a dynamic process, the statistical data are only for reference. The Ministry of Industry and Information Technology, as the national competent department for IP addresses, will require our IP address allocation organizations to report the IP addresses they own biannually. To ensure accuracy of IP data, CNNIC will compare and verify APNIC statistical data and the reported data to confirm the final quantity of IP addresses.

4.2. Total Number of Domain Names and Websites in China

Total number of domain names and websites in China can be derived from:

Number of domain names: The number of domain names with .CN and .中国 comes from CNNIC database; and the number of gTLDs comes from the data released by WebHosting.Info, a domain name statistical agency.

Number of websites: It is worked out by CNNIC according to the list of domain names. The list of domain names with .CN and .中国 comes from the CNNIC database, while the list of gTLDs comes from relevant international domain name registries.

4.3. International Internet Gateway Bandwidth

Through a reporting system, the Ministry of Industry and Information Technology can obtain on a regular basis the number of total bandwidth of Internet connecting Chinese carriers with

other countries and regions. The reported data are included in the Statistical Report on Internet Development in China.

II. Definitions of Terms in the Report

◇ **Internet users:** Chinese residents at the age of six or above who have used Internet in the past 6 months.

◇ **Mobile Internet users:** Internet users who have used mobile phones to access and surf Internet in the past 6 months, but not limited to those surfing Internet via mobile phones only.

◇ **Computer Internet users:** Internet users who have used computer to access and surf Internet in the past 6 months, but not limited to those surfing Internet via computers only.

◇ **Rural Internet users:** Internet users who have been living in rural areas of China in the past 6 months.

◇ **Urban Internet users:** Internet users who have been living in urban areas of China in the past 6 months.

◇ **IPaddress:** as the basic resource in Internet, the IP address functions to indentify online computers, servers and other devices on Internet. Connection with the Internet can be realized only when an IP address (in any form) is acquired.

◇ **Domain name:** Domain name in the Report only refers to the English domain name, which is a string comprised of numbers, letters, and hyphens (-) and separated by dots (.). It is a hierarchical structural Internet address identifier corresponding to the IP address. The common domain names are divided into two categories: country code top-level domain (ccTLD), such as the domain names ended with ".CN" which represents China; and generic top-level domain (gTLD), such as the domain names ended with ".COM", ".NET" and ".ORG".

◇ **Website:** It refers to the web sites with domain name itself or "WWW. + domain name" as the web address, including the web sites under our top-level domain name ".CN" and gTLD. The registrant of the website is within the territory of P.R.C. For example: for the domain name of "cnnic.cn", it has only one website and the corresponding web address is "cnnic.cn" or "www.cnnic.cn". Other web addresses like "whois.cnnic.cn" and "mail.cnnic.cn" with such domain name as the suffix are regarded as different channels of the website.

◇ **Brand penetration:** the proportion of netizens who have used a certain brand in the latest 6 months in all the netizens who have used the corresponding Internet application in the same period

◇ **Scope of survey:** Unless otherwise expressly indicated, data in this Report only refer to mainland China, excluding Hong Kong, Macao and Taiwan.

◇ **Deadline of survey data:** The deadline of the statistical survey data is 31 December 2014.

Environment

Chapter Ⅱ Basic Internet Resources

Ⅰ. Overview of Basic Internet Resources

China had 332 million IPv4 addresses and 18797blocks/32 of IPv6 addresses at the end of December 2014.

There were totally 20.6 million domain names in China. Specifically, ".CN" domain names annually increased by 2.4% to 11.09 million and accounted for 53.8% of the total domain names in China.

There were altogether 3.35 million websites, an annual increase of 4.6%, among which 1.58 million were ".CN" websites.

International Internet gateway bandwidth reached 4,118,663Mbps, with an annual growth rate of 20.9%.

Table 1 Comparison-Basic Internet Resources in Chinafrom December 2013 to December 2014

	December 2013	December 2014	Annual increment	Annual growth rate
IPv4	330,308,096	331,988,224	1,680,128	0.5%
IPv6 (blocks/32)	16,670	18,797	2,127	12.8%
Domain names	18,440,611	20,600,526	2,159,915	11.7%
Including ".CN" domain names	10,829,480	11,089,231	259,751	2.4%
Website	3,201,625	3,348,926	147,301	4.6%
Including ".CN" website	1,311,227	1,582,870	271,643	20.7%
International Internet gateway bandwidth (Mbps)	3,406,824	4,118,663	711,839	20.9%

Ⅱ. IP Address

By the end of December 2014, the number of IPv6 addresses in China had reached 18,797/32, a year-on-year increase of 12.8%.

Number of IPv6 addresses in China

Block/32

Source : CNNIC Statistical Report on Internet Development in China   2014.12
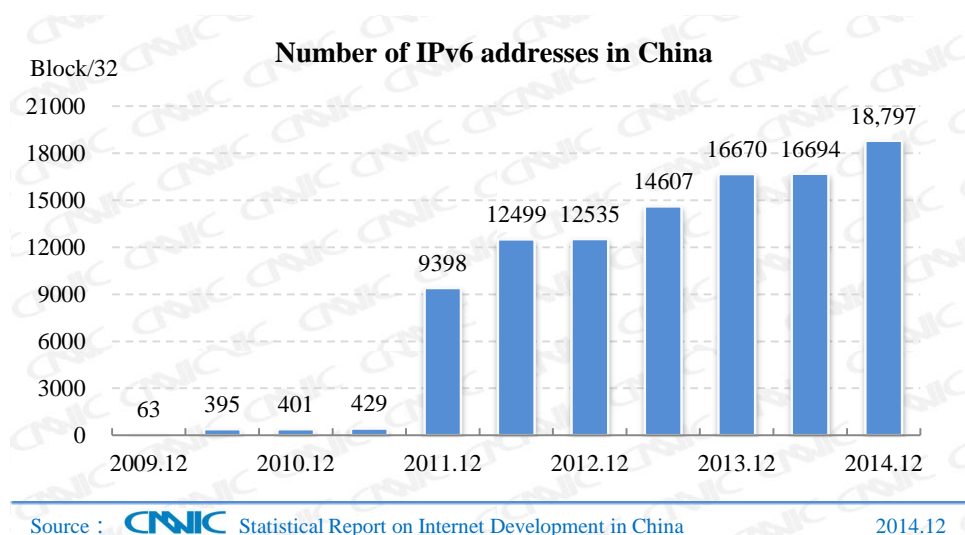
Figure 1 Number of IPv6 addresses in China

All IPv4 addresses had been assigned by February 2011 and since then the total number of IPv4 addresses in China had been basically stable, being 331.99 million at the end of 2014.

Number of IPv4 addresses in China and its growth rate

10 thousand

Source : CNNIC Statistical Report on Internet Development in China   2014.12

Figure 2 Number of IPv4 addresses in China and its growth rate

Ⅲ. Domain Name

By the end of 2014, the total number of domain names of China had increased to 20.6 million, up 11.7% annually.

Table 2 Number of Domain Names in each Category[2]

	Number	Proportion in total domain names
CN	11,089,231	53.8%
COM	7,949,939	38.6%
NET	910,031	4.4%
中国	285,395	1.4%
ORG	232,614	1.1%
BIZ	85,483	0.4%
INFO	47,624	0.2%
Others	209	0.0%
Total	20,600,526	100.0%

As of the end of 2014, the number of ".CN" domain names had reached 11.09 million, increasing by 2.4% year on year and accounting for 53.8% of all domain names of China; ".COM" domain names were 7.95 million, taking up 38.6%; and ".中国" domain names were 285, 000.

Table 3 Number of ".CN" domain names in each category

	Number	Proportion in total CN domain names
cn	8,732,073	78.7%
com.cn	1,355,743	12.2%
adm	645,225	5.8%
net.cn	167,621	1.5%
org.cn	79,757	0.7%
gov.cn	57,024	0.5%
ac.cn	46,695	0.4%
edu.cn	5,023	0.0%
mil.cn	70	0.0%
Total	11,089,231	100.0%

Ⅳ. Websites

As of the end of 2014 China had 3.35 million websites[3] , representing a yearly increase of 4.6%.

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[2] gTLDs come from the data released by WebHosting.Info (a statistical organ) on December 29.
[3] It refers to those websites whose domain name registrants are in China

Number of Websites in China

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12

Figure 3 Number of Websites in China

Note: Websites ended with ".EDU.CN" are excluded.

Ⅴ. Web Pages

As of the end of 2014 China had 189.9 billion web pages[4], a yearly increase of 26.6%.

Number of web pages in China and its growth rate

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
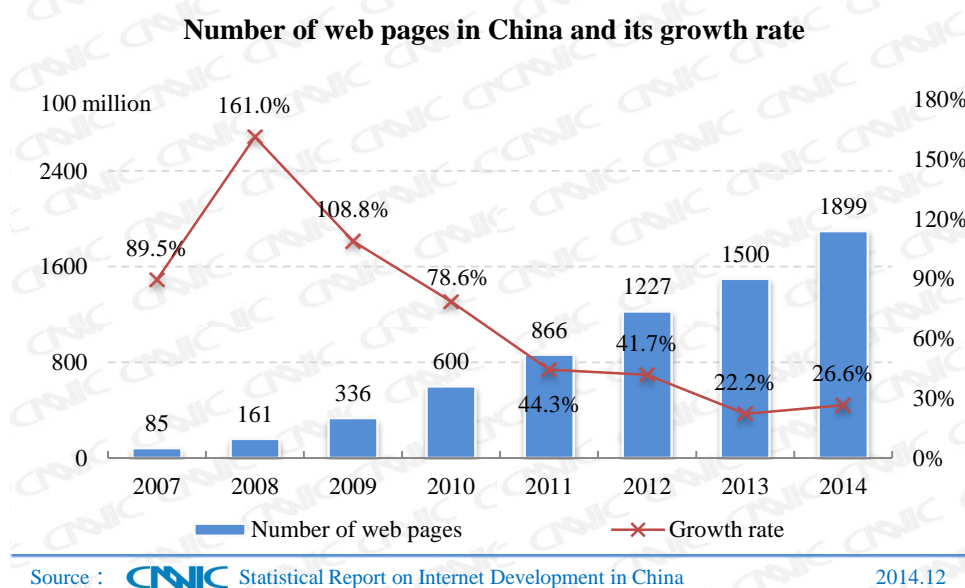
Figure 4 Number of web pages in China and its growth rate

There were 112.7 billion static webpages and 77.2 billion dynamic webpages, accounting for 59.36% and 40.64% of total webpages, respectively.

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[4]Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 4 Number of Webpages in China

	Unit	2013	2014	Growth rate
Total webpages	Page	150,040,762,685	189,918,649,085	26.6%
Static webpage	Page	89,696,746,139	112,744,752,741	25.7%
	Proportion in total webpages	59.78%	59.36%	-0.7%
Dynamic webpage		60,344,016,546	77,173,896,344	27.9%
	Proportion in total webpages	40.22%	40.64%	1.0%
Webpage length (total number of bytes）	KB	7,479,873,203,607	9,310,312,446,467	24.5%
Average number of webpages per website	Page	46,864	56,710	21.0%
Average number of bytes per page	KB	50	49	-2.0%

Ⅵ. International Internet Gateway Bandwidth

As of the end of 2014 China had 4,118,663 Mbps of international Internet gateway bandwidth, up 20.9% annually.
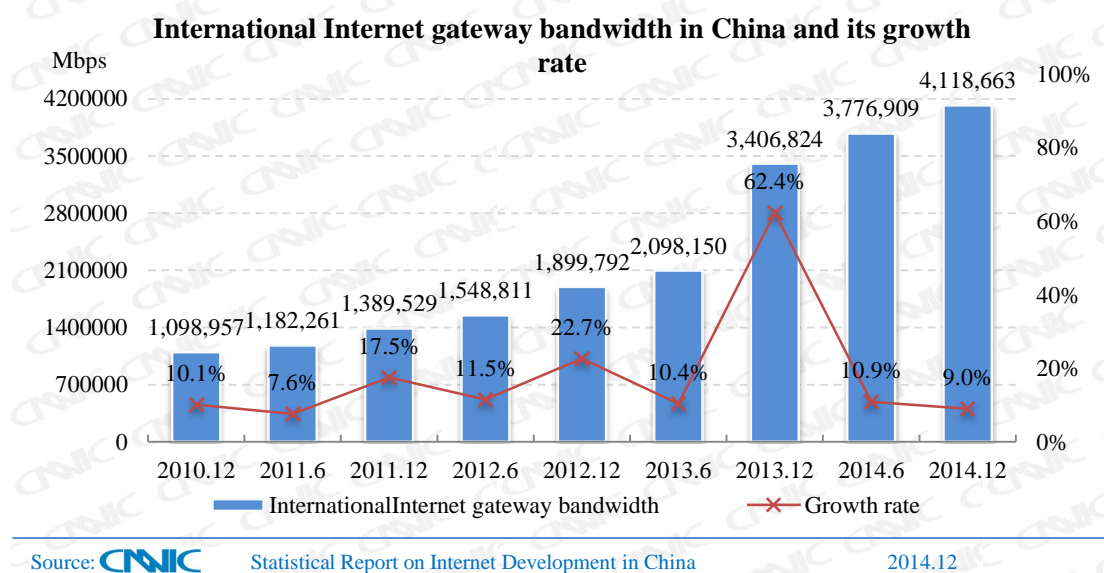
Figure 5 International Internet gateway bandwidth in China and its growth rate

Table 5International Internet Gateway Bandwidths of Backbone Networks

	International Internet gateway bandwidths (Mbps)
China Telecom	2,569,519
China Unicom	1,037,023
China Mobile	390,263
China Education and Research Network	66,560
China Science and Technology Network	55,296
China International Economy and Trade Network	2
Total	4,118,663

The 35th Statistical Report on Internet Development in China

Chapter Ⅲ Internet Access Enviroment

Ⅰ. Internet Access Equipment

In the year of 2014 the utilization ratio of conventional Internet access devices such as desktops and laptops remained basically stable, while that of mobile Internet access devices was on the increase. A certain growth was seen in the usage of network TV as a new means of home entertainment.

The utilization ratios of tablet PCs and laptops as a means to access the Internet were 70.8% and 43.2%, basically the same as in 2013. The utilization ratio of mobile phones as a means to access the Internet was 4.8 percentage points more than that at the end of 2013. Enjoyable and convenient to use, tablet PC became an important entertainment device. By the end of 2014, its utilization ratio had reached 34.8%, with higher ratios seen in well-educated (university or above) groups and high-income (RMB 5000 or above per month) groups, 51.0% and 43.0% respectively. Thanks to the development of network and broadband technologies, network TV as a combination of the network and traditional TV has gradually become an emerging mode of home entertainment with the advantages of being shareable, controllable and smart. By the end of 2014 its utilization ratio had risen to 15.6%.

Usage of Internet access equipment
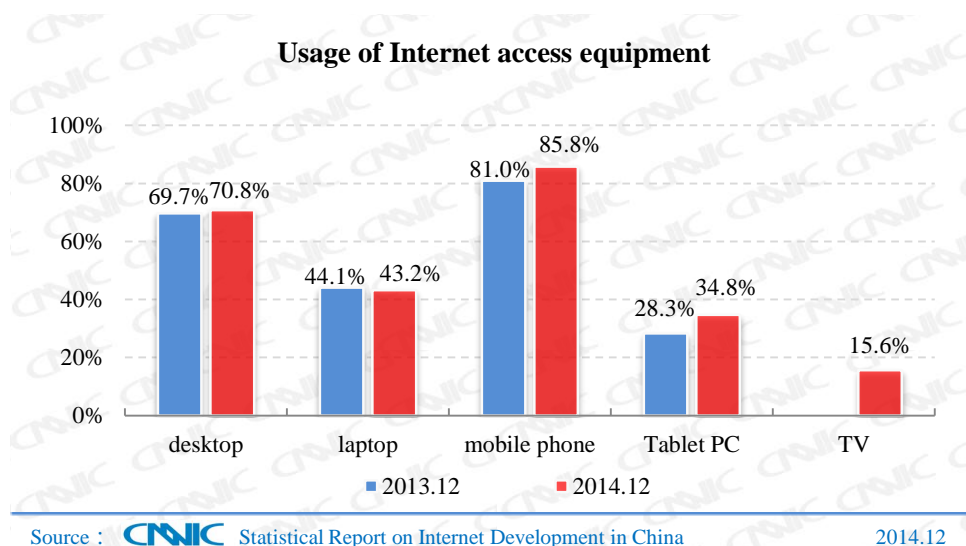
Figure 6 Usage of Internet access equipment

Ⅱ. Internet Access Places

In 2014 the proportions of netizens who accessed the Internet from home, the Internet bar or the office were basically the same as in the previous year, but a bigger proportion of people used the Internet from school. An increase of 3.4 percentage points was seen in the proportion of

people who accessed the Internet from public places such as airports, cafés and restaurants where a Wi-Fi environment was provided for people to handle business or have fun.

Locations where Internet users use computers for Internet access

Source： CNNIC Statistical Report on Internet Development in China   2014.12
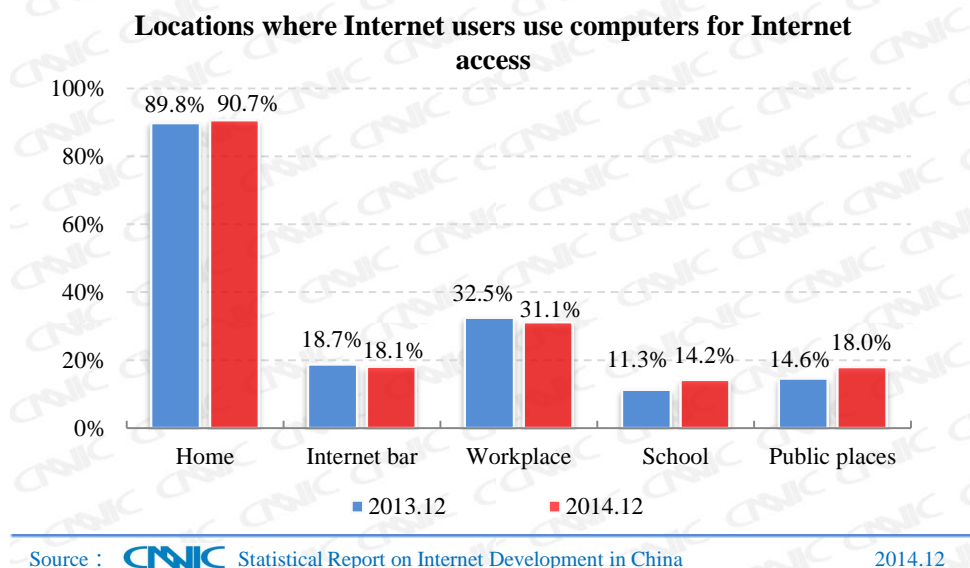
Figure 7 Locations where Internet users use computers for Internet access

Ⅲ. Home Wi-Fi Availability in Urban Areas

Home Wi-Fi was available for as many as 81.1% of urban netizens who used PC to access the Internet at home. Availability of home Wi-Fi encouraged older members of the family to use the Internet, which effectively boosted Internet penetration in urban areas.

Home Wi-Fi availability in urban areas

Source： CNNIC Statistical Report on Internet Development in China   2014.12
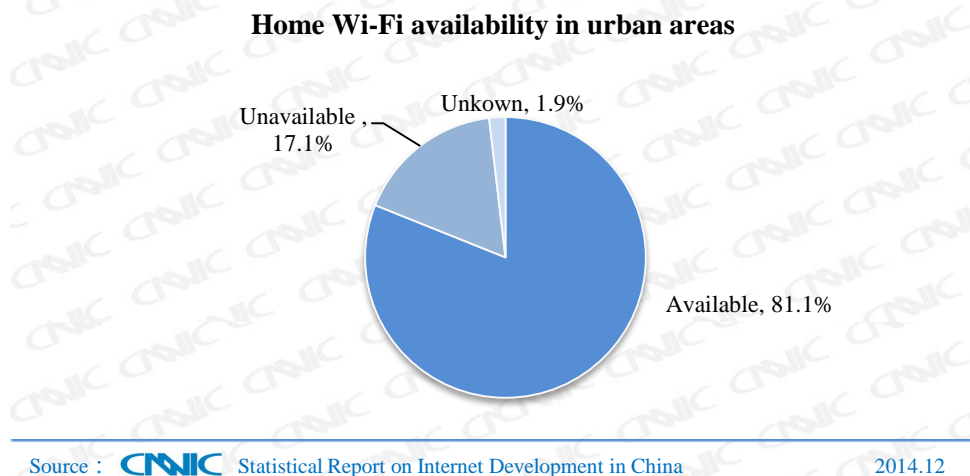
Figure 8 Home Wi-Fi availability in urban areas

Chapter Ⅳ Internet Security Enviroment

Ⅰ. Occurrence of Internet Security Events

46.3% of netizens had the experience of being troubled with Internet security problems in 2014, indicating that China's Internet security environment was alarming. Of all security events, 26.7% were viral or Trojan attacks against PC or mobile phones, 25.9% were stealing of accounts or passwords, and 12.6% were frauds related with online shopping. Safeguarding network security requires the government, enterprises and netizens to make concerted efforts. Therefore, all Internet users should enhance their security awareness, self-protection skills, and the ability of identifying and resisting harmful network information so as to maintain a safe network environment.

Occurrence of Internet security events

PC or mobile phone is virus or Trojan infected	26.7%
Account or password stolen	25.9%
Online consumption fraud	12.6%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
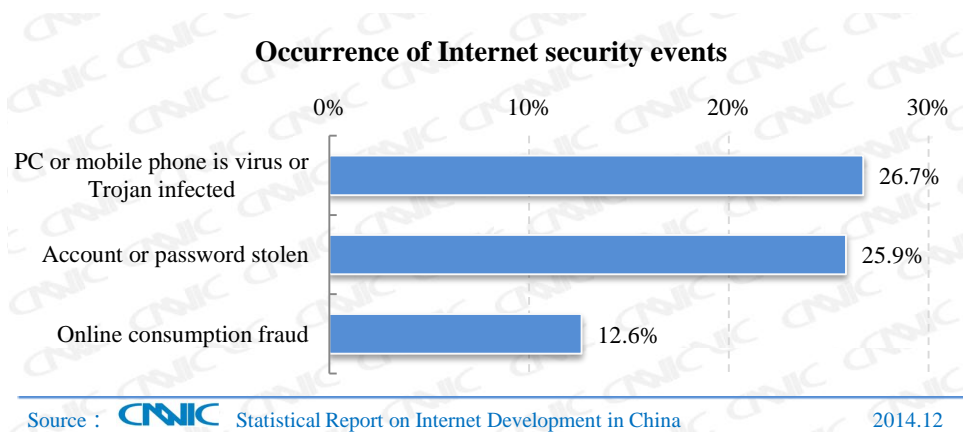
Figure 9 Occurrence of Internet security events

Ⅱ. Internet Security Perception of Internet Users

According to the survey this time, 48.6% of netizens considered China's network environment safe or very safe, and 49.0% regarded it as unsafe or very unsafe. Chinese netizens' perception of network security was seriously affected by reports of various security events, such as accounts or passwords being stolen, consumption-related frauds, information leakage, etc. Today, network security has become an integral part of public security. Therefore, everyone should enhance the sense of and do their bit to maintain network security; the network security management mechanism and method should be innovated in accordance with the law; related problems should be tackled by eliminating the root cause; and joint efforts should be made to create and maintain a safe, stable, reliable and orderly network environment.

Internet security perception of Internet users
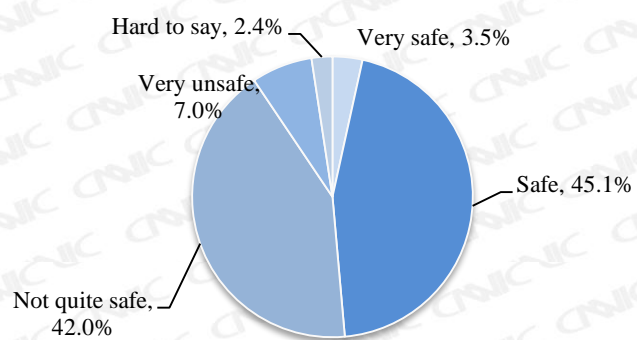
Source： CNNIC Statistical Report on Internet Development in China   2014.12

Figure 10 Internet securityperception of Internet users

Application

Chapter Ⅴ Size and structural Features of Internet Users

Ⅰ. Size of Internet Users

(I) Overall Size of Internet Users

In December 2014 China had 649 million Internet users, up 31.17 million over the previous year. The Internet penetration rate was 47.9%, up 2.1 percentage points.
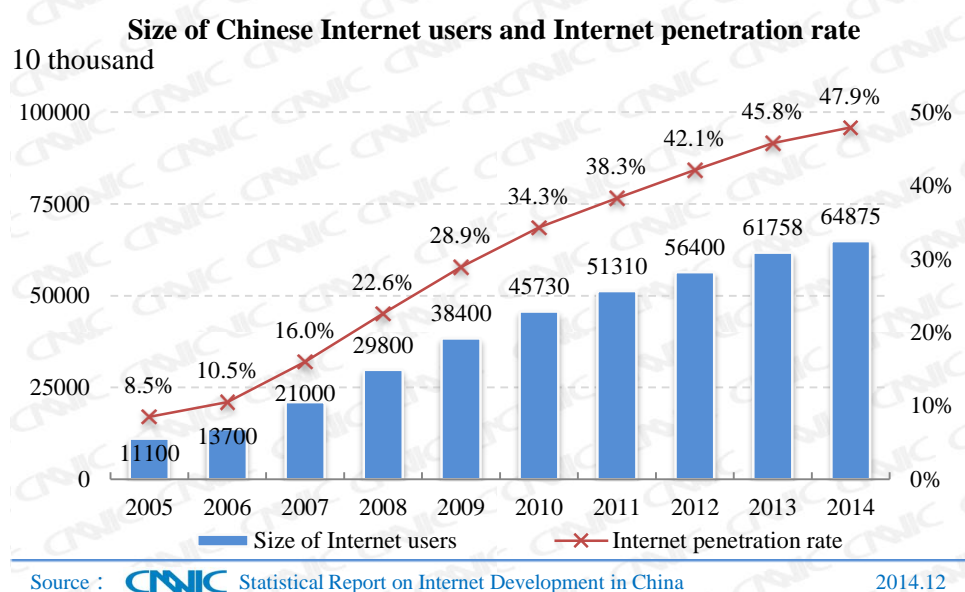
Figure 11 Size of Chinese Internet users and Internet penetration rate

Macroscopically, the 3 main factors driving netizen population growth in 2014 are as follows:

The first is the government. To strengthen network security and Internet governance, the central government established the Office of the Central Leading Group for Cyberspace Affairs in February 2014. The *Guiding Opinions on Promoting Integration of Traditional Media and New Media* was adopted at the 4th meeting of the Central Leading Group for Comprehensively Deepening Reforms held in August, with the aim of boosting the development of the Internet and other new media, creating a modern communication system, and enhancing the influence of the Internet on non-netizens. The "Broadband China 2014 Special Action" was carried out, which gave further impetus to Internet broadband construction and application.

The second factor is operators. The process of 4G commercialization was initiated in an all-round way in 2014. According to the *Operation Situation of the Communications Industry* released by the Ministry of Industry and Information Technology, by December 2014 China's 4G users had increased to 97.284 million despite a decelerated growth in the overall netizen population. Operators vigorously promoted their products in the mode of "Fixed-line Broadband

+ Mobile Communication" and attracted more users into using fixed Internet and mobile Internet by combining Internet OTT services with traditional telecom services on a preferential basis. With the participation of virtual operators whose service package was more flexible and attractive than that of basic operators, the telecom market was more dynamic and competitive in 2014.

The third factor is enterprises. In the year of 2014 Sina Micro-blog, Jingdong, Alibaba and other well-known Internet companies were listed in the US, making "Internet" a hot word in the Chinese society. Internet application was promoted and innovated; Bitcoin, Internet wealth management, online shopping, and O2O were hot topics of conversation; and numerous reports in this regard deepened non-netizens' cognition and understanding of the Internet, and enhanced their willingness to try using the Internet.

According to the survey, 64.1% of new netizens in 2014 used mobile phones as the main device to access the Internet, lower than the percentage of 73.3% in 2013, due to the fact that the role of mobile phones in driving netizen population growth was weakening. Students accounted for 38.8% of new netizens in 2014, while the proportion of students in old netizens was much lower, only 22.7%. Most students used the Internet at school or at home, and the proportion of new netizens who used desktops to access the Internet was 51.6%, much higher than in 2013.

Internet access equipment used by new netizens

Source： CNNIC Statistical Report on Internet Development in China   2014.12
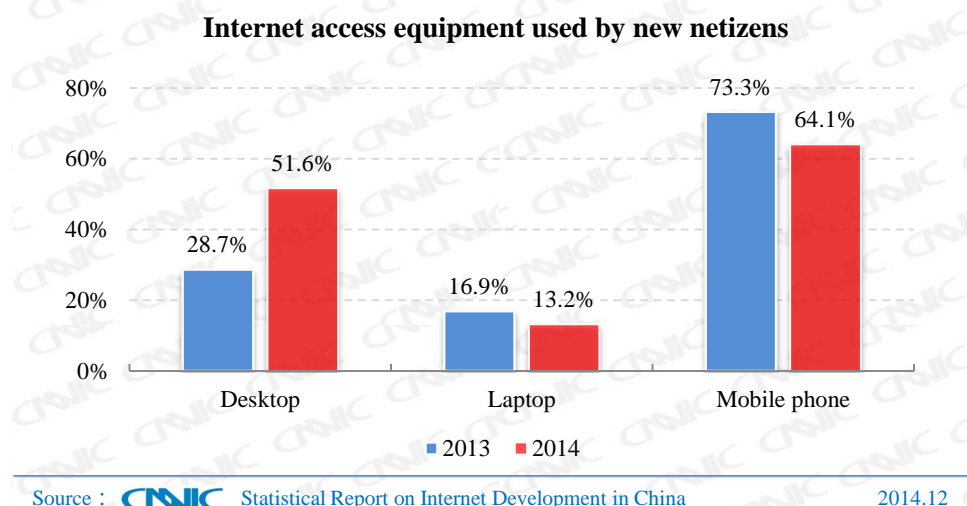
Figure 12 Internet access equipment used by new netizens

According to statistics, 61.3% of non-netizens attributed the cause of not using the Internet to a lack of computer/network knowledge, and 28.5% to age (too young/too old), both percentages being higher than in 2013. So, the lack of computer/network knowledge and application skills remained the main cause of the big digital gap between netizens and non-netizens. In addition, 10.7% of non-netizens said they had no computers or other Internet-access devices, which was another unneglectable cause of the digital gap.

Reasons for non-netizens not to use the Interne

Source: CNNIC Statistical Report on Internet Development in China 2014.12
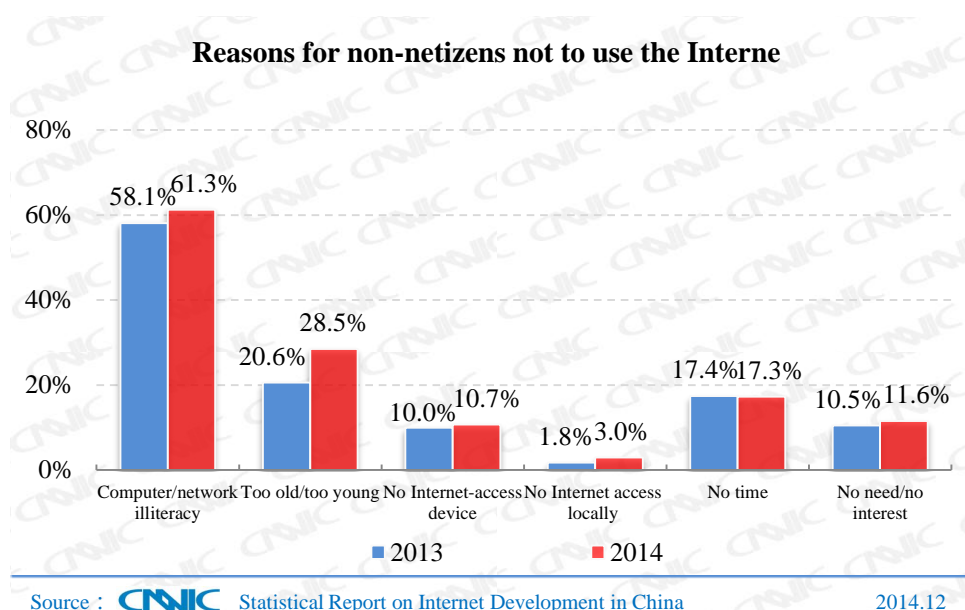
Figure 13 Reasons for non-netizens not to use the Internet

Non-netizens' willingness to use the Internet continued to decline in recent years. The proportion of those saying they would or might use the Internet in the future fell from 16.3% in 2011 to 11.1% in 2014. So, it will be more difficult for non-netizens to convert into netizens and netizen population growth will continue to decelerate.

Non-netizens' intention to use the Internet in the future

Source: CNNIC Statistical Report on Internet Development in China 2014.12
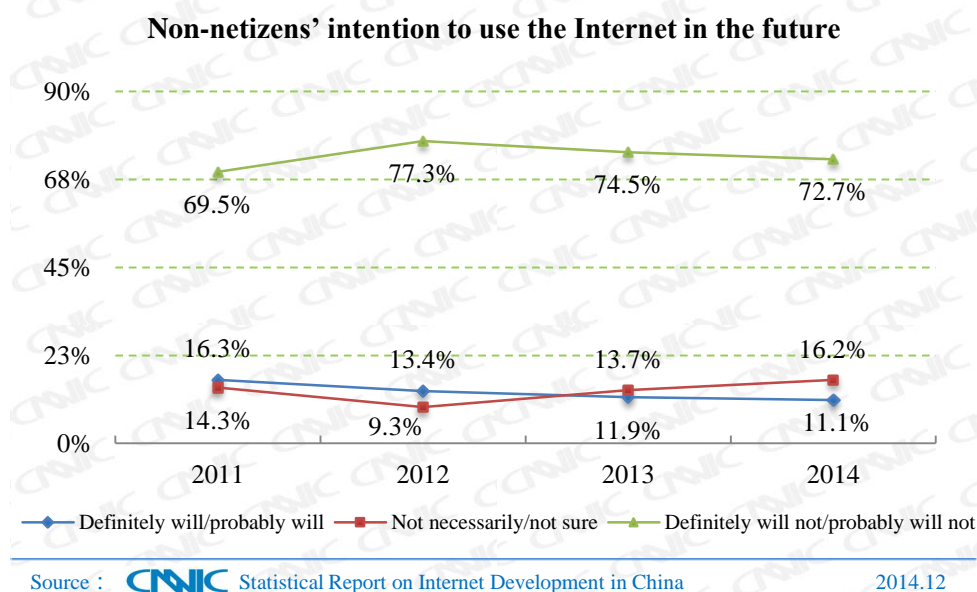
Figure 14 Non-netizens' intention to use the Internet in the future

By comparing potential netizens (who definitely will/probably will use the Internet in the future) with non-potential netizens (who definitely will not/probably will not/ will not necessarily/are uncertain to use the Internet in the future), it is found that 59.2%, 43.3% and 36.7% of non-potential netizens are, respectively, people below the college education level, farmers, and seniors aged 60 or above. The findings correspond to the reasons for non-netizens not to use the Internet: lack of computer/network knowledge (64.1%); too old/too young (30.6%). And 30.2% of potential netizens say they do not surf the Internet mainly because they have no time. These

potential netizens have the necessary equipment and application skills for Internet access, so they are more likely to convert into real netizenssome day in the future.

(Ⅱ) Size of Mobile Internet Users

As of the end of 2014 the size of mobile Internet users in China had reached 557 million, an annual increase of 56.72 million. Mobile Internet users accounted for 85.8% of the total netizen population, while this percentage was 81.0% in 2013.

Size of mobile Internet users in China and its proportion in Internet users

Source：CNNIC Statistical Report on Internet Development in China   2014.12
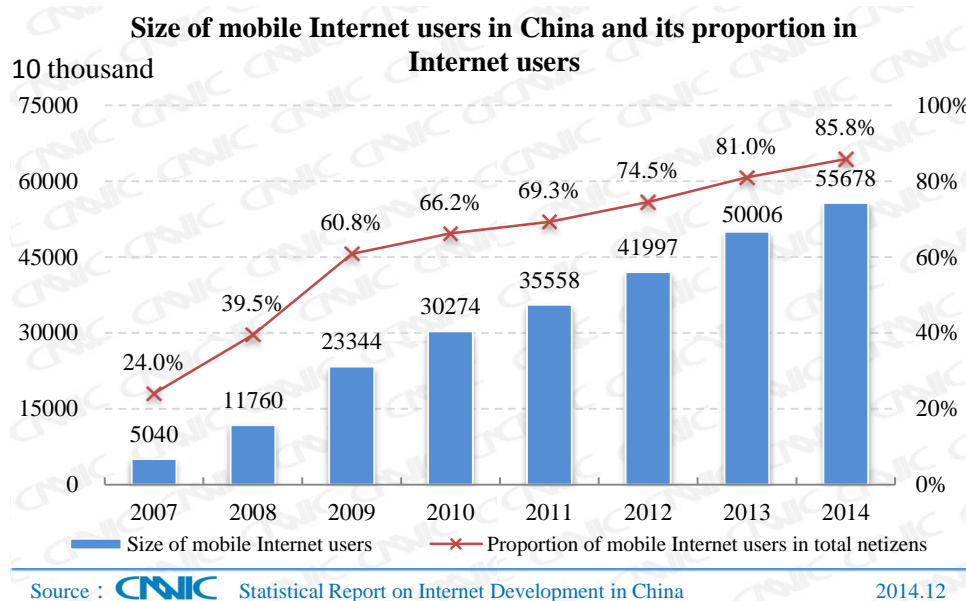
Figure 15 Size of mobile Internet users in China and its proportion in Internet users

The population of mobile Internet users saw a moderate increase of 5.4% in the first half of 2014 and 5.6% in the second half, entering into a period of steady growth. This was mainly because of two reasons. First, mobile phone penetration rate had almost reached the peak. According to the *Main Performance Indicators of the Telecommunications Industry* released by MIIT, from the beginning to the end of 2014 China's mobile phone penetration rate increased from 90.8% to 94.5%, leaving less and less space for further growth. Second, telecom operators were included into the scope of "replacing business tax with value-added tax" as of June 1 of the year, which led to major changes in the terminal subsidy policy of "paying phone bills to get free phones", a policy that was once a big incentive driving mobile netizen population growth. At the same time, the SASAC required operators to cut 20% of the marketing costs in three years. The changes constituted a severe impact on the promotion channels of smart mobile phones and reduced the impetus of mobile netizen population growth.

(III) Provinces' Scale of Internet Users

In December 2014, of all the 31 provinces, municipalities directly under the Central Government and autonomous regions in the Chinese Mainland, 25 had more than ten million Internet users, and 12 had an Internet penetration rate higher than the national average level. Eight out of the ten provinces in East China, one out of the six provinces in Central China, two out of the twelve provinces in West China, and one out of the three provinces in Northeast China had an

Internet penetration rate above the national average. So, regional differences in this regard were obvious.

Table 1Netizen population and Internet penetration rate in different provinces (municipalities directly under the central government and autonomous regions) of Mainland China in the period of 2013-2014

Province	Netizen population (10,000 persons)	Penetration rate	Netizen population growth rate	Ranking of penetration rate
Beijing	1593	75.3%	2.4%	1
Shanghai	1716	71.1%	2.0%	2
Guangdong	7286	68.5%	4.2%	3
Fujian	2471	65.5%	2.9%	4
Zhejiang	3458	62.9%	3.9%	5
Tianjin	904	61.4%	4.4%	6
Liaoning	2580	58.8%	5.2%	7
Jiangsu	4274	53.8%	4.4%	8
Shanxi	1838	50.6%	4.7%	9
Xinjiang	1139	50.3%	4.2%	10
Qinghai	289	50.0%	5.5%	11
Hebei	3603	49.1%	6.3%	12
Shandong	4634	47.6%	7.0%	13
Hainan	421	47.0%	2.3%	14
Shaanxi	1745	46.4%	3.3%	15
Inner Mongolia	1142	45.7%	4.5%	16
Chongqing	1357	45.7%	4.9%	17
Hubei	2625	45.3%	5.4%	18
Jilin	1243	45.2%	6.9%	19
Ningxia	295	45.1%	4.2%	20
Heilongjiang	1599	41.7%	5.6%	21
Tibet	123	39.4%	6.9%	22
Guangxi	1848	39.2%	4.2%	23
Hunan	2579	38.6%	7.0%	24
Sichuan	3022	37.3%	6.6%	25
Henan	3474	36.9%	5.8%	26
Anhui	2225	36.9%	3.5%	27
Gansu	951	36.8%	6.4%	28

Province	Netizen population (10,000 persons)	Penetration rate	Netizen population growth rate	Ranking of penetration rate
Yunnan	1643	35.1%	7.5%	29
Guizhou	1222	34.9%	6.7%	30
Jiangxi	1543	34.1%	5.1%	31
The whole country	64875	47.9%	5.0%	--

As shown by variation coefficients[5], China's inter-provincial differences in Internet penetration were on steady decline: 0.24 in December 2014, a drop of 0.01 from the end of 2013. Although China has made remarkable progress in the promotion of Internet since it was introduced from abroad, inter-provincial differences still exist in Internet penetration rate, so Internet development will be a long-term task in backward provinces.
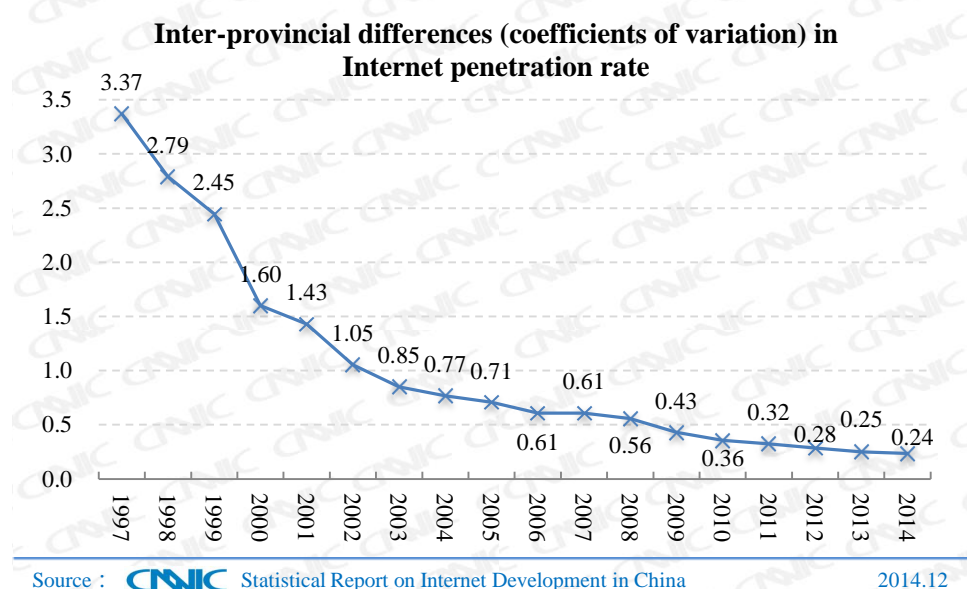
Figure 16 Inter-provincial differences (coefficients of variation) in Internet penetration rate

(IV) Size of Rural Internet Users

As of the end of 2014, rural netizens accounted for 27.5% of the total, reaching 178 million, up by 1.88 million annually. Urban netizens increased by 29.29 million from the end of 2013, much more significantly than rural netizens. Under the background of reduced annual growth rate of the entire netizen population and accelerated pace of urbanization, it is more difficult for rural non-netizens to convert into netizens. Policy and market incentives are needed to promote the growth of rural netizen population.

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[5]Coefficient of variation is the ratio of a group of data's standard deviation to its mean value, reflecting the degree of variation of the group of data. The bigger and coefficient, the larger the inter-provincial difference in Internet penetration rate.

Urban-rural structure of Internet users
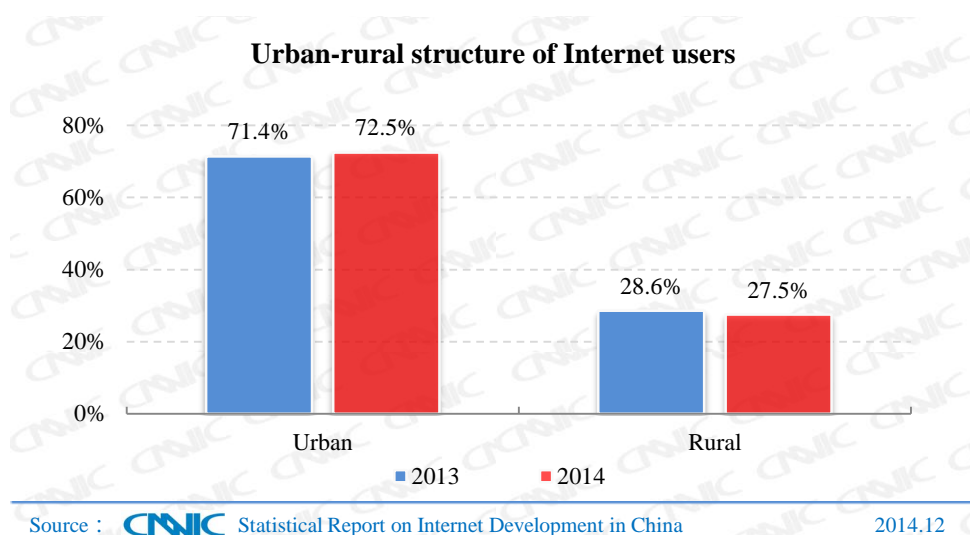
Figure 17 Urban-rural structure of Internet users

Despite continuous increase in rural netizen population and Internet penetration rate, the urban-rural gap was still widening: 34 percentage points in 2014. This was partly because the urbanization process overshadowed some of the achievements in rural Internet development, but the root cause was unbalanced regional economic development. How to narrow such a digital gap needs further research and exploration.

Internet penetration rates in rural and urban areas
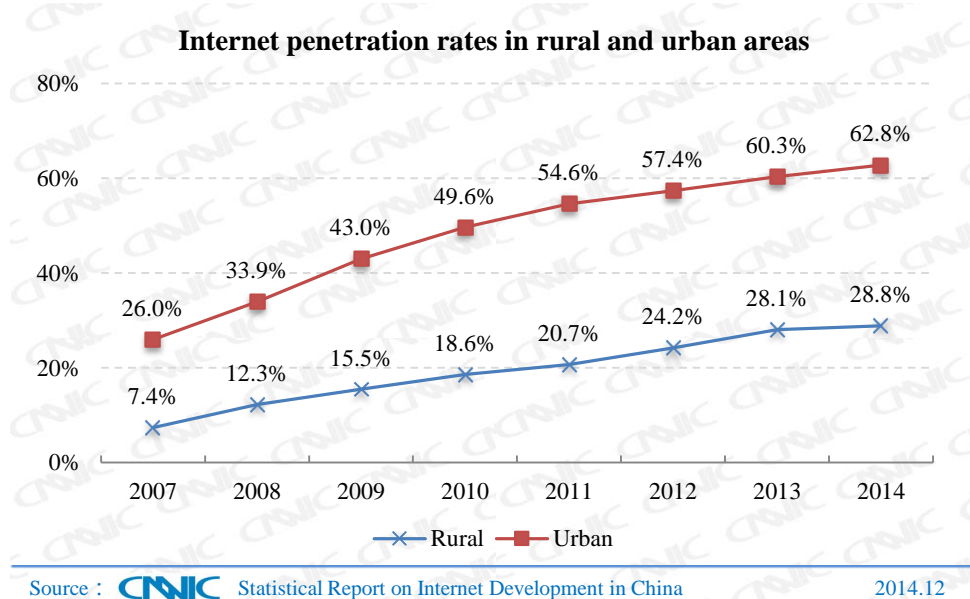
Figure 18 Internet penetration rates in rural and urban areas

Ⅱ. Structure of Internet Users

(I) Gender Structure

In December 2014, the male/female ratio of Internet users was 56.4:43.6, which was stable in the latest years.

Gender structure of Chinese Internet users

Source：CNNIC Statistical Report on Internet Development in China   2014.12
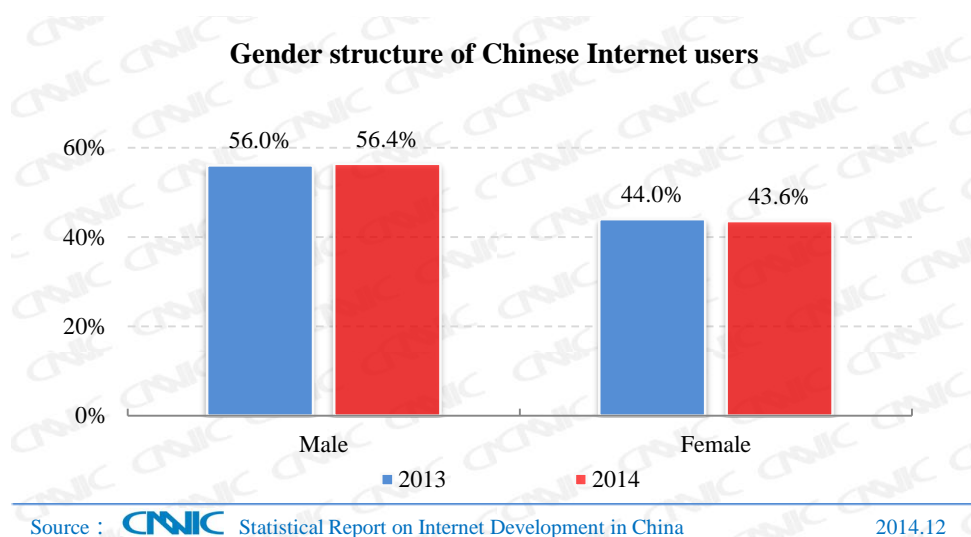
Figure 19 Gender structure of Chinese Internet users

(II) Age Structure

In December 2014, an overwhelming majority (78.1%) of Chinese netizens were aged 10-39. The age group of 20-29, in particular, accounted for 31.5% of the national total. Compared with the statistics at the end of 2013, the proportion of netizens aged 40 or above increased slightly and that of youngsters aged 19 or below declined slightly. This is mainly due to two reasons. First, with the improvement of network access environment and media promotion, the Internet is more accessible for people of an older age. The second reason is population aging. The two reasons interwoven together led to the above changes in the age structure of netizens.

Age structure of Chinese Internet users

Source：CNNIC Statistical Report on Internet Development in China   2014.12
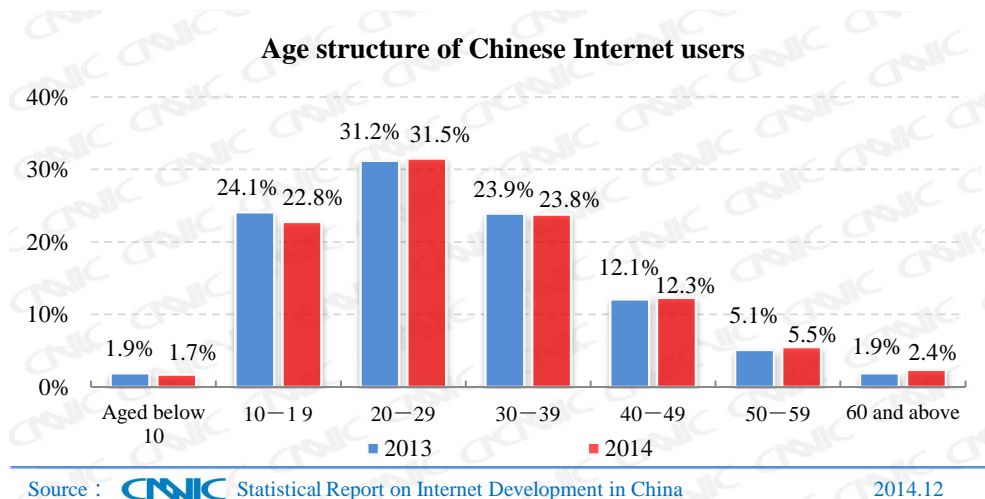
Figure 20 Age structure of Chinese Internet users

(III) Education Structure

In December 2014, most netizens of China were those with a secondary education level: junior high school students constituted 36.8% of the Chinese netizen population, and this percentage was 30.6% for senior high school/vocational school/technical school students. The

education structure of netizens was similar to that of the end of 2013.

Education structure of Chinese Internet users

Source： CNNIC Statistical Report on Internet Development in China   2014.12
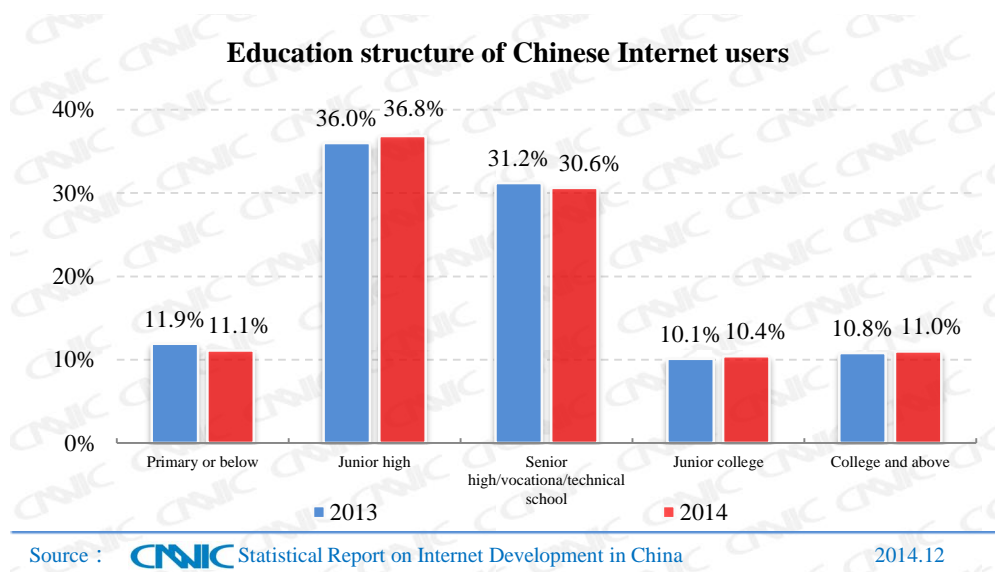
Figure 21 Education structure of Chinese Internet users

(IV) Occupational Structure

In December of the year, 23.8% of Chinese netizens were middle school students; 22.3% were self-employed persons / freelancers; and 17.0% were enterprise managers /ordinary staff members.

Occupational structure of Internet users
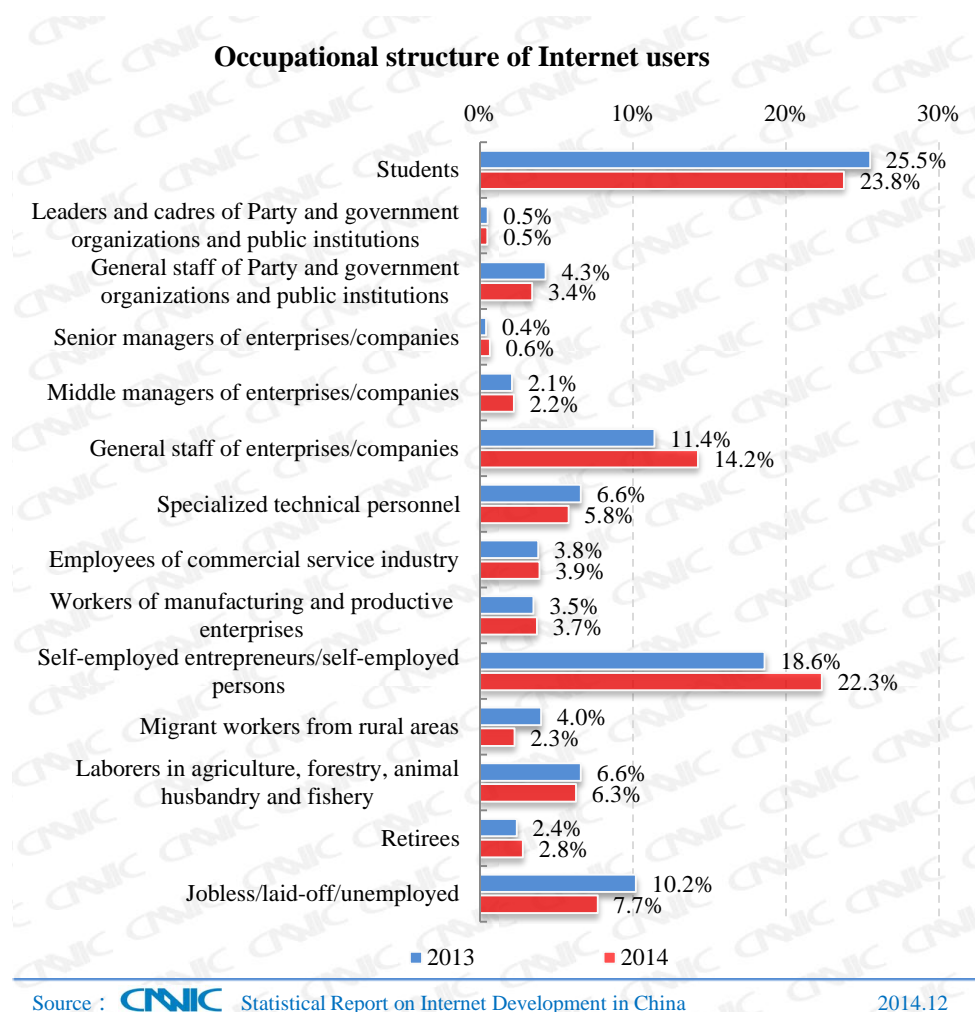
Figure 22 Occupational structure of Internet users

(V) Income Structure

In December 2014 the proportions of netizens with a monthly income[6] of 2001-3000 and 3001-5000 were respectively 18.8% and 20.2%, the highest among all income groups. Compared with the statistics of 2013, the income level of netizens was improved to some extent. This was also due to two reasons. First, the growth rate of urban netizen population was higher than that of rural netizen population; and second, rapid social and economic development led to continued increase in people's income.

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[6]Specifically, the income of students includes living allowances provided by families, salary earned from work-study programs, scholarships and others. The income of peasants includes the living allowances provided by children, income of agricultural production, and government subsidy. The income of those who are jobless, laid off or unemployed includes the living allowances provided by children, government relief and subsidy, pension, and subsistence allowances. The income of retirees includes the living allowances provided by children and pension.

Structure of monthly income of Chinese Internet users
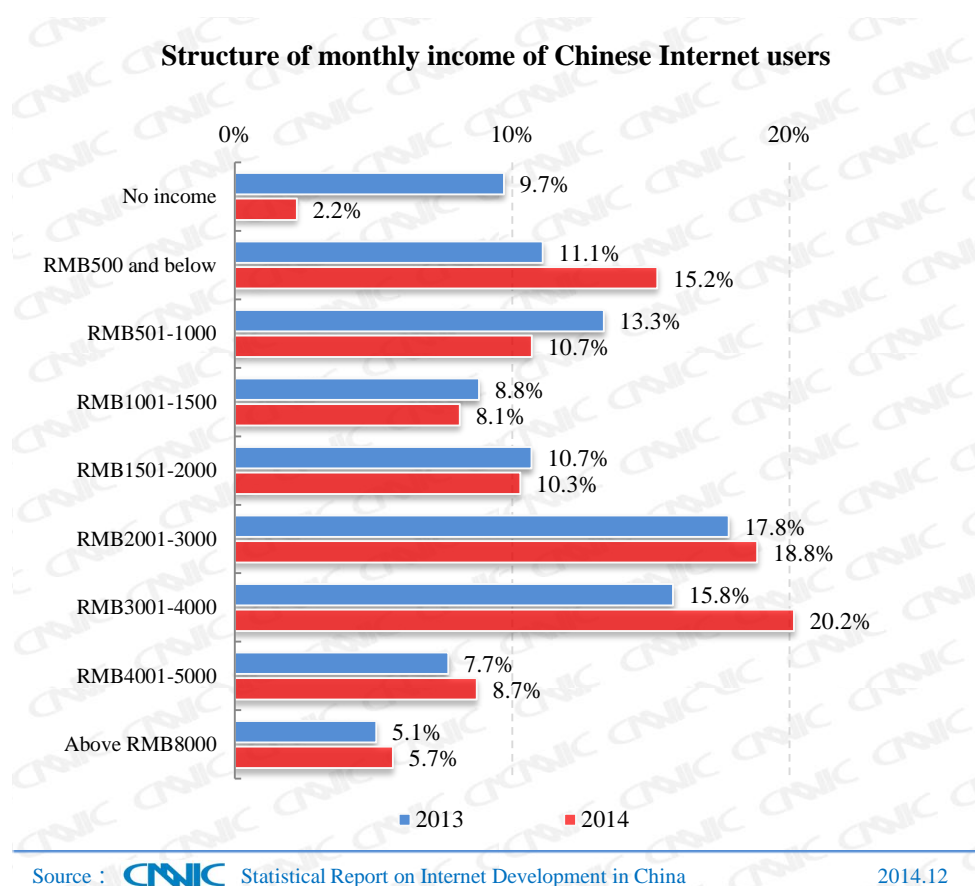
Figure 23 Structure of monthly income of Chinese Internet users

The 35th Statistical Report on Internet Development in China

Chapter Ⅵ Personal Internet Applications

Ⅰ. Online Duration

In 2014 the online duration of China's Internet users per capita per week was 26.1 hours, an increase of 1.1 hours over the previous year. The increase in online duration continued with the deepening and broadening of Internet use by Chinese netizens.

Weekly average online duration of Internet users
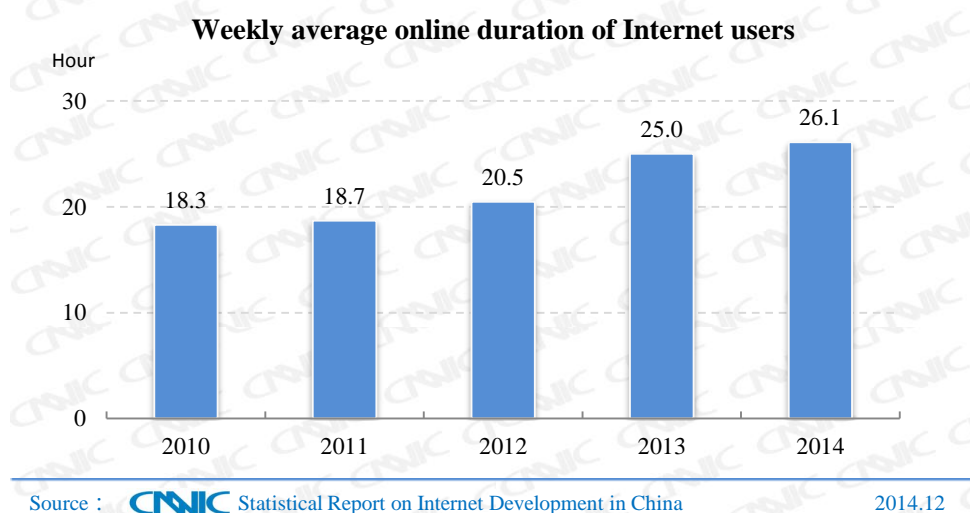
Figure 24 Weekly average online duration of Internet users

Ⅱ. Netizens' Attitude toward the Internet

(Ⅰ) Online Trust

Trustworthiness is one of the most important comprehensive strengths of a society. Online trust is not only an integral part of social trust but also an important social foundation for the development of higher-level network applications such as e-commerce and Internet banking.There was 54.5% of netizens who trusted the Internet, a significant increase over 35.1% in 2007.

Percentage of netizens who trusted the Internet

Source：CNNIC Statistical Report on Internet Development in China   2014.12
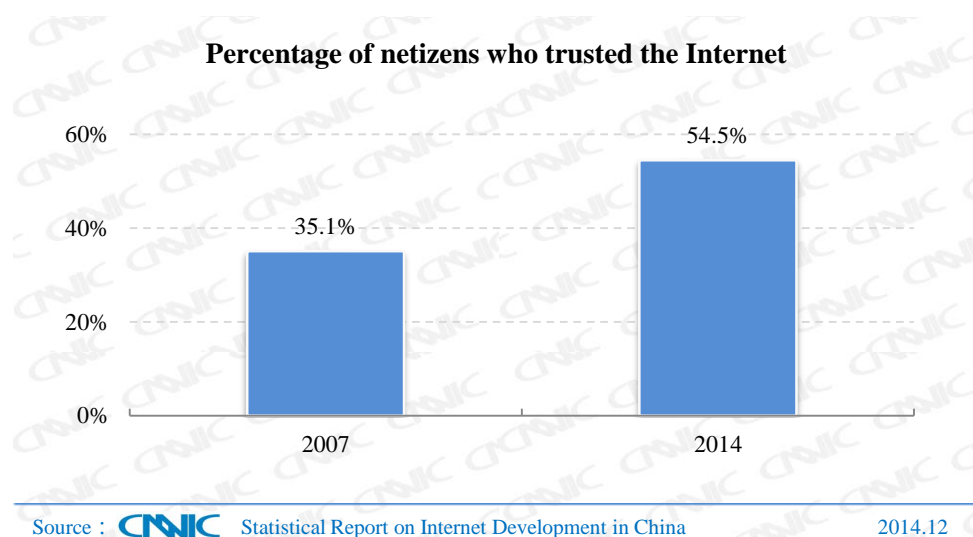
Figure 25 Percentage of netizens who trusted the Internet

With rapid progress in urbanization, the Chinese society is transforming from "a society of acquaintances" into "a society of strangers" where the traditional foundation for social trust is shaken and a sound modern social trust system has not been formed yet, so the degree of social trust has been reduced to some extent. A trust mechanism formed based on the development of cyberspace has not only improved people's mutual trust in the virtual space but also produced a positive influence on people's interaction and transaction in the real society, thus making up to a certain degree for the lack of mutual trust in real society. Although network security incidents occur frequently, netizens' overall level of online trust and inclusiveness is improving.

（II）Online Sharing

The Internet has not only reduced the cost of communication and transaction, but also created a cyberspace for sharing and mutual benefits as well. According to the survey, 60.0% of netizens in 2014 took a positive attitude toward online sharing, among whom those taking a "very positive" attitude contributed 13.0% and those taking a "relatively positive" attitude accounted for 47.0%. Online sharing of information and other resources has reduced transaction cost and more importantly, has created new value.

Netizens' willingness to share online

Hard to say, 6.6%

Very willing to share, 13.0%

Very unwilling to share, 6.4%

Not quite willing to share, 27.0%

Willing to share, 47.0%

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
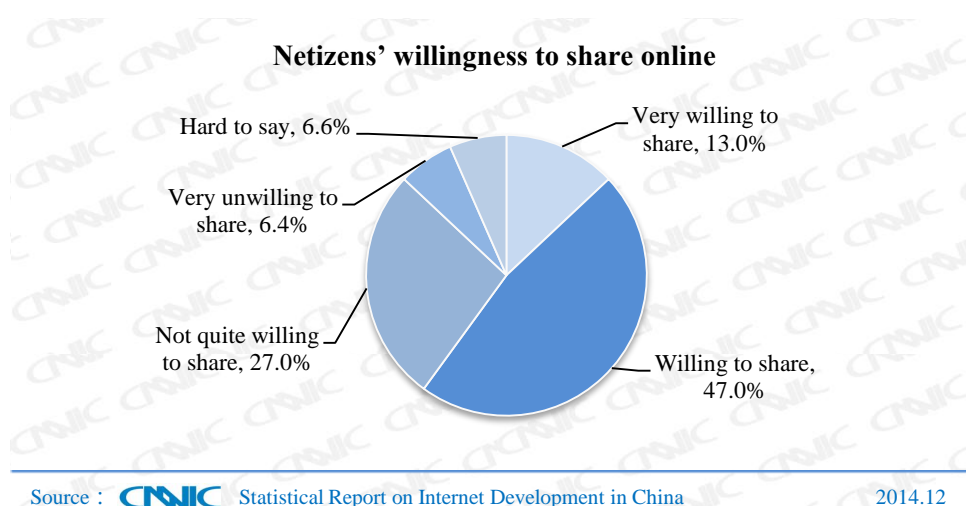
Figure 26 Netizens' willingness to share online

Compared with digital immigrants, digital natives are more willing to share online. According to the survey, compared with other age groups, young people aged 10-29 are more fond of online sharing. In particular, as many as 65.9% adolescents aged 10-19 say they are fond of or extremely fond of online sharing. When this age group grows older into the backbone of society, the role of Internet will be much more significant in mutually beneficial cooperation, sharing and innovation.

Proportions of different age groups of netizens who like online sharing

57.5%	65.9%	61.4%	56.3%	56.1%	56.6%	51.8%
Aged below 10	10-1 9	20-29	30-39	40-49	50-59	Aged 60 and above

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
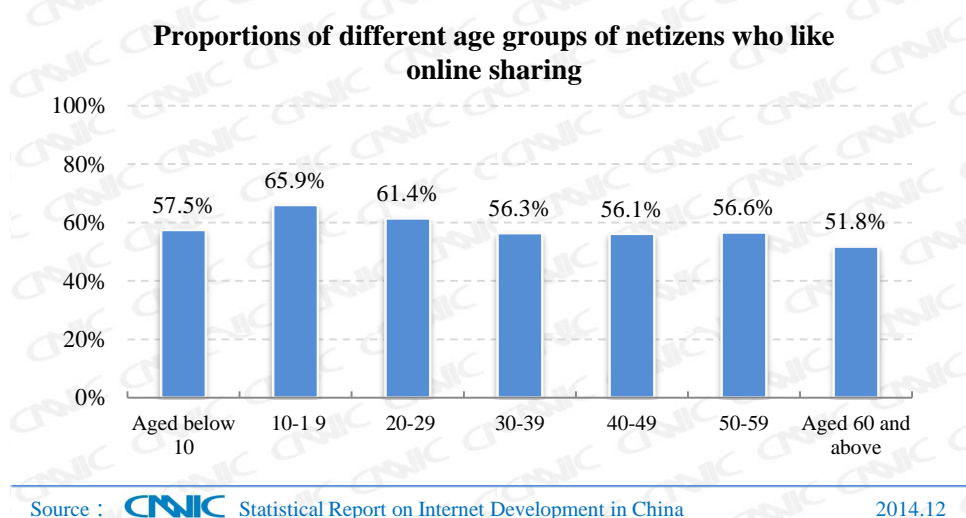
Figure 27 Proportions of different age groups of netizens who like online sharing

(Ⅲ) Online Comments

"Decentralization" is one of the basic attributes of cyberspace, a "new public arena" where all netizens may express their opinions on an equal basis. As revealed by the survey, the proportion of netizens who like to post comments on the Internet is 43.8%, to which 6.7% is contributed by those who are very fond of posting online comments and 37.1% by those who are relatively fond of doing so. It is obvious that cyberspace has become an important place for people to express their opinions.

As a new public arena, cyberspace has become a "relief valve" for mitigating social conflicts and therefore, promoting social harmony. In recent years the Chinese government has been calling for netizens to participate in and discuss state affairs by posting comments and suggestions online. So, the Internet has become an important means to promote socialist democracy.

Netizens' willingness to post comments online

Hard to say, 6.0%

Very willing to post comments online, 6.7%

Very willing to post comments online, 7.8%

Willing, 37.1%

Not quite willing, 42.4%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
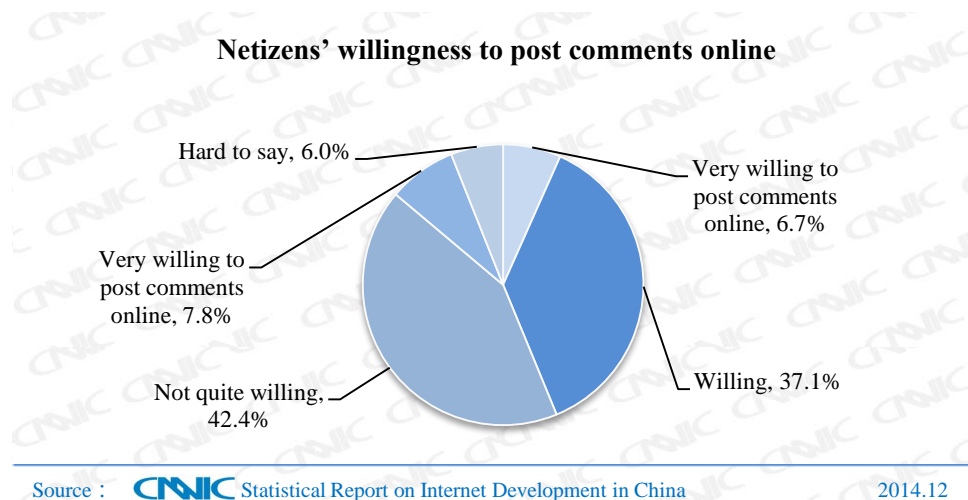
Figure 28 Netizens' willingness to post comments online

As many as 50.2% of youngsters aged 10-19 are enthusiastic about posting online comments, the highest percentage in all age groups, followed by 46.6% of the age group of 20-29. Young people of the above two age groups are in a period of ideological development and maturation, being active in voicing opinions. The Internet provides a space for them to freely express themselves and helps to cultivate their independent personality. At the same time, it should also be noted that cyberspace is a mixture of virtuality and reality, where polarization of speech may produce some negative effects on young people's social cognition.

Proportions of different age groups of netizens who like to post comments online

Aged below 10	10-19	20-29	30-39	40-49	50-59	Aged 60 and above
28.1%	50.2%	46.6%	40.9%	36.8%	37.4%	35.4%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
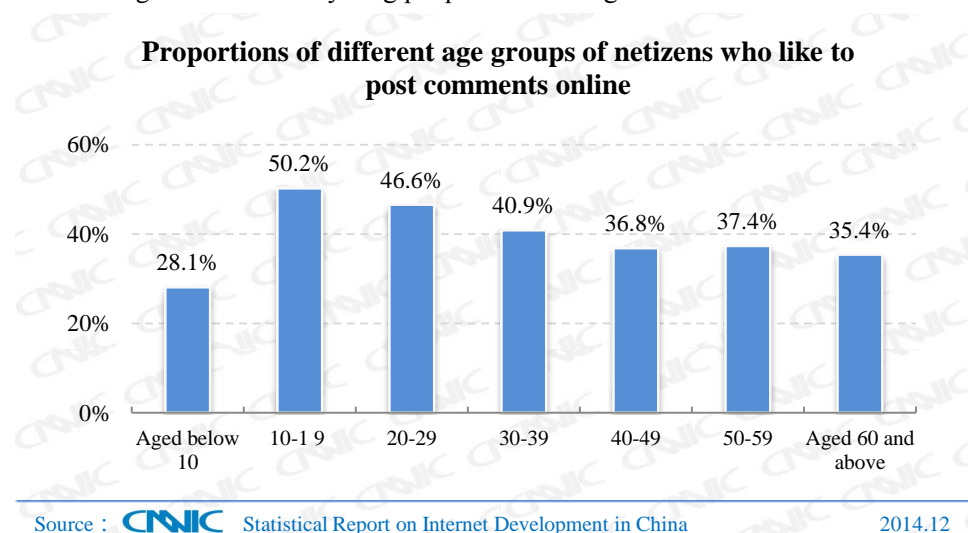
Figure 29 Proportions of different age groups of netizens who like to post comments online

(Ⅳ) Network Reliance

With the rapid development of Internet applications, people are more and more reliant on the

Internet in their daily work, life and learning. According to the survey, 53.1% of netizens think they are reliant on the Internet, of whom those who think are very reliant constitute 12.5% and those who think are relatively reliant account for 40.6%.

Netizens' reliance on the Internet

Source： 〈NNIC Statistical Report on Internet Development in China   2014.12
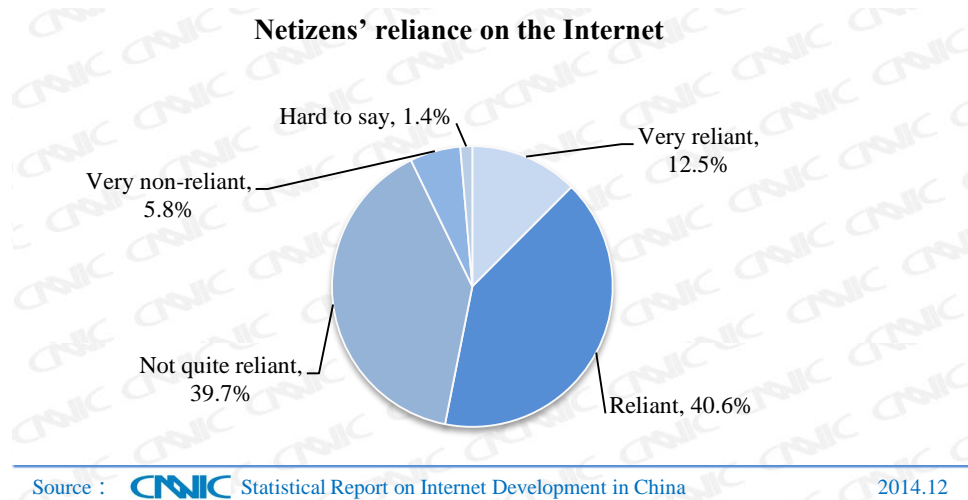
Figure 30 Netizens' reliance on the Internet

The higher the education level, the more reliant on the Internet netizens are. 44.9% of netizens with a primary education level or below are reliant or very reliant on the Internet, but this percentage is up to 63.9% for netizens with a college degree or above. This indicates that the Internet has become a "basic element" in the work, life and entertainment of social elites and the white-collar class.

Proportions of Internet-reliant netizens with different education levels

Source： 〈NNIC Statistical Report on Internet Development in China   2014.12
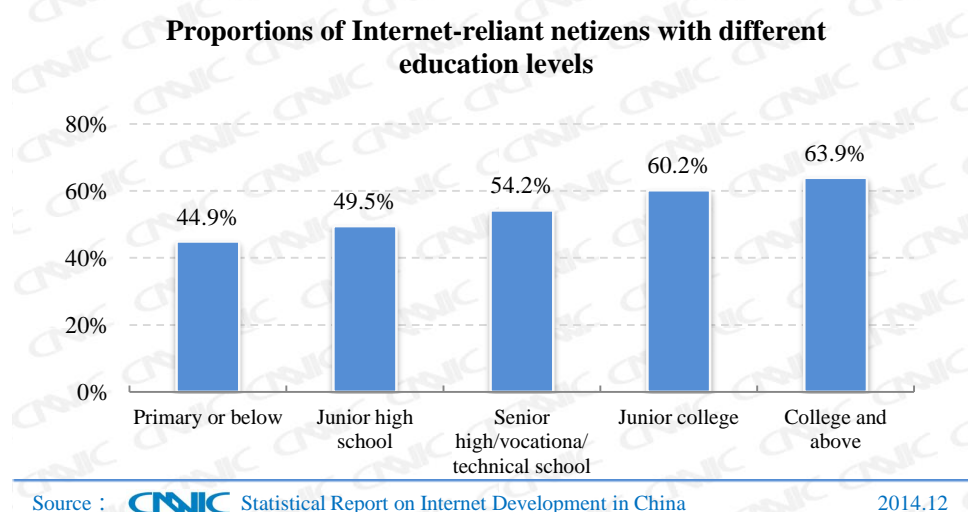
Figure 31 Proportions of Internet-reliant netizens with different education levels

With the improvement of Internet infrastructure in rural areas, the Internet is playing a more and more significant role in rural netizens' production, life and entertainment. 47.9% of rural netizens say they are reliant or heavily reliant on it. But this percentage is 7.2 percentage points lower than that of urban netizens: 55.1%. This fact shows that the Internet has not turned from a pure entertainment tool into a platform to serve the work and life of rural citizens. In the next few years, continued efforts should be made to narrow the rural-urban digital gap, and more

importance should be attached to developing Internet applications in rural areas.

Proportions of Internet-reliant netizens in urban and rural areas

Source：**CNNIC** Statistical Report on Internet Development in China   2014.12
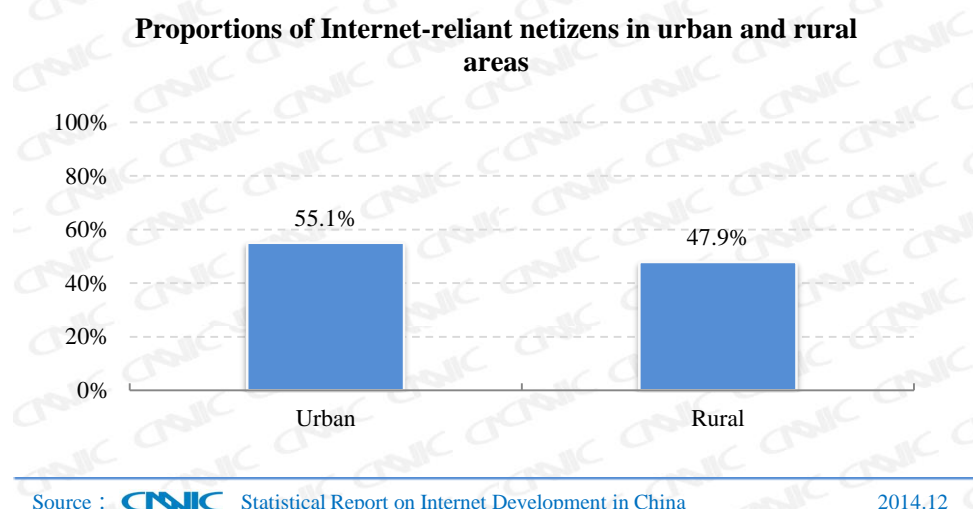
Figure 32 Proportions of Internet-reliant netizens in urban and rural areas

III. Promotion of Personal Internet Applications

Driven by the development of mobile Internet, personal Internet applications were on the rise in 2014. As netizens' first major Internet application, instant messaging continued its upward momentum based on an already-high utilization ratio.Microblog, email and other communication-related applications continued to decline. With regard to blogging, its communication functions weakened, its media functions were more prominent and its utilization ratio rebounded. E-commerce related applications maintained a rapid development pace, and mobile travel booking was a hot spot.

The status of instant messaging as the foundation was further consolidated

As the biggest Internet application, instant messaging was used by more and more netizens, enjoying a utilization ratio of 90.6%. The usage of mobile instant messaging maintained a steady growth in 2014. By the end of 2014, its utilization ratio was 91.2%, up by 5.1 percentage points over the end of 2013. Mobile instant messaging not only can be used at any time at almost any place but also possesses social communication and user positioning functions. Therefore, it has evolved from a mere communication tool into a user interface for payment, game-playing, O2O, etc. With an increasingly huge user scale, mobile instant messaging will be of great commercial value for other value-added services.

Mobile travel booking entered into a period of explosive growth

Mobile commercial applications saw explosive growth in 2014, with users of mobile shopping, mobile payment and mobile banking services increasing by 63.5%, 73.2% and 69.2% respectively, far exceeding the growth rate of users of other mobile applications. Mobile travel booking, an application that had not been very hot in the previous years, jumped by 194.6% in 2014, the fastest growth among all mobile commercial applications. With the formation of a national leisure system, mobile travel booking has entered a new development stage.

Internet wealth management was less hot but stable in scale

As of the end of 2014, Internet wealth management products had been purchased by 78.49

million netizens, up 14.65 million over the end of June 2014. The utilization ratio of Internet wealth management was 12.1%, increasing by 2 percentage points compared with past six month. Due to declining yields plus a rebound of the Chinese stock market that attracted a considerable amount of investment, the user population of Internet wealth management turned from explosive growth into moderate growth, and the speed of new-product launch also showed a decline.

Table 7 Utilization ratio of Internet applications by Chinese netizens in 2013 and 2014

| Applications | 2014 | | 2013 | | |
	Number of users (10,000)	Utilization ratio	Number of users (10,000)	Utilization ratio	Annual growth rate
Instant messaging	58776	90.6%	53215	86.2%	10.4%
Search engine	52223	80.5%	48966	79.3%	6.7%
Online news	51894	80.0%	49132	79.6%	5.6%
Online music	47807	73.7%	45312	73.4%	5.5%
Online video	43298	66.7%	42820	69.3%	1.1%
Online games	36585	56.4%	33803	54.7%	8.2%
Online shopping	36142	55.7%	30189	48.9%	19.7%
Online payment	30431	46.9%	26020	42.1%	17.0%
Online literature	29385	45.3%	27441	44.4%	7.1%
Online banking	28214	43.5%	25006	40.5%	12.8%
E-mail	25178	38.8%	25921	42.0%	-2.9%
Microblog	24884	38.4%	28078	45.5%	-11.4%
Travel booking	22173	34.2%	18077	29.3%	22.7%
Group purchase	17267	26.6%	14067	22.8%	22.7%
Forum/bbs	12908	19.9%	12046	19.5%	7.2%
Blog	10896	16.8%	8770	14.2%	24.2%
Internet wealth management	7849	12.1%	-	-	-

Table 8 Utilization ratio of mobile Internet applications by Chinese netizens in 2013 and 2014

| Applications | 2014 | | 2013 | | |
	Number of users (10,000)	Utilization ratio	Number of users (10,000)	Utilization ratio	Annual growth rate
Mobile instant messaging	50762	91.2%	43079	86.1%	17.8%
Mobile search	42914	77.1%	36503	73.0%	17.6%
Mobile Netnews	41539	74.6%	36651	73.3%	13.3%

	2014		2013		
Mobile online music	36642	65.8%	29104	58.2%	25.9%
Mobile online video	31280	56.2%	24669	49.3%	26.8%
Mobile online game	24823	44.6%	21535	43.1%	15.3%
Mobile online shopping	23609	42.4%	14440	28.9%	63.5%
Mobile online literature	22626	40.6%	20228	40.5%	11.9%
Mobile online payment	21739	39.0%	12548	25.1%	73.2%
Mobile online banking	19813	35.6%	11713	23.4%	69.2%
Mobile Microblog	17083	30.7%	19645	39.3%	-13.0%
Mobile mail	14040	25.2%	12714	25.4%	10.4%
Mobile travel booking	13422	24.1%	4557	9.1%	194.6%
Mobile group purchase	11872	21.3%	8146	16.3%	45.7%
Mobile forum /bbs	7571	13.6%	5535	11.1%	36.8%

(Ⅰ) Development of Information Acquisition Applications

1.1 Search Engine

In December 2014 China had 522 million search engine users, representing an annual increase of 32.57 million or 6.7%, with a utilization ratio of 80.5%; it also had 429 million mobile search users, a yearly increment of 64.11 million or 17.6%, with a utilization ratio of 77.1%.

Search engines are the second most frequently used Internet application following instant messaging, and mobile search is also the second biggest mobile application in terms of utilization ratio. The size of users of search engines as a basic application continued to grow with the expansion of netizen population. At the same time, diversification of search engine products and services attracted more and more netizens into using Internet search.

In 2014 the development of search engine applications was characterized by further diversification of search services and products, and an obvious connection of online search with offline consumption. The presentation form of search services has transformed from mere test links into a variety of combinations of texts, tables, images and applications, and from mere key word search into natural language search, image search and entity search. In addition, through optimization of algorithms and integration of users' search records, social interaction, geographical location and other information, personalized search has become the main service of search engines. With the development of the O2O business mode, the role of search engines has

also changed significantly, no longer a mere traffic entrance. Through upgrade of old products, development of new products, procurement and deployment of other services, etc, search engines have become a comprehensive service provider for enterprises as well as a platform that provides one-stop life service for users. In addition to connecting user traffic with Internet services as usual, search engines have paid more attention to connecting online search with offline business so as to create a closed O2O loop, which is an important path for search engines to improve both traffic and income.
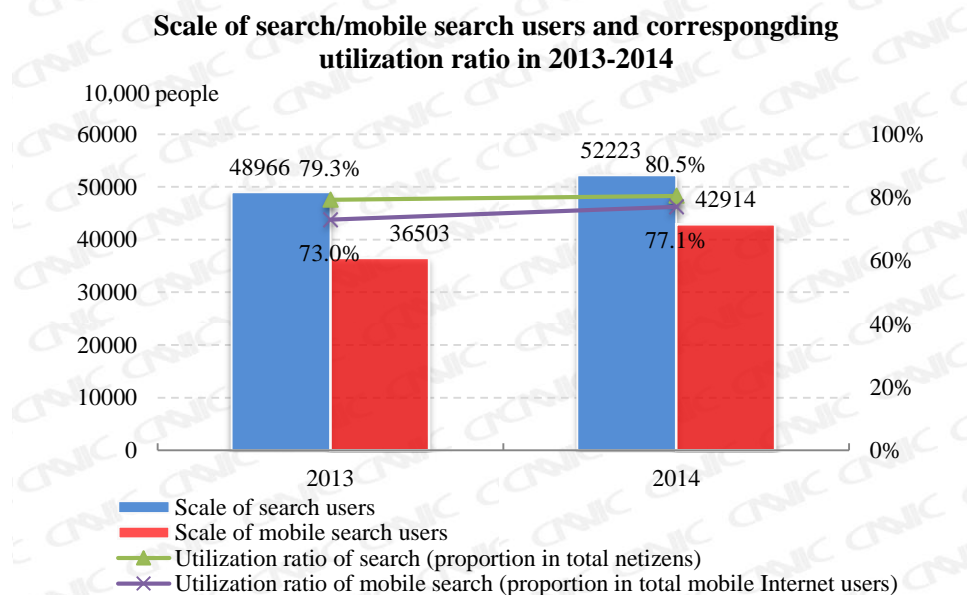
Figure 33 Scale of search/correspongding utilization ratio in 2013-2014

The Chinese search engine market pattern remained basically stable in 2014. In the second half of 2014, Baidu was used by 92.1% of search engine users. The second most frequently used search engine was Soso/Sogou, with a penetration rate of 45.8%, and the next was 360, with a penetration rate of 38.6%. The penetration rates of Shenma and Easou are much lower, both dedicated to mobile search, were 3.5% and 1.9% respectively. Similar brand performance was also seen on the mobile-end comprehensive search engine market, where Baidu as the biggest brand enjoyed a utilization ratio of 90.3%, followed by Soso/Sogou and 360 search engines, 29.7% and 21.9% respectively.

Penetration rates of different comprehensive search engine brands in 2014
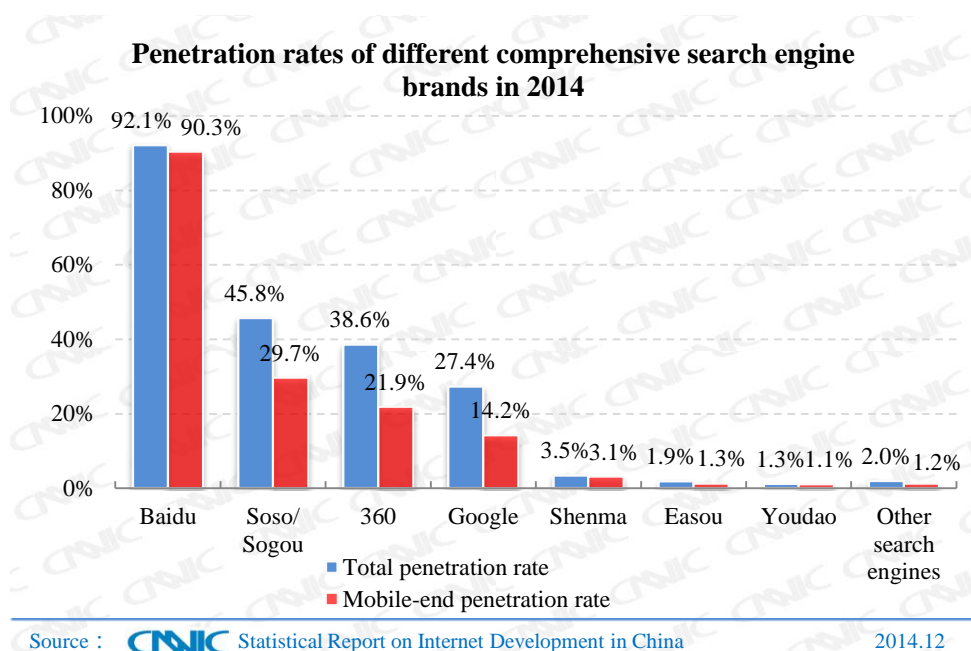
Figure 34 Penetration rates of different comprehensive search engine brands in 2014

1.2 Blogs

By the end of December 2014, the size of blog users had reached 109 million, representing an annual increase of 21.26 million, or 24.2%. The utilization ratio by Internet users was 16.8%, up by 2.6 percentage points over the end of 2013.

Starting from 2002, blogs have developed for 13 years in China. As a content release platform, blogs originated from people's needs for self-expression. Seen from the perspective of social communication, it is a social grassroots medium by which netizens are not only information recipients but also information releasers and commentators. Early blogs had the attributes of both self-media and interactive media, serving as an important platform for information exchange and self-expression. With the rise of social media and social networks, the interactive attributes of blogs have been weakening gradually. Today, most bloggers are social elites, the contents are more and more professional, and blogs have become a source of information for readers.

Scale of blog users and utilization ratio in 2013 and 2014
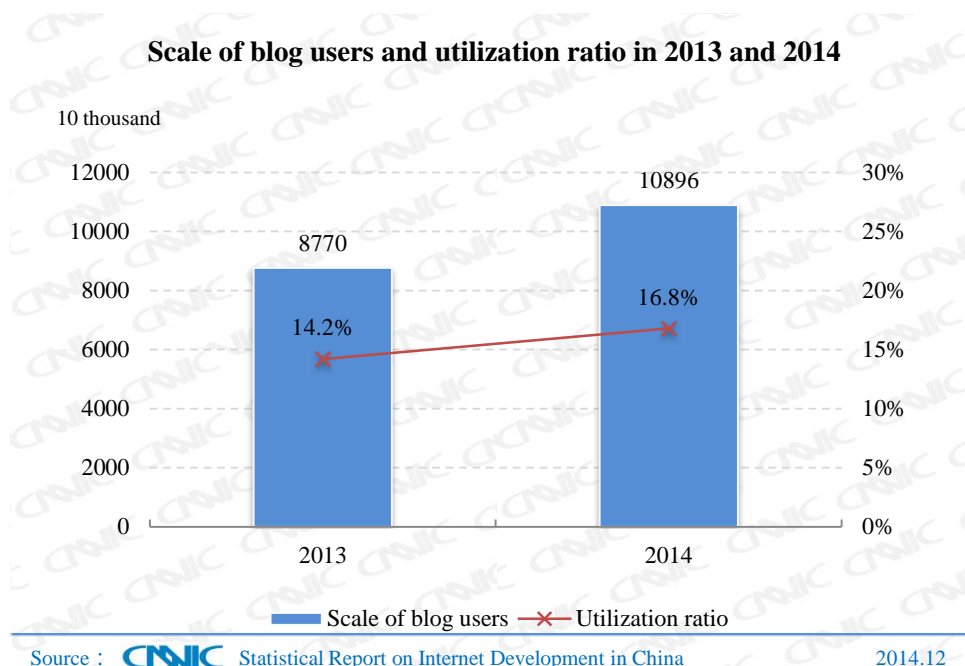
Figure 35 Scale of blog users and utilization ratio in 2013 and 2014

(Ⅱ) Development of Business Transaction Applications

2.1 Online Shopping

In December 2014 China had a total of 361 million online shoppers, an annual increment of 59.53 million or 19.7%, and the utilization ratio was 55.7%, up from the figure of 48.9% in the previous year.
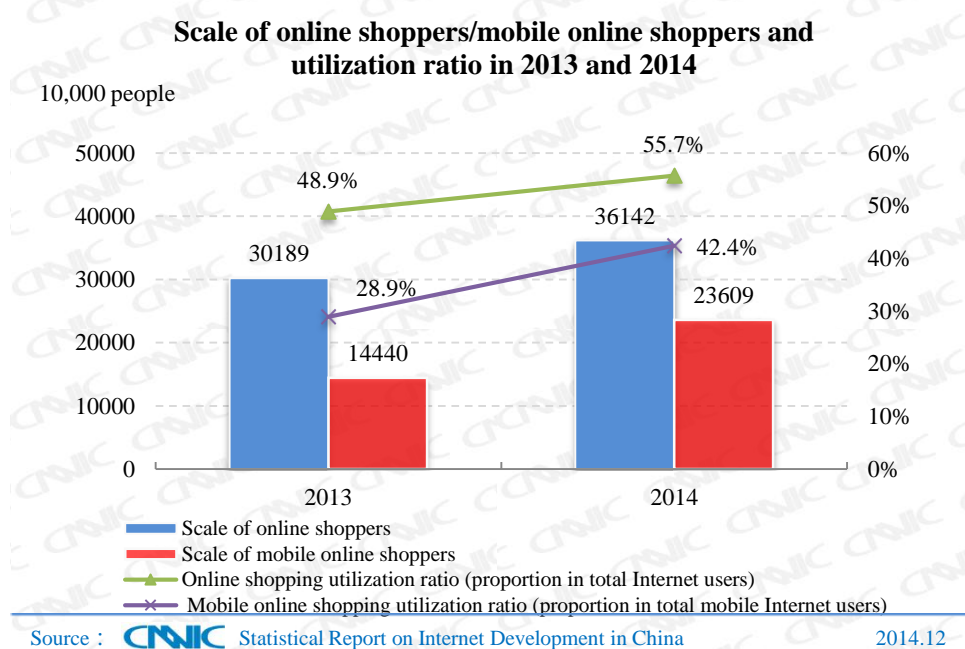
Figure 36 Scale of online shoppers/mobile online shoppers and utilization ratio in 2013 and 2014

China's online shopping market was more popular, globalized and mobile in 2014. The age span of mainstream online shoppers become wider and online shopping was being accepted by more and more people. According to CNNIC statistics, the most mainstream online shoppers (aged 20-29) increased by 23.7%; those aged 10-20 by 10.4%; and those aged 50 and above by 33.2%.

The start of cross-border B2C business represented a trend of globalization of China's online retail industry. With the increasing domestic demand for high-quality foreign products, the growing overseas demand for China-made products, and the improvement of cross-border payment experience, cross-border B2C business was put online in 2014 through major network retail platforms including Tmall, Jingdong and Suning. On November 11, the Singles Day, the Alibaba platform was used for online shopping by people in 217 countries and regions across the world, according to Alibaba statistics. Today, cross-border E-commerce in China has come into a period of globalized consumption.

Mobile online shopping stimulated consumption in a mobile environment, leading the development of Internet shopping. The 2014 mobile shopping market witnessed a rapid growth. According to CNNIC statistics, China had 236 million mobile online shoppers in 2014, representing an annual growth rate of 63.5%, 3.2 times higher than that of the entire online shopper population; and the utilization ratio of mobile shopping increased to 42.4%, 13.5 percentage points more than the figure of the previous year. As a CNNIC study shows, mobile shopping is not a substitute for PC-end online shopping; rather, it generates incremental consumption in a mobile environment, reshapes the form of offline commerce, promotes transactions, and makes online shopping more mobile.

With Jingdong, JMEI and Alibaba being listed, the pattern of online retail market became more stable. The brand penetration rates of Taobao, Tmall and Jingdong were in the Top three, 87%, 69.7% and 45.3% respectively, well ahead of competitors'. By offering special discounts, Vipshop as a late comer succeeded many online shopping platforms to rank the fourth with a brand penetration rate of 18.8%. Successfully transformed from a group purchase website, JMEI ranked the ninth place with a penetration rate of 11.7%.

Brand penetration rates of main online shopping platforms in 2014

Source： CNNIC Statistical Report on Internet Development in China   2014.12
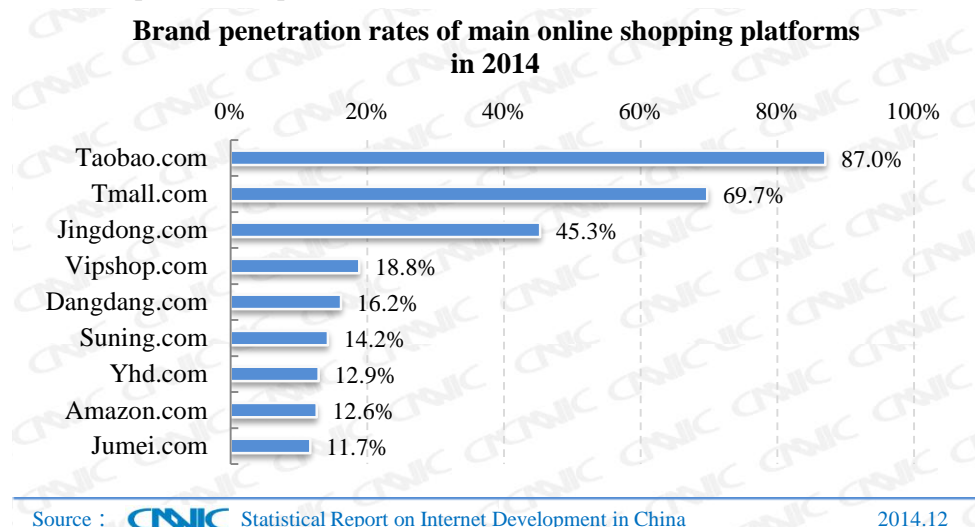
Figure 37 Brand penetration rates of main online shopping platforms in 2014

2.2 Group Purpchase

In December 2014 China had 173 million online group-purchase users, an annual increment of 32 million or 22.7%. The utilization ratio of group purchase increased from 22.8% in 2013 to 26.6% in 2014.Compared to the same period of 2013, mobile-end group purchase grew fast, leading the development of group purchase. At the end of 2014 China had 119 million mobile group-purchase users, an annual increase of 45.7%, and the utilization ratio increased from 16.3% to 21.3%.

Scale of group-purchase/mobile group-purchase users and utilization ratio in 2013 and 2014

10,000 people

Source： CNNIC Statistical Report on Internet Development in China   2014.12
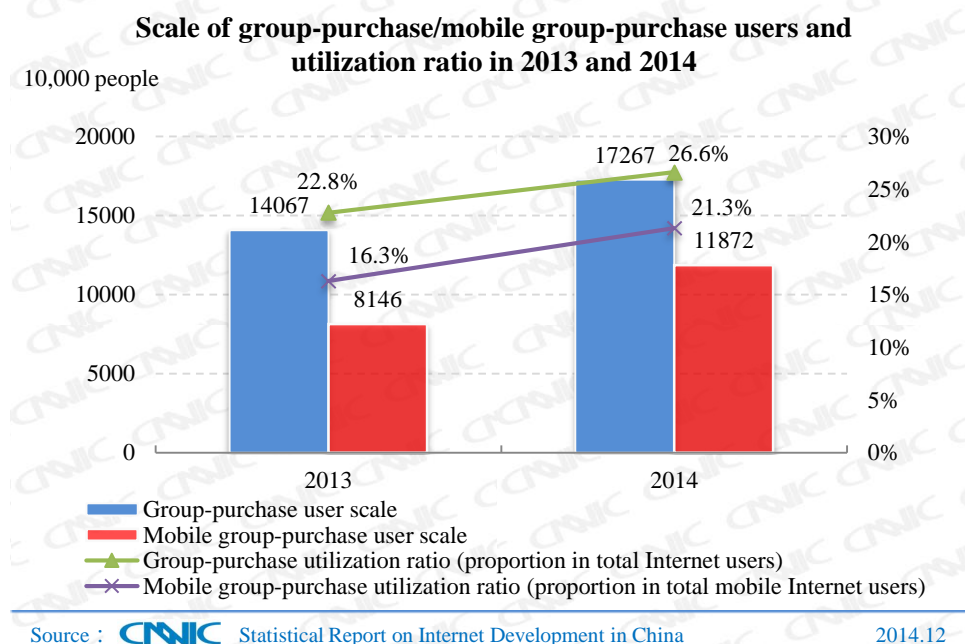
Figure 38 Scale of group-purchase/mobile group-purchase users and utilization ratio in 2013 and 2014

After four years of rapid development, group-purchase websites formed a basically stable market pattern in 2014, where Meituan was the industry's first brand with a penetration rate of 56.6%. Ranking second to fifth were Juhuasuan, Dianping, Nuomi and 58.com, with a penetration rate of 33.4%, 30.1%, 25.9%, and 17.3% respectively.

Penetration rates of main group-purchase brands in 2014
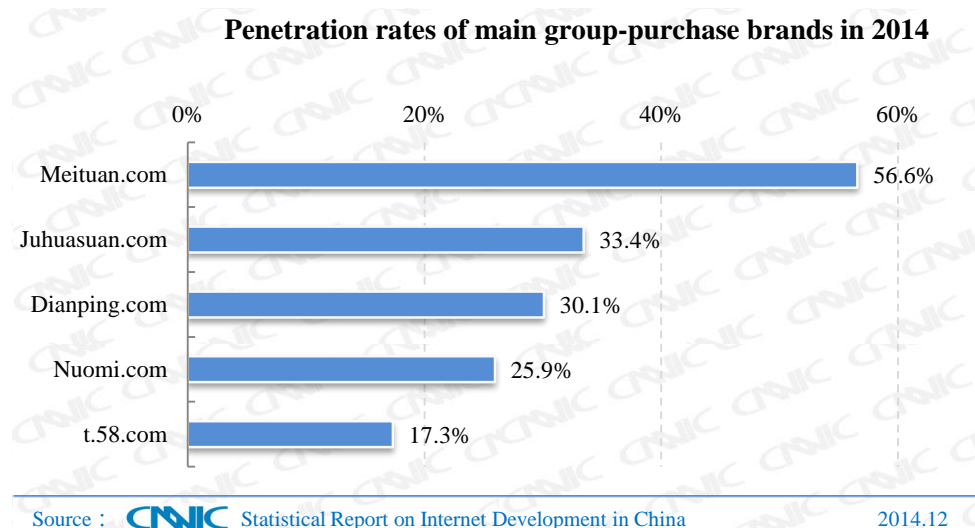
Figure 39 Penetration rates of main group-purchase brands in 2014

In the early days of development, group purchase websites only played a role of information intermediaries and attracted users with low prices. But such a mode has inherent structural defects and therefore, cannot maintain a long-term customer base. Faced with a sluggish capital market for the group purchase industry in 2012 and 2013, group-purchase websites were seeking transformation.

In the year of 2014, Meituan became an industry leader by deep development in such market segments as movie ticket, hotel and KTV booking; Nuomi, with obvious geographical and user advantages, was acquired by Baidu; and Dianping, by laterally penetrating into such fields as online booking, meal ordering and wedding services, received a huge investment from Tencent. In the year of 2015, group-purchase websites will continue their transformation toward O2O and expand the scope of local life services by combining mobile terminals with LBS.

2.3 Online Payment

In December 2014 China had 304 million online payment users, an annual increment of 44.11 million or 17.0%. The utilization ratio of online payment increased from 42.1% in 2013 to 46.9% in 2014. At the same time, China had 217 million mobile online payment users, an annual growth of 73.2%, and the utilization ratio increased from 25.1% to 39.0%.

Scale of online payment/mobile online payment users and utilization ratio in 2013 and 2014

10,000 people

Source: CNNIC Statistical Report on Internet Development in China   2014.12
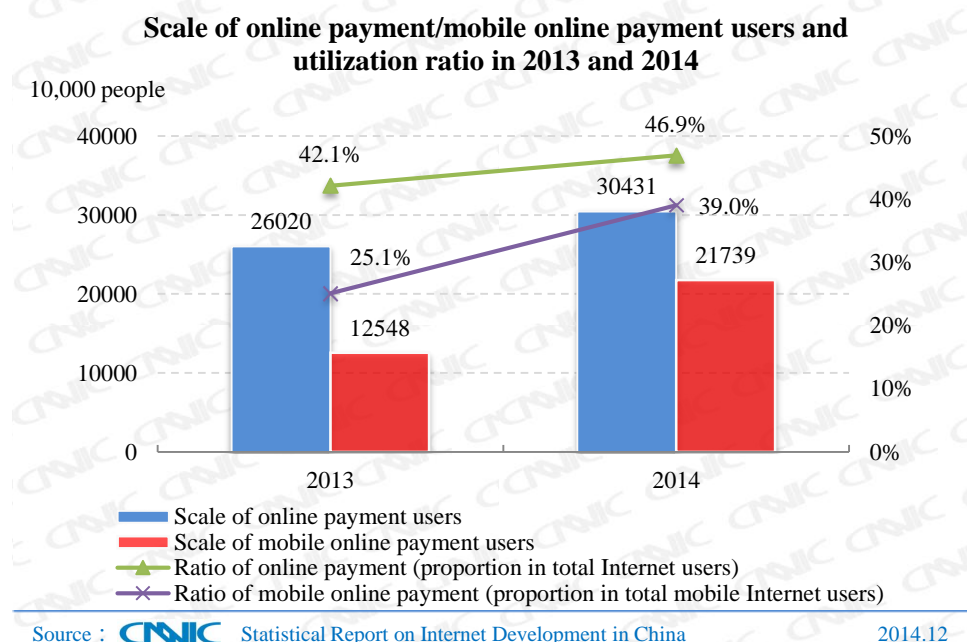
Figure 40 Scale of online payment/mobile online payment users and utilization ratio in 2013 and 2014

In 2014, the flexibility and creativeness of third-party online payment services forced traditional banks to reform and in the meantime, the supervision system of banking industry constrained third-party online payment services to ensure financial security. Operated by Internet companies like Alibaba, Baidu, Tencent, etc, the third-party payment has been able to provide multiple financial services (consumer loans, small-business loans, small-wealth management instruments), constituting a certain impact on traditional banking.

The year of 2014 witnessed a heated competition between third-party online payment and bank card payment in the mobile Internet field, and a pattern of co-existence of multiple market players has formed. During the Spring Festival period, renowned Internet companies rapidly occupied the mobile payment market by launching "red packet" and "online car-hailing" services. Immediately after that, all major banks launched mobile banking services and vigorously promoted, in conjunction with China UnionPay and telecom operators, NFC mobile payment services based on the UnionPay mobile payment platform.

In the year, the Central Bank emergently suspended the virtual credit card products and services of Alipay and Tencent. Later, "Baitiao" and "Huabei" credit consumption services were introduced as an alternative for virtual credit card products. The Central Bank aimed to ensure the security of users' funds, while third-party online payment was designed to resolve users' concerns by offering petty consumer credit. In the meantime cross-border consumption was promoted via third-party online payment based on cooperation between Alipay and Global Blue[7], which constituted a competitive pressure on the overseas tax rebate services of banks. It is predicted that the competition between third-party online payment and bank services will be more heated in 2015.

In 2014 Alipay enjoyed a brand penetration rate of 88.2% in the online payment market, in

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[7] Global Blue: the world's largest tax free shopping services system.

an absolutely leading position, followed successively by UnionPay (41.9%), WeChatPay (21.5%), TencentPay (19.6%) and Quickmoneypay (13.2%).

Brand penetration rates on the 2014 online payment market
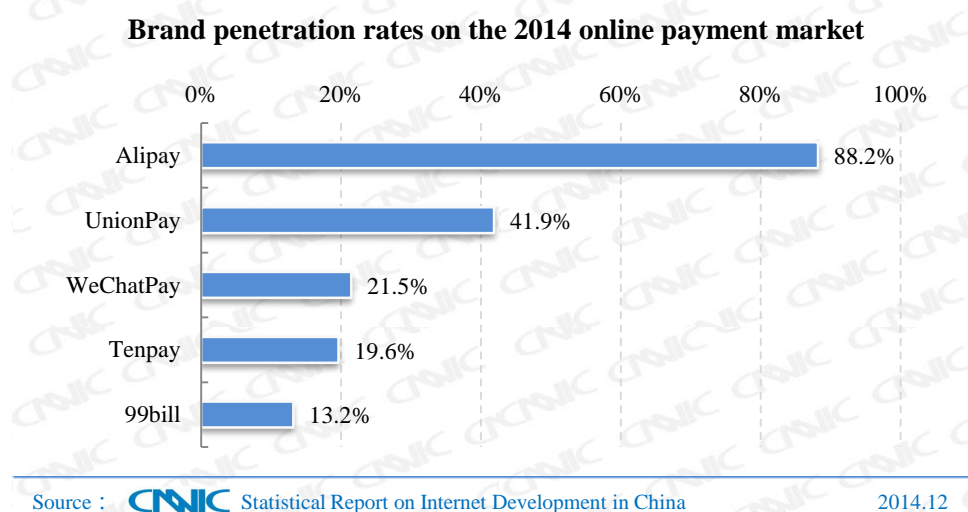
Figure 41 Brand penetration rates on the 2014 online payment market

2.4 Internet Wealth Management

As of the end of 2014, Internet wealth management products had been purchased by 78.49 million netizens, up 14.65 million over the end of June 2014. The utilization ratio of Internet wealth management was 12.1%, increasing by 2 percentage points in the same period.

Explosive growth of Internet wealth management users was no longer seen in the second half of 2014 but turned into moderate growth. At the same time, the speed of new-product launch was also on the decline. The reasons are as follows: First, a lot of potential users of Internet wealth management products had been converted due to the purchase convenience, high liquidity and initial high return of the products. Second, the attractiveness of Internet wealth management products relying on money fund was weakened due to continued ample supply of funds and reduced rate of return. Third, the Chinese stock market rebounded in the second half of 2014, which attracted some of the funds originally intended for Internet wealth management.

Scale of Internet wealth management users and utilization ratio in the period from June to December 2014
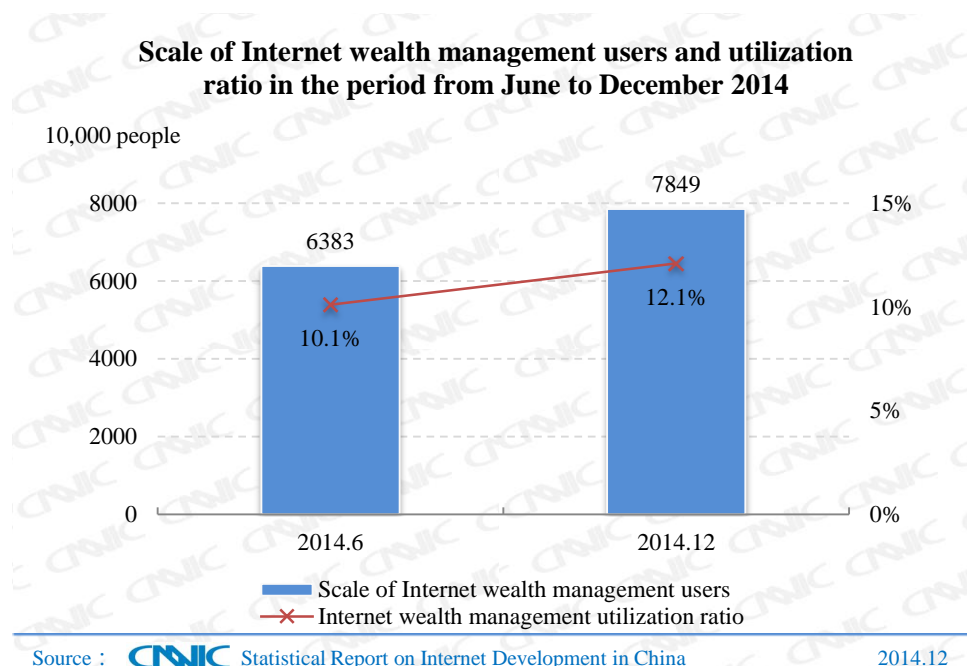
Figure 42 Scale of Internet wealth management users and utilizationratio in the period from June to December 2014

2.5 Travel Booking

The number of netizens that had booked air tickets, hotel rooms, train tickets and vacation tour on the Internet had reached 222 million by the end of December 2014, representing a growth of 40.96 million, or 22.7% over the end of 2013, with the utilization ratio increased from 29.3% to 34.2%. The Internet users who booked train tickets, air tickets, hotels and vacation tour online accounted for 26.6%, 13.5%, 13% and 7.6% respectively. In the same period, the number of users who had booked air tickets, hotel rooms, train tickets and vacation tour on the mobile Internet using cell phones had reached 134 million, an annual increment of 88.65 million or 194.6%, with utilization ratio increased from 9.1% to 24.1%. Noteworthily, mobile online travel booking experienced the fastest growth among all mobile commercial applications; and mobile train ticket booking was the biggest contributor to the increase in mobile online travel booking.

Scale of users of online travel booking/mobile online travel booking and utilization ratio in 2013 and 2014

Source： CNNIC Statistical Report on Internet Development in China   2014.12
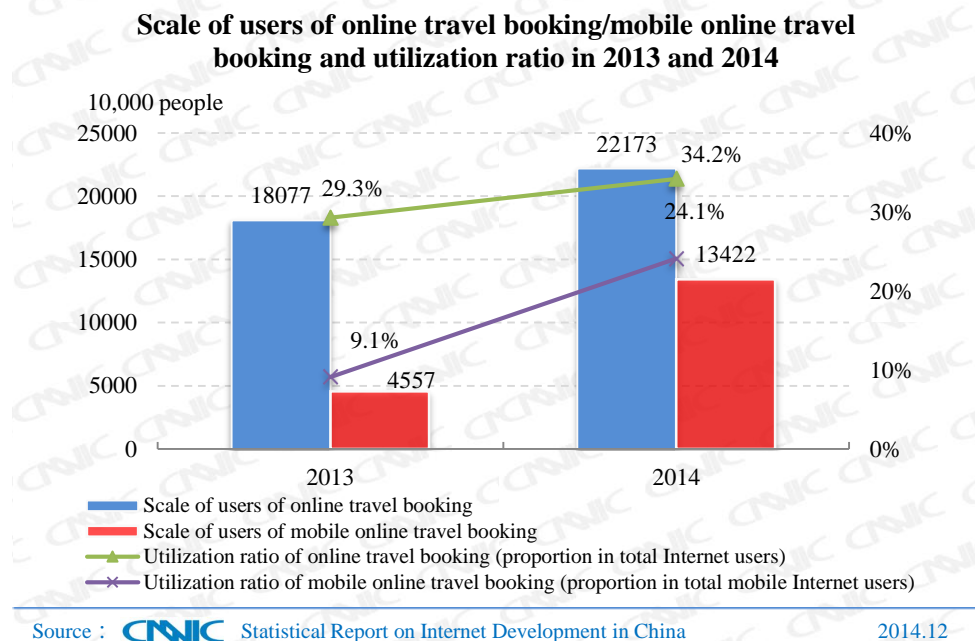
Figure 43 Scale of users of online travel booking/mobile online travel booking and utilization ratio in 2013 and 2014

In 2014 the potential market demand for online travel booking was further released. Although it was more difficult for enterprises to make profits, the market prospect was good. The visa-free and visa validity extension policies of some countries encouraged more Chinese tourists to travel abroad.

In the face of huge market demand, the competition between enterprises came into full swing. Firstly, price wars were still playing an important role in market competition, such as the scenic spot ticket price war between Ctrp.com and LY.com, the "One Yuan Tour" launched by Tuniu.com, etc. Secondly, enterprises countered their competitors by permeation and fusion of different business models. For instance, Ctrp.com made full use of its platform; Qunar.com introduced the idea of OTA[8], and budget hotels built their own OTA to regain the initiative. Thirdly, enterprises established strategic alliances to collectively participate in competition. For example, Qunar.com and lvyou.baidu.com are affiliated to Baidu; Alitrip.com, Qyer.com, zls365.com and Meituan.com are under Alibaba; Yilong.com, LY.com and GO.QQ belong to Tencent. Ctrp.com invested in Toursforfun.com, LY.com and Tuniu.com, and acquired some offline tourism companies. Finally, enterprises tried their best to seize market segments by expanding services. The visa price war between Ctrp.com and Baicheng.com, the public relation and advertisement war between LY.com and Tuniu.com, etc, greatly boosted the rapid growth of the outbound travel market.

Faced with fierce competition, online travel booking companies had to adopt a strategy of "sacrificing profit for market". As a result, their financial statements of 2014 were very likely to show losses. To avoid further losses and earn some profits, the competition in the online travel booking industry will become rational in 2015.

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[8] OTA: Online Travel Agent.

Utilization ratios of travel booking services of Chinese netizens in 2013 and 2014
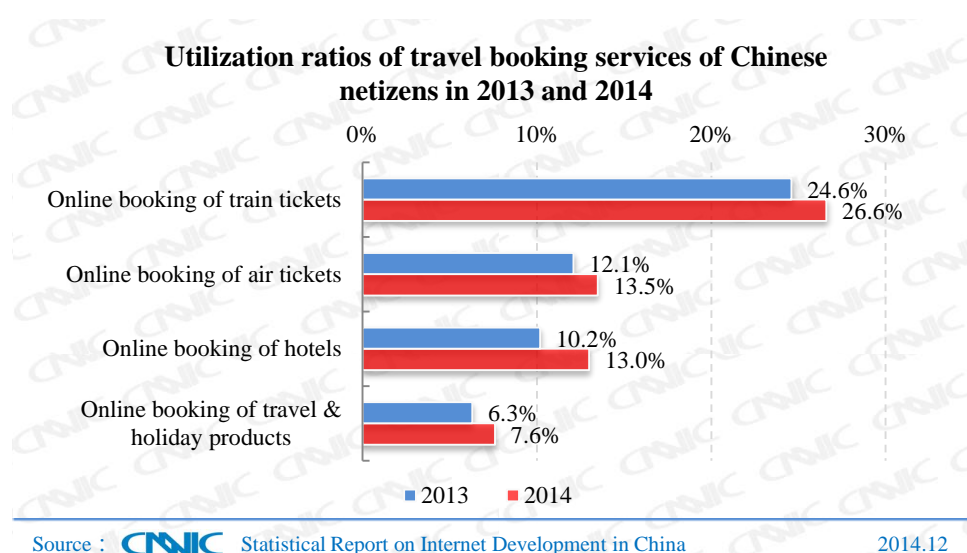
Figure 44 Utilization ratios of travel booking services of Chinese netizens in 2013 and 2014

On the online travel booking market of 2014, the official website of Sinorail Customer Service Center ("12306" Train Ticket Online Booking) had the highest brand penetration rate of 50.2%, followed successively by Qunar.com (24.8%), Ctrp.com (24.1%), Alitrip.com (17.2%), LY.com (14.7%) and Yilong.com (11.2%). The penetration rates of other brands were all below 10%.
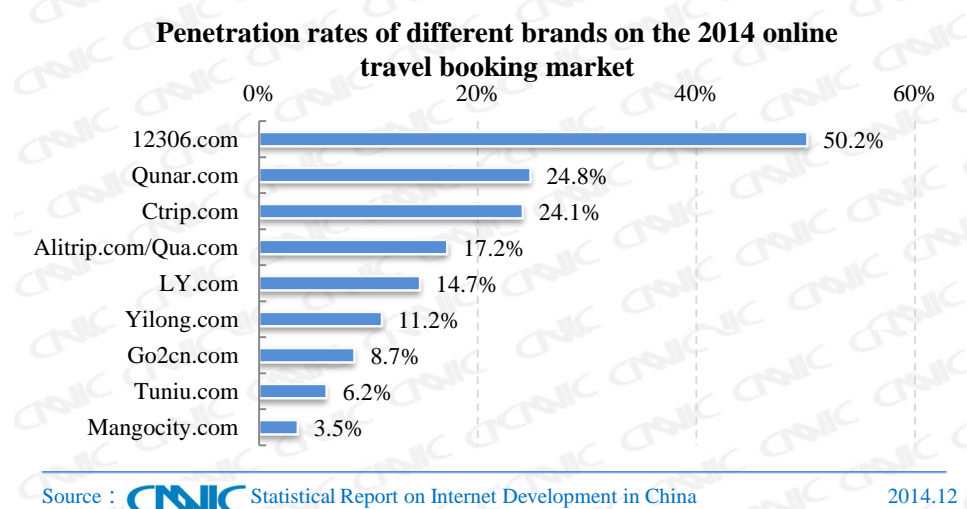
Figure 45 Penetration rates of different brands on the 2014 online travel booking market

(III) Development of Communication Applications

3.1 Instant Messaging

The size of instant messaging users in China had reached 588 million by the end of December 2014, representing an annual growth of 55.61 million, or 10.4%. The utilization ratio of instant messaging was 90.6%, up by 4.4 percentage points over the end of 2013 and ranking the first.

As one of the most basic Internet applications, mobile-end instant messaging kept a steady increase with the popularization of smart phones. The size of users of mobile instant messaging had reached 508 million by the end of December 2014, representing an annual increment of 76.83 million, or 17.8%. The utilization ratio of mobile instant messaging was 91.2%, up by 5.1 percentage points over the end of 2013.
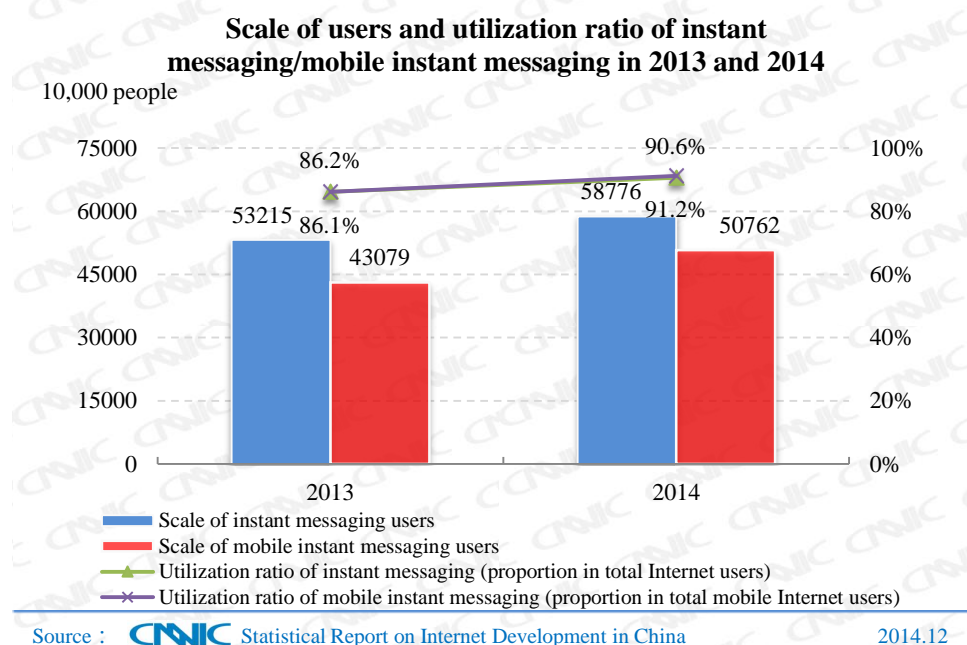
Figure 46 Scale of users and utilization ratio of instant messaging/mobile instant messaging in 2013 and 2014

Mobile instant messaging not only can be used at any time at almost any place but also possesses social communication and user positioning functions. Therefore, it has evolved from a mere communication tool into a user interface for payment, game-playing, O2O, etc. With an increasingly huge user scale, mobile instant messaging will be of great commercial value for other value-added services. In the future, differentiation and uniqueness in market positioning will be a new development direction of instant messaging.

3.2 Microblog

In December 2014 China had 249 million microblog users, 31.94 million less than at the end of 2013, and the utilization ratio was 38.4%, down by 7.1 percentage points. Among them, mobile

microblog users were 171 million, an annual decrement of 25.62 million, and the utilization ratio was 30.7%.

In the year, Internet companies including Tencent, NetEase and Sohu reduced their investment in microblogs, and competition between microblog service providers cooled down. As a result, more and more microbloggers were attracted to Sina, making Sina the biggest microblog service provider in China.

Social media and communication-related applications showed different attributes. In the "Malaysia Airlines incident" in the first half of 2014 and the "ice bucket challenge" in the second half, the fast propagation speed, wide propagation scope and positive social influence of Sina microblogs were displayed prominently.
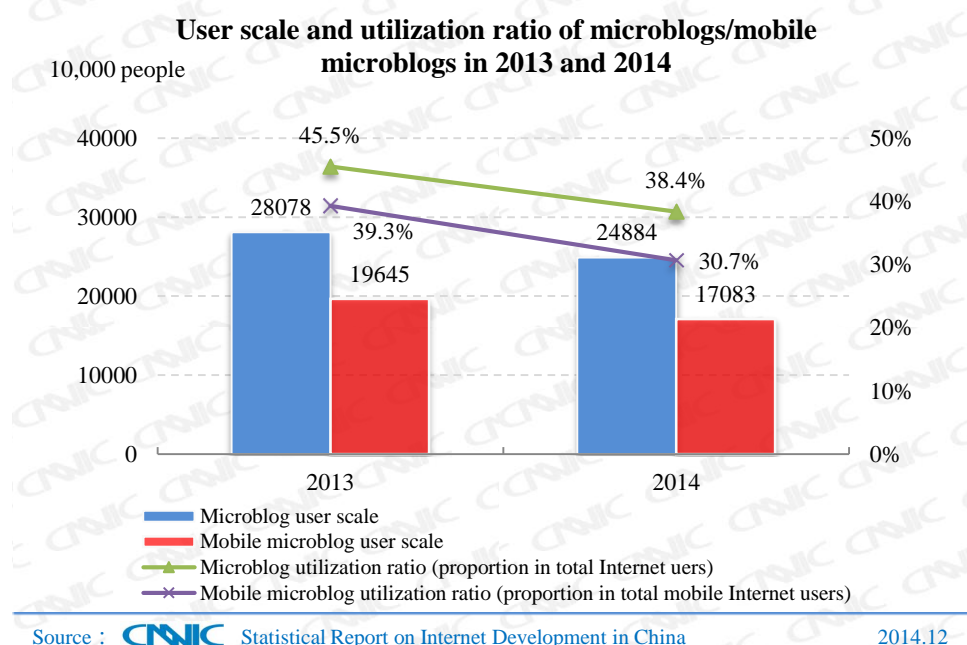
Figure 47 User scale and utilization ratio of microblogs/mobile microblogs in 2013 and 2014

(IV) Development of Network Entertainment Applications

4.1 Online Games

In December 2014 China had a total of 366 million online game users, an annual increase of 27.82 million, and the utilization ratio was 56.4% compared with 54.7% a year before. The size of mobile online gamers was 248 million, an annual increment of 32.88 million, and the utilization ratio was 44.6% in comparison with 43.1% of the previous year, representing a trend that more and more PC client online gamers were becoming mobile online gamers.

PC client online games have long been holding a dominant position on the Chinese game market and their development has also paved a huge user base for other types of games. Seen from a market perspective, the Chinese game industry is entering a period of high-quality diversified development. First, deregulation-oriented policies are more favorable for game development. The recent launch of such game consoles as Xbox One and PS4 provides users with

more options. Second, improvement of networks, diversification of network access equipment, popularization of 4G networks, and upgrade of smart phone hardware promoted the development of high-quality large-traffic mobile games. Third, as part of the cultural industry, games combine and interact with films and literature more and more closely, which has boosted the development of not only the online game industry itself but also the related industries.

Scale of users and utilization ratio of online games/mobile online games in 2013 and 2014
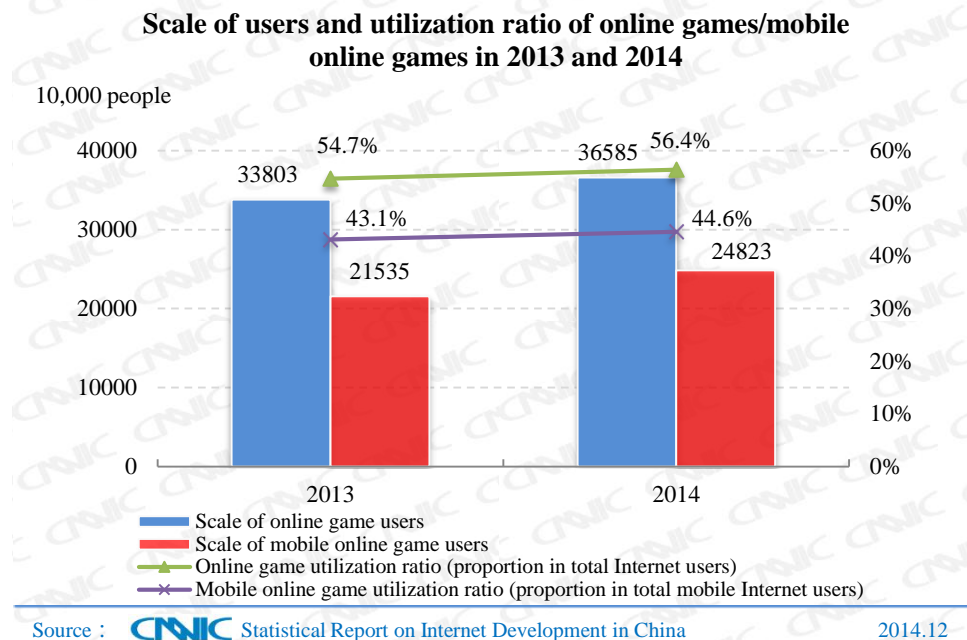
Figure 48 Scale of users and utilization ratio of online games/mobile online games in 2013 and 2014

4.2 Online Literature

The size of online literature users in China had reached 294 million by the end of December 2014, representing a growth of 19.44 million or 7.1%, over the end of 2013. The utilization ratio of online literature was 45.3%, up by 0.9 percentage point annually.

Since coming into being, online literature which is low in threshold and unconventional in content has attracted a large number of netizens. Today a quite mature industrial chain has been formed. Popular online literature cultivates some readers at first, and then, by word of mouth, is known by more and more readers. After that, it is adapted into a series of derivative products such as movies, TV shows, games and paper books, thus realizing a merge or fusion of literature, games, movies, TV shows and cartoons and creating much more value than the original online works of literature. Thanks to the rapid popularization of smart phones and the fast development of 3G and 4G networks, online literature can be read by netizens on their mobile devices at any time in any place, making fragmented reading possible and bringing a great impact on the traditional reading habit.

Scale of users and utilization ratio of online literature in 2013 and 2014
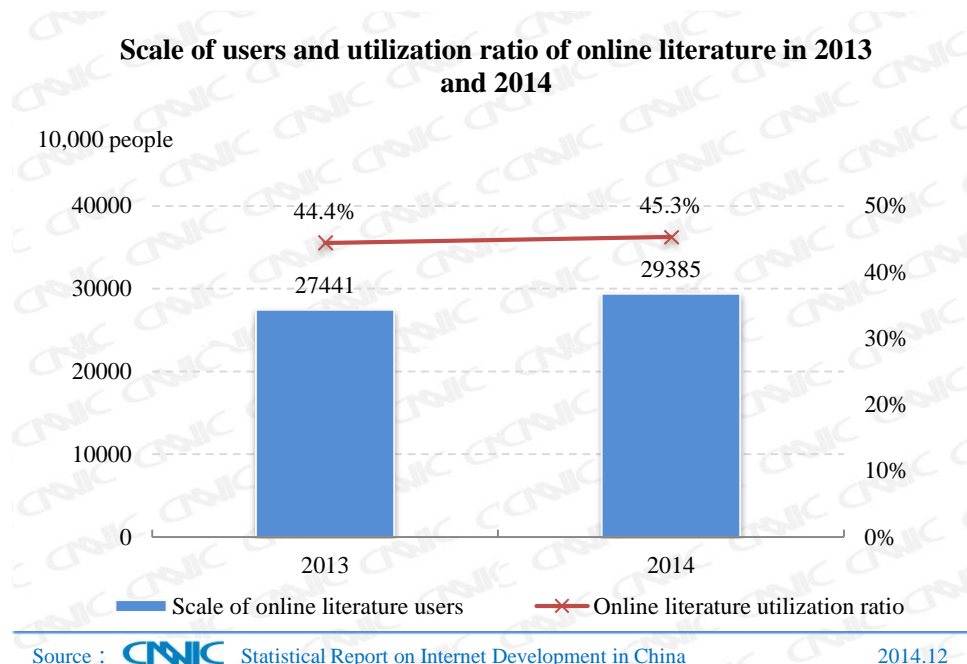
Figure 49 Scale of users and utilization ratio of online literature in 2013 and 2014

4.3 Online Video

As of the end of 2014, online video users had reached 433 million in China, more than 4.78 million compared with the end of last year. The utilization ratio was 66.7%, slightly lower than that of the previous year, and the role of online video in cultivating new netizens was reduced. Among all online video users, mobile video users were 313 million, an annual increase of 66.11 million or 26.8%. The utilization ratio of mobile video was 56.2%, up by 6.9 percentage points over the end of 2013. The overall scale of network video users continued to grow but the utilization ratio declined slightly. Both the scale of mobile video users and the utilization ratio kept increasing but the growth rate began to decline. The network video industry entered a steady development period.

Significant changes took place in the Chinese video industry in 2014. At the strategic level, capital allying and cooperation continued. Alibaba.com became a share holder of Youku.com and Tudou.com; tv.sohu.com acquired 56.com; Xiaomi and Shunwei Capital invested in iQIYI.com and Youku.com to realize a powerful alliance, improve the product line and seize the traffic entrance. At the hardware level, the Internet industry whipped up a wave of smart hardware at the end of 2013. Since then video websites have been hand in hand with traditional enterprises in launching new types of products such as Internet TVs, Internet boxes and video phones, in an effort to build a full industry chain of "platform + content + terminal + application". At the content level, major video websites began to vigorously produce their own video dramas in 2014. Although some of these dramas enjoyed a relatively high popularity, most of them were not so popular and the advertising value was not high enough to bring sufficient profits. Therefore, video websites turned their eye to the upstream film makers and TV-content makers and bought their copyrights so as to break TV stations' tight control over high-quality content. At the level of cross-industry cooperation, the video industry began to cooperate with E-commerce and online payment industries, trying to combine video watching with online shopping and create a powerful

synergy of culture, entertainment, commerce and payment.

In next few years, the online video industry will develop toward the direction of multi screens and integration. PC, mobile phone, PAD, and TV will see coordinated development and video websites will continue to shift their focus onto content production and hardware equipment so as to build a full-length industrial chain.
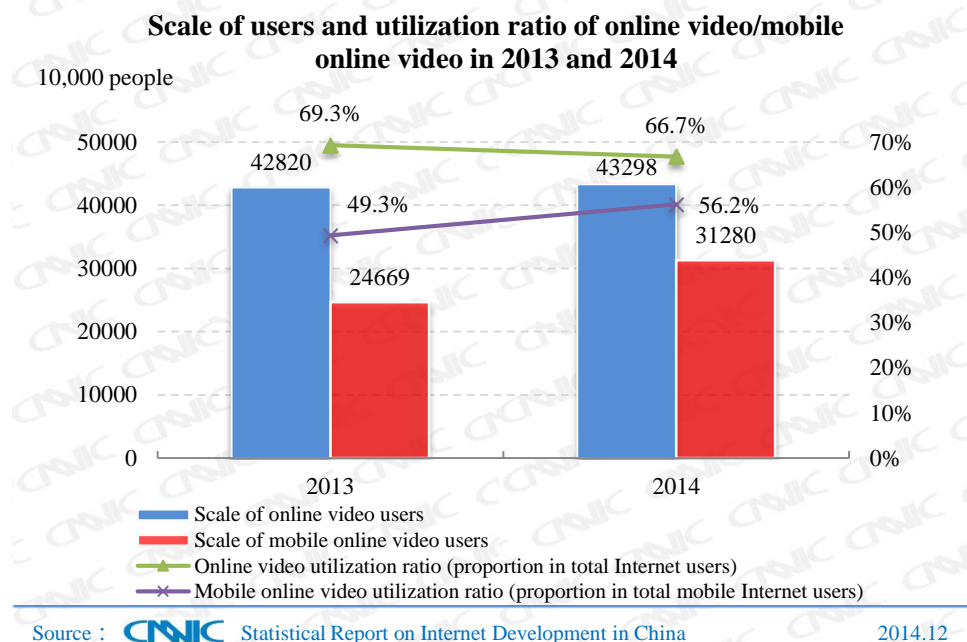
Figure 50 Scale of users and utilization ratio of online video/mobile online video in 2013 and 2014

The Chinese online video industry pattern was basically stable in 2014. Of those who watched online video in the second half of the year, 63% used Youku.com, indicating that Youku.com was the most frequently used video website. The second and third were Qiyi/iQiyi.com and v.qq.com, both enjoying a brand penetration rate of 55%. The fourth was video.baidu.com with a penetration rate of 48.8% thanks to its platform advantages, huge user scale, close cooperation with multiple copyright owners, and its status as the traffic entrance to a number of video websites. With their own uniqueness, Tudou.com and tv.sohu.com each had a brand penetration rate of at least 40%, ranking the fifth.

In the recent couple of years, more and more PC online video users turned into mobile users, making mobile video the key area of competition among video websites. In the year of 2014, brand penetration rates of main video websites were different in the area of mobile video. With a brand penetration rate of 48.3%, Youku.com ranked the first in terms of mobile video, followed by v.qq.com, tv.sohu.com and PPTV.com, whose performance was above the average of the industry.

Brand penetration rates of main video websites in 2014

Website	Overall brand penetration rate	Mobile-end brand penetration rate
Youku.com	63.0%	48.3%
Qiyi/iQiyi.com	56.6%	41.6%
v.qq.com	54.2%	43.2%
video.baidu.com	48.8%	32.9%
Tudou.com	47.3%	27.2%
tv.soh.com	46.4%	30.9%
Letv.com	39.5%	24.9%
PPS.tv	39.0%	23.0%
PPTV.com	37.0%	25.5%
Kankan.com	32.9%	18.1%
360kan.com	30.8%	18.5%
video.sina.com.cn	25.8%	15.6%

■ Overall brand penetration rate
■ Mobile-end brand penetration rate
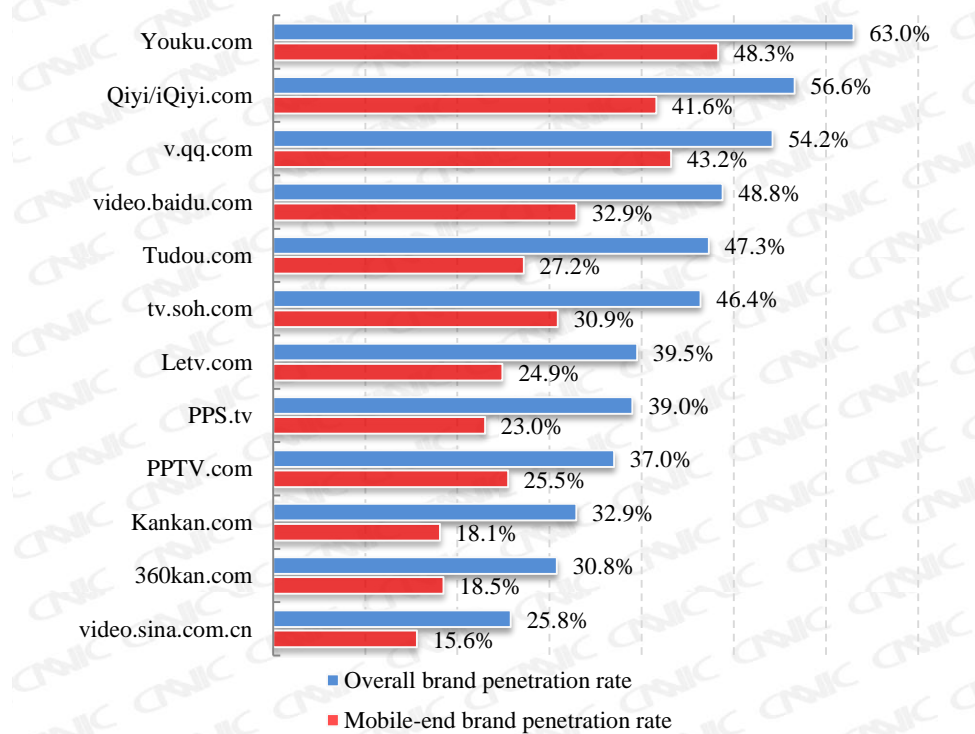
Source： **CNNIC** Statistical Report on Internet Development in China   2014.12

Figure 51 Brand penetration rates of main video websites in 2014

Chapter Ⅶ Internet Application Development Status of Enterprises

I. Computer Usage

The enterprises that used computers[9] to handle office affairs accounted for 90.4% of Chinese enterprises in December 2014.

In terms of enterprise scale, no more than 90% of companies hiring 19 or less employees used computers for office work, and this percentage was only 81.5% for micro businesses with 7 or less employees.

Proportion of enterprises using computers (By enterprise size)

Source： ᑕᑎᑎIᑕ CNNIC Survey on Internet Application in Chinese Enterprises   2014.12
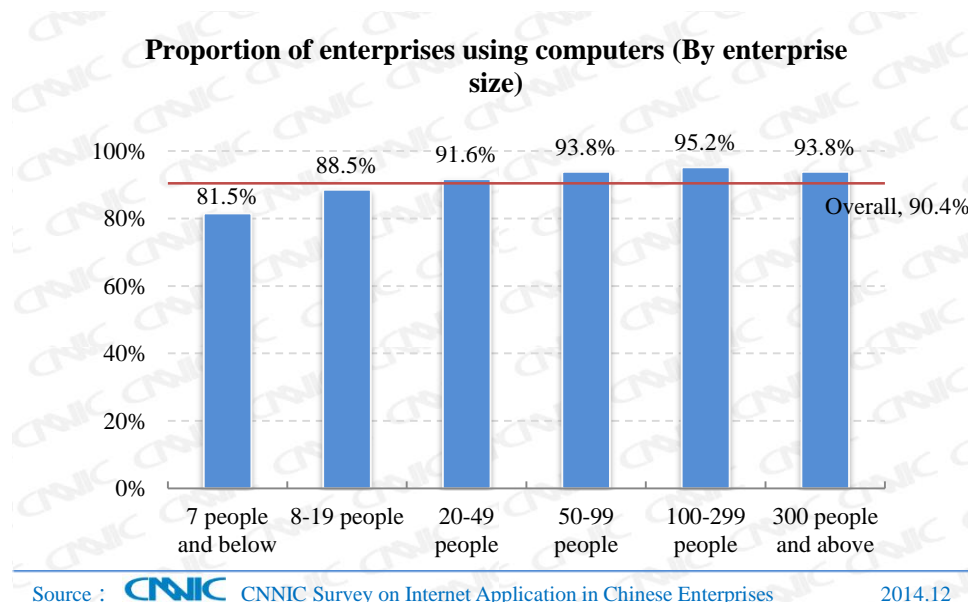
Figure 52 Proportion of enterprises using computers (By enterprise scale)

Geographically, in Eastern China the proportion of enterprises using computers was 93.2%, the highest nationwide, while this percentage was only 83.3% for enterprises in Central China, the lowest.

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[9] Computers refer to desktop computers or notebook computers, excluding those devices with certain embedded computing function, such as cellular mobile phones, Personal Digital Assistant (PDA) or TV sets.

Proportion of enterprises using computers (By enterprise location)
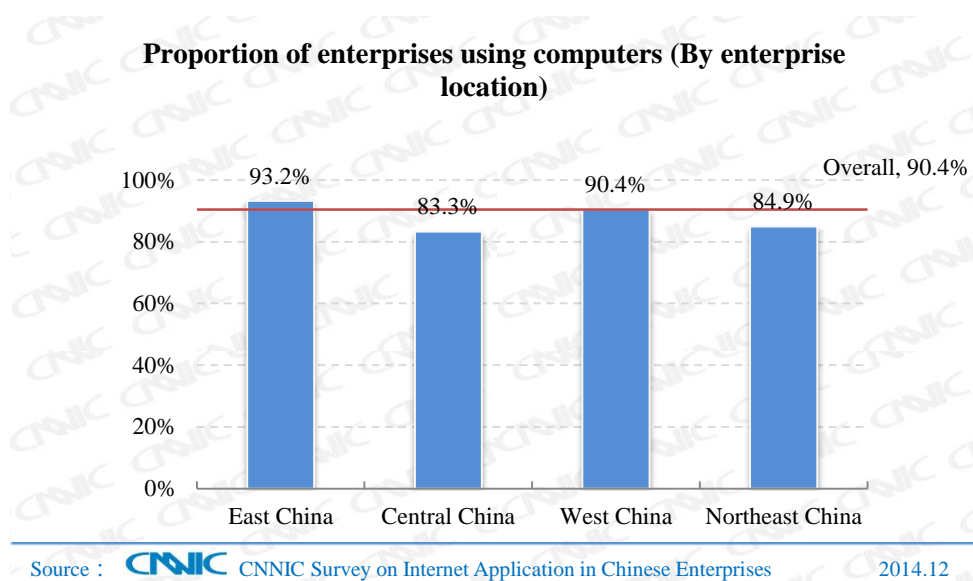
Figure 53 Proportion of enterprises using computers (By region)

II. Internet Usage

The enterprises that used the Internet[10] to handle office work accounted for 78.7% of Chinese enterprises in December 2014.

In terms of enterprise scale, only 66.4% of micro businesses with 7 or less employees used the Internet in daily operation, while this percentage was higher than 80% for companies with 50 or more employees.

Proportion of enterprises using the Internet (By enterprise scale)
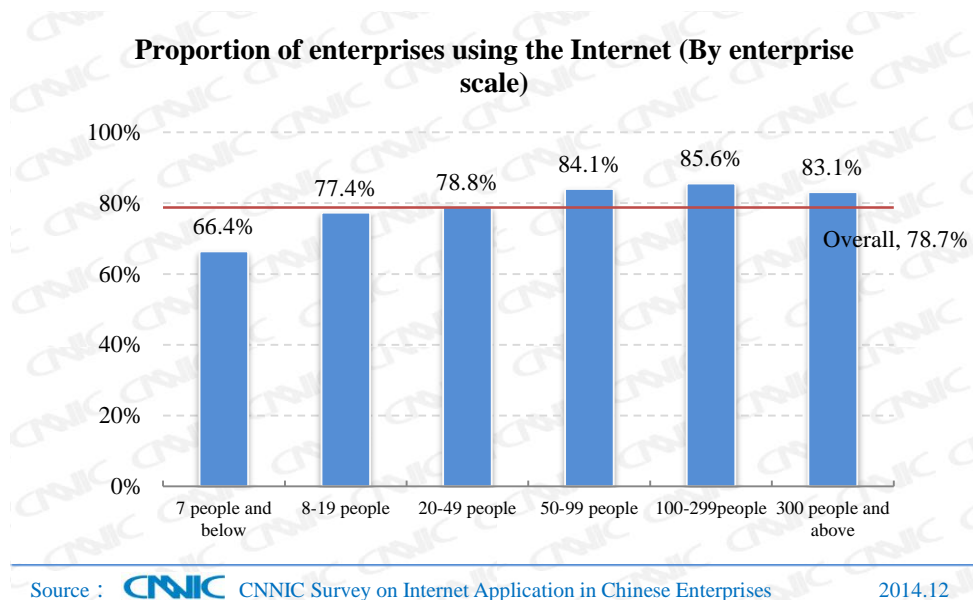
Figure 54 Proportion of enterprises using the Internet (By enterprise scale)

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[10] It means that the Internet is directly used in all activities of the enterprises. Some enterprises use the Internet for advertisements/promotion, but do not directly use it for work, and therefore are not included. All devices (more than just computers) equipped with the Internet access function may be used as the tools to access the Internet. These include mobile telephones, PDAs, game machines and digital televisions which may be used on the fixed or mobile network.

Geographically, in Eastern China the proportion of enterprises using the Internet was 85.1%, the highest nationwide; and this percentage was only 67.0% and 56.6% in Central China and Northeastern China respectively, much lower. In recent years the economic development in Western China has been the fastest, where significant progress has been achieved in computer and Internet utilization. The present survey did not cover enough tertiary-industry enterprises in northeastern region, so the computer and Internet utilization ratios were obviously lower there.

Proportion of enterprises using the Internet (By region)

Source： CNNIC CNNIC Survey on Internet Application in Chinese Enterprises   2014.12
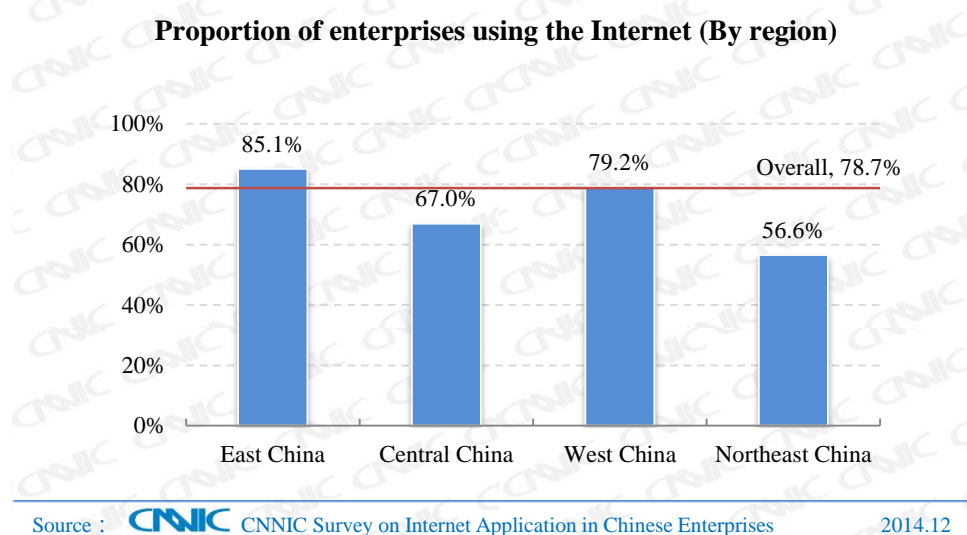
Figure 55 Proportion of enterprises using the Internet (By region)

III. Internet Access

Fixed broadband had a utilization ratio of 77.4%[11] among Chinese enterprises in December 2014, and was the most important way for enterprises to access the Internet. With the popularization of 4G and the development of enterprise-level mobile Internet applications such as OA, mobile ERP and mobile CRM, mobile broadband will become an important way for enterprises to access the Internet.

Ways of Internet access for enterprises

Source： CNNIC CNNIC Survey on Internet Application in Chinese Enterprises   2014.12
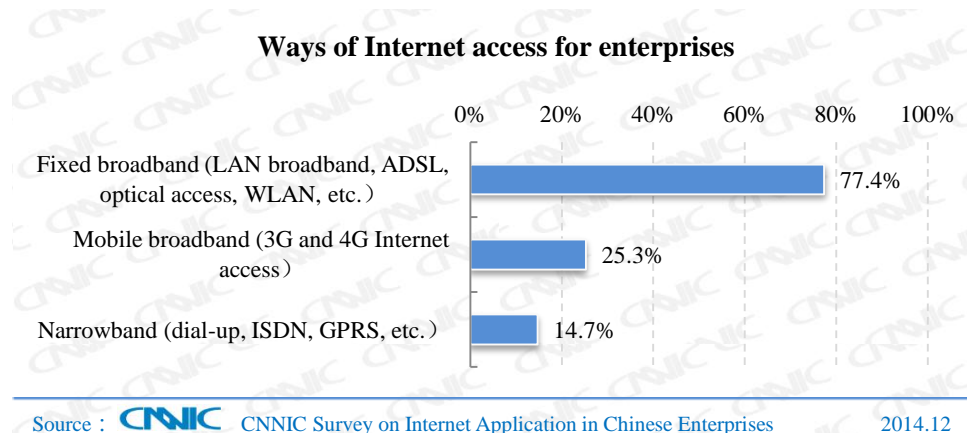
Figure 56 Ways of Internet access for enterprises

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[11] The utilization ratios of the Internet access ways released in this survey refer to the proportion of enterprises which access the Internet in various ways among all the interviewed enterprises.

IV. Enterprises' popularization of Internet Application

This part of survey was conducted mainly based on the *ICT Core Indicators* of the International Telecommunications Union (ITU), with some of the indicators omitted and some new ones added according to the real condition of Internet applications by Chinese enterprises.

In this report enterprises' Internet applications are classified into the following four types according to their characteristics.

1、 Communication-oriented application: Universal Internet application where communication is carried out by means of the Internet, such as receiving or sending Email, etc;

2、 Information-oriented application: Using the Internet to acquire, release or exchange information, such as instant messages, commodity or service information, government information, etc;

3、 Business service related application: Using the Internet to facilitate business activities of enterprises, such as online banking, providing customer services, etc;

4、 Internal support related application: Using the Internet to assist enterprises to improve internal management, work efficiency, interaction with the government[12], online recruitment, online training, and online application systems designed to help with business operation.

As shown by the present survey, a rich variety of Internet applications were seen in Chinese enterprises, covering almost all aspects of business operation. As the most basic communication-oriented application of the Internet, email had a penetration rate of 83.0%, the highest in the first type of application. In the second type, each application enjoyed a penetration rate of more than 50%. In the third and fourth types of applications, however, quite a lot had a penetration rate of less than 50% except online banking, interaction with the government, and online recruitment. In particular, the penetration rate of online training and online application systems had been at a low level for some years. A majority of Chinese enterprises have not started all-round in-depth Internet construction yet, and their Internet applications are still at a basic level.

Table 9 Penetration rates of main Internet applications in enterprises[13]

Type	Application	Penetration rate
Communication-oriented	Receiving and sending email	83.0%
Information-oriented	Releasing information or instant messages	60.9%
	Searching for commodity or service information	67.3%
	Getting information from government	51.1%

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[12] Interaction with government agencies, including downloading/asking for forms, online completing/filling out forms, online payment, online purchase from or sales to the government, and online declaration of dutiable goods or services, excluding acquisition of information from general government agencies

[13] The "Internet penetration rate" mentioned in this section refers to the proportion of enterprises carrying out a particular Internet activity.

	agencies	
Business service related	Online banking	75.9%
	Providing customer services	46.5%
Internal support related	Interacting with government agencies	70.6%
	Online recruitment	53.8%
	Online training of employees	26.7%
	Using online application systems to help enterprises with business operation	20.5%

V. E-commerce Usage

The enterprises that carried out online sales[14] accounted for 24.7% of the national total in December 2014. Online sales were conducted by 38.4% of enterprises in the manufacturing industry, 36.5% in the information transmission, computer services and software industry, and 34.9% in the retail and wholesale industry. But a low utilization ratio was seen in the construction, transportation, warehousing, postal, real estate, leasing, business service, life service and other service industries. The Internet O2O business model achieved rapid development in 2014. By this model, enterprises especially local life service and business service companies, are closely combined with the Internet, and offline enterprises have become an important link in online consumption. Influenced by this trend, more and more traditional enterprises will carry out online sales in the future.

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[14] The online sales surveyed in this report refer to the behavior of receiving orders via Internet, such as via websites or emails.

Proportion of enterprises carrying out online sales in key industries
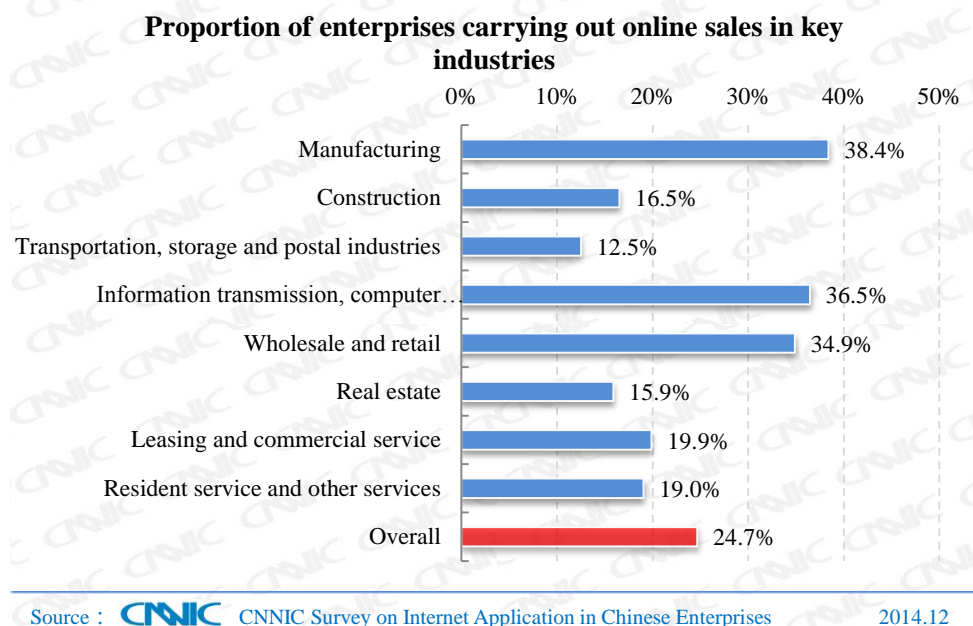
Figure 57 Proportion of enterprises carrying out online sales in key industries

The enterprises that carried out online procurement[15] accounted for 22.8% of Chinese enterprises in December 2014. Similar to the situation of online sales, online procurement was conducted by 34.3% of enterprises in the manufacturing industry, 36.5% in the Information transmission, computer services and software industry, and 33.8% in the retail and wholesale industry, and the utilization ratio in the leasing and business service industries was higher than the national average.

Proportion of enterprises carrying out online procurement in key industries
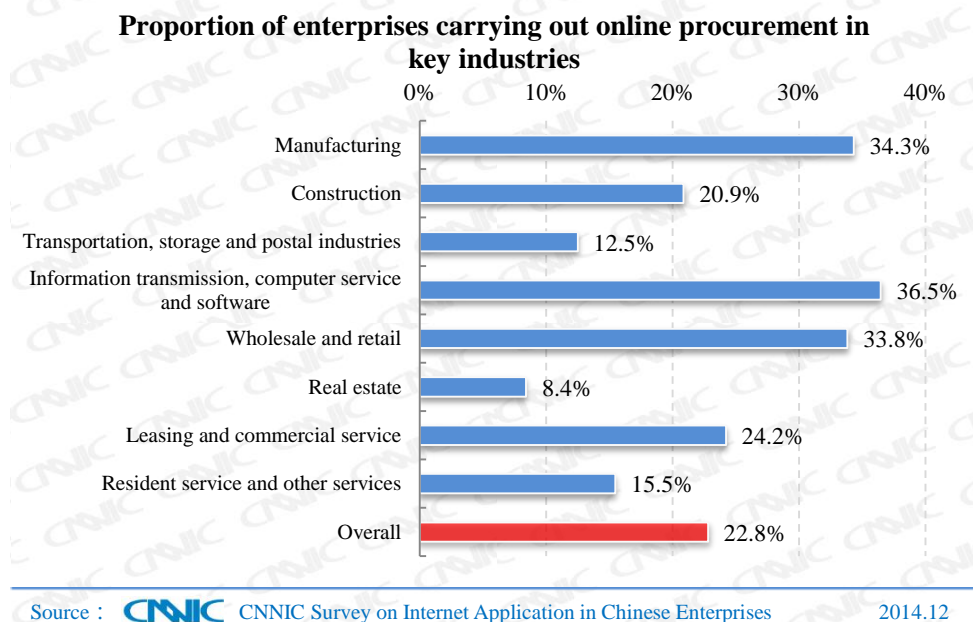
Figure 58 Proportion of enterprises carrying out online procurement in key industries

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[15]The online procurement surveyed in this report refers to the behavior of sending orders via Internet, such as via websites or emails.

VI. Internet Marketing

The enterprises that utilized the Internet to carry out marketing[16] accounted for 24.2% of the national total in December 2014. The enterprises that carried out Internet marketing accounted for 35.9% of the national total in the information transmission, computer service and software industry. Noteworthily, the utilization ratio of Internet marketing in the wholesale/retail, real estate, leasing, business service, life service and other service industries was not high, basically the same as or lower than in the manufacturing and construction industries.

Proportion of enterprises carrying out Internet marketing in key industries

Industry	Proportion
Manufacturing	28.7%
Construction	23.1%
Transportation, storage and postal industries	11.9%
Information transmission, computer…	35.9%
Wholesale and retail	19.6%
Real estate	23.2%
Leasing and commercial service	25.4%
Resident service and other services	18.3%
Overall	24.2%

Source：**CNNIC** CNNIC Survey on Internet Application in Chinese Enterprises   2014.12

Figure 59 Proportion of enterprises carrying out Internet marketing in key industries

As shown by the survey, instant messaging tools are the most frequently used by those interviewed enterprises which have utilized Internet to carry out marketing activities, with a utilization ratio of up to 62.7%. Search engine marketing and e-commerce platform promotion also have high utilization ratios, 53.7% and 45.5% respectively. As the Internet exerts deeper and greater influences on netizens, the way enterprises carry out Internet marketing also varies. New terms such as marketing mix, word-of-mouth marketing, viral marketing, etc, spring up one after another. Enterprises' dependence on the traditional mode of marketing is reduced, whereas their demand for mobile marketing becomes greater and greater.

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[16] It refers to using the internet to carry out marketing and/or promotion activities such as advertisements put or promotions carried out by enterprises themselves or via their agents/ advertisement companies, including paid promotions and free promotions.

Utilization ratios of various Internet marketing modes

Source： CNNIC CNNIC Survey on Internet Application in Chinese Enterprises   2014.12
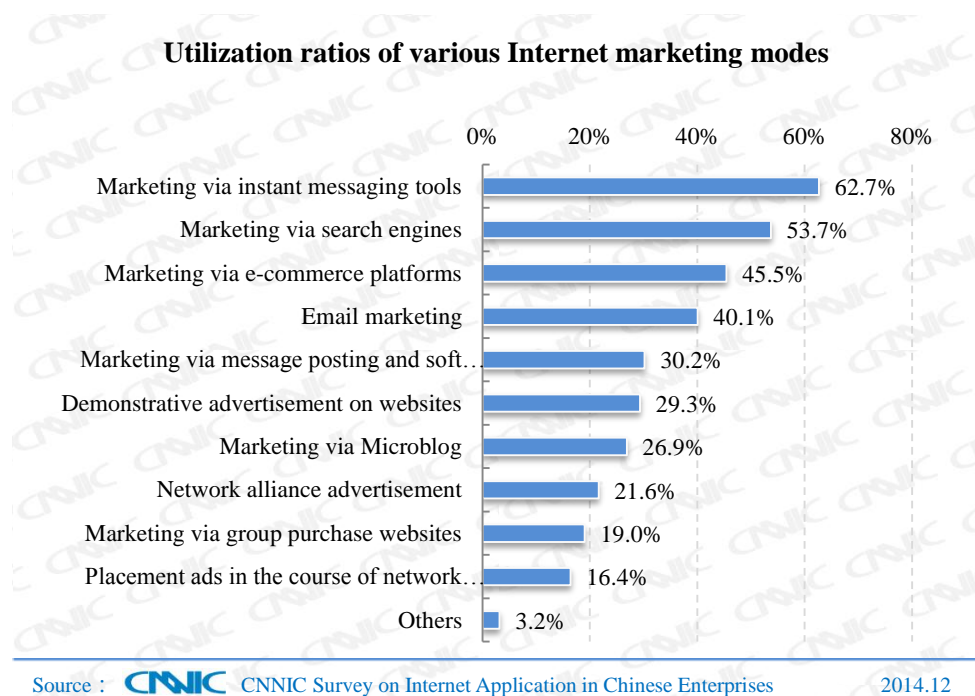
Figure 60 Utilization ratios of various Internet marketing modes

VII. Features and Trends of Internet Application of Enterprises

Availability of IT infrastructure has reached a relatively high level but the application is yet to be deepened.

In recent years computers have been available in about 90% offices and the Internet in approximately 80% offices. Of all the enterprises using the Internet, more than 95% have fixed broadband access. The work of Internet promotion in enterprises has been basically completed, but there is still big room for improvement in actual Internet application.

On the one hand, a lot of enterprises are unwilling to use the Internet to enhance internal operation efficiency. The first reason is that their consciousness of Internet application is insufficient; the second is that internal IT transformation does not well fit the traditional business process, making Internet application difficult; and the third is the high cost of related software, hardware and technical labor, making Internet application unaffordable for most small and micro businesses. On the other hand, not so many enterprises are ready to use the Internet for marketing, promotion, E-commerce or other external operation purposes, and traditional operation ideas and methods still exert a strong influence on these enterprises.

Faced with such a situation, the government, traditional enterprises and Internet service companies must work together to carry out market education, reduce the technical-economic threshold of Internet application in enterprises, and realize deep integration of the Internet with traditional enterprises.

With the rise of the O2O business model, it will be an inevitable trend for traditional enterprises to embrace the Internet.

The Internet O2O business model experienced fast growth in 2014. As direct suppliers of

offline products and services, traditional enterprises played a key role in this model. On the one hand, these enterprises were more active in using the Internet to carry out commercial activities. On the other hand, large Internet companies played a guiding role in helping traditional enterprises to expand business scope and enhance O2O capabilities. Under this background, more and more traditional enterprises will deeply integrate themselves with the Internet in the areas of internal management, market promotion, service and product sales, etc. Currently, the Internet O2O business model is still in its infancy, and so far there has been no successful O2O transition case for traditional enterprises. Today, the model is mainly adopted by wholesale/retail, hotel, catering, and life service enterprises, having not benefited medium, small and micro enterprises in other industries yet. As the Internet penetrates into more and more economic activities, it will produce a bigger influence on and urge the reform of traditional commercial modes, blur the boundary between traditional enterprises and Internet companies, and become an absolutely necessary tool in the daily operation of an enterprise.

Market

The 35th Statistical Report on Internet Development in China

Chapter VIII   Market Development of O2O

Ⅰ. O2O Market Assessment Model

As an abbreviation of "online to offline" and "offline to online", O2O means to combine offline products and services with online operations, by generating orders online and delivering products or services offline.

The statistical indicators of the O2O market assessment model include three dimensions: environmental factors, application level, and development potential, all of which exist throughout the entire process of O2O development. The environmental factors mainly reflect a region's economic, social, technological and infrastructural development level that support O2O development. In particular, these factors reflect a region's potential for O2O development, namely, the basic conditions for individuals and enterprises to use the Internet to combine offline products and services with online operations, generate orders online, and deliver products and services offline, including utilization of the Internet and E-payment, the efficiency of courier services, the security and integrity level of O2O, etc. The O2O application level mainly reflects the scale, broadness and depth of O2O consumption, such as the user scale, user coverage, business coverage, and utilization degree of O2O. The O2O development potential refers to a region's O2O development prospect and market opportunity seen from the perspective of potential consumption, such as O2O consumption capacity, O2O consumption desire, etc.
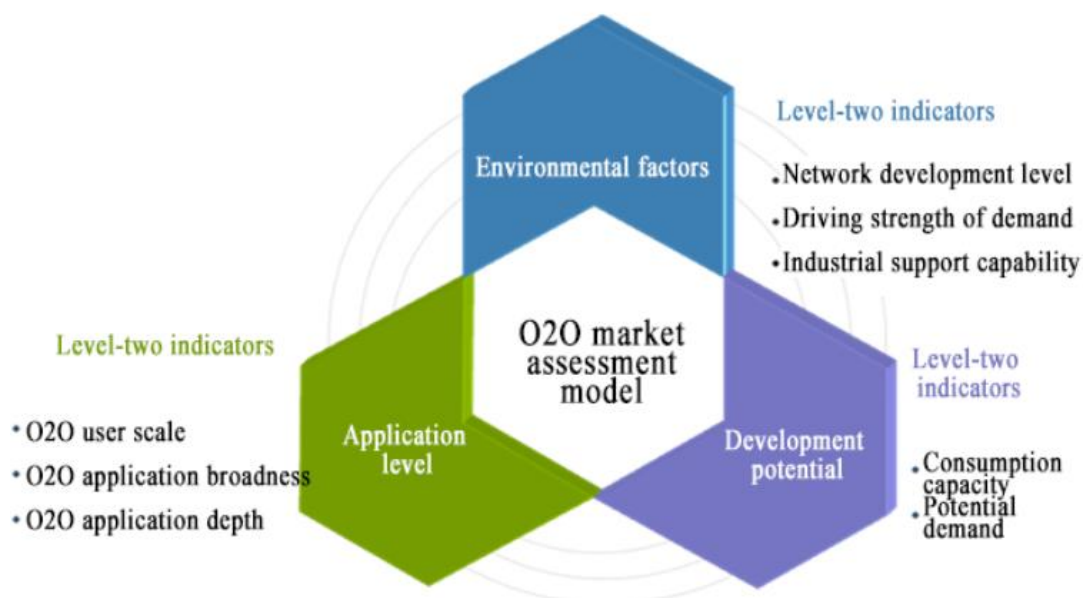
Figure 61 O2O market assessment model

Weight setting of the assessment indicator system is based on the analytic hierarchy process (AHP) and equal-weight distribution. Data sources for the assessment are mainly the CNNIC 35th

China Internet network development statistical investigations, online monitoring data of China Network Information Data Platform (www.cnidp.cn), National Postal Industry Development Statistical Bulletin, provincial statistical information published, and other second-hand information.

Ⅱ. O2O Market Development Level Assessment

With the involvement of capital investors, Internet giants and real business entities, the O2O industry mushroomed everywhere across the country in recent years. To better mine market opportunities and investment potential, CNNIC carried out a comprehensive O2O assessment and comparison in first-, second- and third-tier cities, the three major economic rims and key cities using the O2O market assessment model. The survey was based on the O2O application behavior of netizens nationwide.

(Ⅰ) City Development Level Assessment at All Levels

In terms of comprehensive strength, the score of first-tier cities was 44.6, the highest, followed by second-tier cities, 34.3, both being above the national average (30.7). Third-tier cities had a score of 30, obviously lower than the figures of first- and second-tier cities.

In terms of O2O environmental factors, the score of first-tier cities was 67.8, obviously the highest; that of second-tier cities was 49.6; and that of third-tier cities was 43.4, slightly lower than the national average. This reason is simple: first-tier cities are well above second-tier ones in terms of network development level, information demand and industrial support.

From the perspective of O2O application level, first-tier cities had the highest score of 40, followed by second-tier ones, 27.8. The score of third-tier ones was 23.8, equal to the national average. This is due to the fact that the three tiers of cities vary greatly in O2O penetration rate, with the first tier having the highest score, far ahead of the second and third tiers. But the three tiers of cities do not differ so significantly in terms of O2O application level and O2O application depth, all being in the development stage. From the perspective of application dimensions, first-tier cities had an O2O user penetration rate of 28.5% for group-purchase of food and 25% for leisure services, both percentages being at least 5 percentage points higher than second-tier cities. In second-tier cities, the O2O user penetration rate was 23.2% for group-purchase of food, 17.5% for online booking of restaurant seats, and 15.6% for online car-hailing, all being above the national average by about 2 percentage points.

In terms of the level of O2O potential, the scores of first- and second-tier cities were respectively 25.8 and 25.5, not very different. Third-tier cities scored 22.7, slightly lower than the national average (24.3). The reasons are as follows: In first-tier cities non O2O users have a higher consumption desire, especially in the catering and medical service fields where 31% and 25.7% of non O2O users intend to buy O2O catering and medical services in the future; in second-tier cities 29.6% and 16.2% of non O2O users intend to buy O2O leisure and home services in the future; in third-tier cities, the percentage is 1.6 points lower than the national average.

Comprehensive assessment and comparison of O2O development level of first-, second-, and third-tier cities

Source：ㄷⵡNIC Statistical Report on Internet Development in China   2014.12
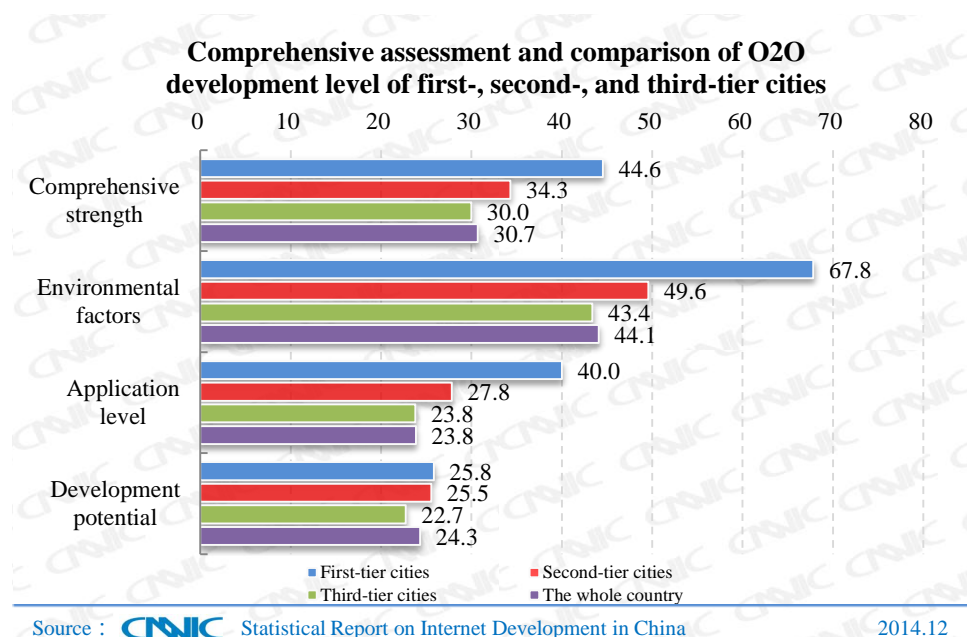
Figure 62 Comprehensive assessment and comparison of O2O development level of first-, second-, and third-tier cities

In summary, first-tier cities had the highest comprehensive O2O market strength, with environmental factors, application level and development potential being all above those of second- and third-tier cities. First-tier cities have a better O2O development environment where netizens have greater demand for O2O information, leading to a rapid increase in O2O user scale. But nowadays, the rapid increase is turning into a slow increase and the difficulty for non O2O users to convert into O2O users in first-tier cities is about the same as that in second- and third-tier cities. Therefore, the O2O industry channels are extending into these lower-tier cities. O2O market opportunities in first-tier cities will enhance the application depth and frequency of O2O users, especially in the fields of catering O2O, leisure O2O and tourism O2O.

With comprehensive market strength 3.6 points higher than the national average, second-tier cities are still of some investment value and development potential. In second-tier cities, O2O network environmental basis is not solid enough and netizens' demand for O2O information is not big enough either, where most of the O2O users are moderate and light users. It is, therefore, imperative to promote O2O products and services, improve user experience about O2O websites and applications, and turn the potential commercial and entertainment demand of second-tier cities into actual O2O demand. O2O users in second-tier cities have a stronger desire for social and interactive sharing, and thus something can be done to promote and tap O2O market demand. There are also plenty of market opportunities for catering O2O and car-hailing O2O in second-tier cities, and the potential market for leisure O2O and home service O2O is waiting to be tapped.

The comprehensive O2O market strength of third-tier cities is slightly weaker than the national average, but their O2O network development environment and industry support are fairly good, showing a certain potential value for market development. In these cities, the probability for O2O users to use social networking platforms, log in video websites and play online games is the highest, where social networking and network entertainment play a positive role in promoting the conversion of O2O demand. The proportion of mobile payment users is quite high, making

mobile terminals the main carrier for cultivating O2O habit. In the catering O2O and leisure O2O fields of third-tier cities, the probability for non O2O users to convert into O2O users is high.

(Ⅱ) Development Level Assessment of Each Economic Circle

In terms of comprehensive O2O market strength, the three major economic circles are well above the national average by at least 8.5 points. The Bohai Economic Circle (BEC) scores 43 points in this regard, the highest, followed by the Yangtze River Delta Economic Circle (YRDEC) with a score of 41.2, and next by the Pearl River Delta Economic Circle (PRDEC) scoring 39.5.

In terms of O2O environmental factors, the three major economic circles show no significant difference. In the regard, PRDEC scores 49.2, the highest; the second is BEC, 47.2; and the third is YRDEC, 44.3, basically the same as the national average. PRDEC has the highest network development level that scores 75.6, a high utilization ratio of mobile Internet, a broad 4G user scale, and strong network security awareness, all of which are big contributors to its advantages in environmental factors. In terms of O2O information demand, BEC is well ahead of the other two economic circles. In comparison, YRDEC has obvious advantages in industrial support capabilities, courier business volume, and income level.

With respect to O2O application level, BEC scores 46, well above the national average (23.8), followed by YRDEC, 37.3, and next by PRDEC, 34. BEC has the highest O2O user penetration and particularly, the situation in Beijing is obviously better than in Shanghai and Guangzhou. In BEC, the proportion of O2O users who book train tickets online is 32.9%, respectively 1.5 and 7.4 percentage points more than in YRDEC and PRDEC. In BEC, the O2O user penetration rate is 20.6% for online car-hailing and 13.6% for online medical services, both 1.4 percentage points higher than in YRDEC, and respectively 8 and 1.2 percentage points higher than in PRDEC. From the perspective of O2O application scope, user coverage and business coverage, the three major economic circles are basically at the same level. But in terms of O2O application depth, i.e., the distribution level of moderate and heavy users of O2O, the situation in YRDEC and PRDEC is much better than in BEC. The proportion of moderate and heavy O2O users put together is 38.2% and 26.9% in YRDEC and PRDEC, respectively 30.4 and 19.2 percentage points higher than in BEC.

With regard to O2O development potential, YRDEC has the highest score of 42.1, followed by BEC, 35.8, and next by PRDEC, 35.1. All the three economic circles are above the national average (24.3). YRDEC has the biggest O2O development potential, where the consumption capacity of residents is relatively high and the proportions of non O2O users who intend to use O2O applications in the future for the purpose of online group-purchase of restaurant food, online car-hailing and online buying of home services is 31.6%, 23.7% and 17.4% respectively, representing a stronger consumption intention. BEC and PRDEC have basically the same O2O development potential. Compared with non O2O users in PRDEC, those in BEC have a stronger willingness to use O2O catering, leisure, home service, and medical service. In particular, the proportions of non O2O users in BEC who intend to try using O2O catering, leisure, home service, and medical service in the future are respectively 31.4%, 29.4%, 15.2% and 26.2%.

Comprehensive comparison of O2O development levels of China's three major economic circles

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
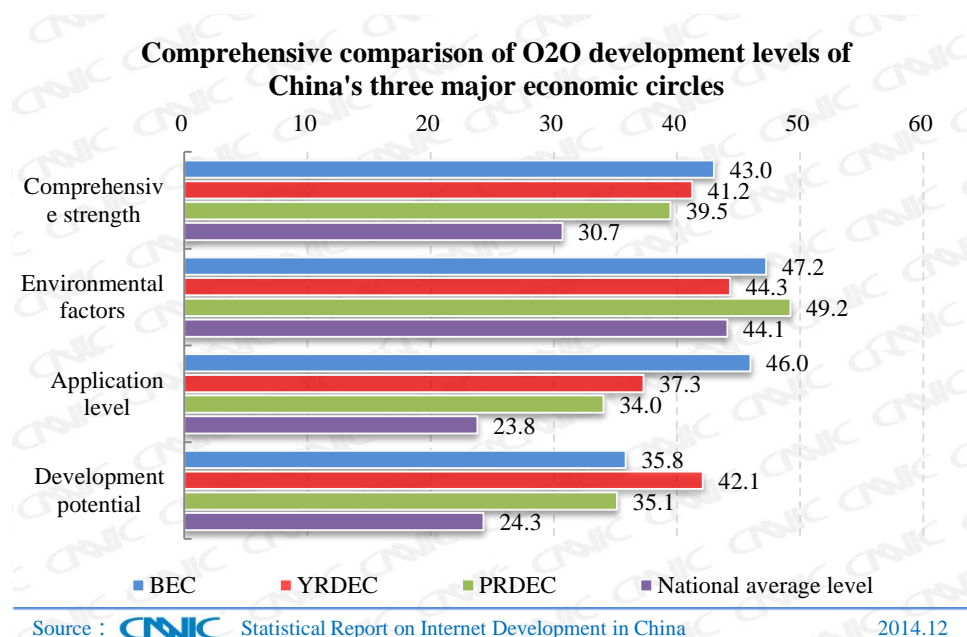
Figure 63 Comprehensive comparison of O2O development levels of China's three major economic circles

According to the above mentioned, all the three major economic circles have a big investment value and development potential. In terms of environmental advantages, PRDEC has a higher network development level and YRDEC boasts a stronger industrial support capacity, both possessing superior conditions for O2O industry deployment. In terms of O2O application advantages, BEC has a bigger O2O user scale but a relatively shallow application depth, where market opportunities lie in deepening the application habit of O2O users. YRDEC and PRDEC have more moderate and heavy O2O users, where the focus of development lies in expanding the O2O user market scale. In terms of potential advantages, markets that are relatively easy to expand in the three major economic circles are catering O2O and leisure O2O; and it is of a higher probability for non O2O users to convert into O2O users in the fields of home service and medical service.

(Ⅲ) Development Level Assessment of Key Cities

According to a CNNIC study, O2O development level is closely related with economic development level, and all the 25 cities with the highest comprehensive level of O2O development are located in or near the three major economic circles. The Pan Bohai O2O Economic Belt is composed of first-tier cities Beijing and Tianjin, provincial capital cities Shenyang, Shijiazhuang and Jinan, and other cities Dalian and Qingdao. Among them, Shenyang and Dalian constitute an O2O city cluster in Liaoning Province, while Qingdao and Jinan form another in Shandong Province. The Pan Yangtze Delta O2O Economic Belt consists of first-tier city Shanghai, provincial capital cities Wuhan, Nanjing, Changsha, Hefei, Nanchang and Hangzhou, and other cities Suzhou and Ningbo. Among them, Suzhou, Hangzhou and Ningbo form an O2O city cluster. The Pan Pearl River Delta O2O Economic Belt comprises first-tier cities Guangzhou and Shenzhen, provincial capital city Fuzhou, and other cities Foshan and Xiamen. Among them, Guangzhou, Shenzhen and Foshan make up an O2O city cluster in

Guangdong Province, while Fuzhou and Xiamen form another in Fujian Province. Whether in these pan O2O economic belts or in the O2O city clusters, economies of scale and maximization of value will be realized if full play is given to their clustering effect and joint efforts are made to promote O2O economy.

Figure 64 TOP 25 cities in terms of comprehensive O2O development level and three major O2O economic belts

Among first-tier cities, Beijing ranks first in terms of comprehensive O2O development level, well ahead of others, Guangzhou ranks second, closely following Beijing, and Shenzhen surpasses Shanghai to take the third place, with the fourth and fifth places taken by Shanghai and Tianjin. The reasons are obvious: Beijing has a higher network development level, bigger O2O information demand and larger O2O user scale, where the O2O penetration rate is 21.7% for hotel reservation, 19.4% for car-hailing, and 16.1% for medical services, and the probability for non medical O2O users to convert into medical O2O users is 27.1%. Guangzhou has a relatively strong industrial support capability. The city's courier business volume is in excess of 1.39 trillion pieces; the catering O2O user penetration rate is high, with a user penetration rate of 30.2% for O2O group-purchase of restaurant food; and the probability for non O2O users to convert into O2O users is high: 35.8% for O2O restaurant seat reservation, 32.5% for O2O leisure, and 17.0% for home services.

Shenzhen boasts a relatively high level of mobile network development. The city's overall O2O user penetration rate is as high as 63.1%, in which leisure O2O user penetration rate is 24.5% and air ticket booking O2O user penetration rate is 23%. The probability for non group-purchase catering O2O users to convert into group-purchase catering O2O users is 32.2%. Shanghai also has a relatively strong industrial support capability, where the courier service income is in excess of RMB 36.1 billion and the O2O user penetration rate is 14.3% for online travel booking. Tianjin has a relatively balanced O2O development, performing fairly well on all indicators.

Figure 65 TOP 25 cities in terms of comprehensive O2O development level – ranking of first-tier cities

Among provincial capital cities, the top three cities in terms of comprehensive O2O development level are Wuhan, Changsha and Hangzhou, followed in sequence from 4th to 14th by Shenyang, Nanjing, Hefei, Chengdu, Shijiazhuang, Nanchang, Jinan, Xi'an, Lanzhou, Zhengzhou and Fuzhou. The reasons are: Wuhan has a big O2O information demand and a high O2O user penetration rate (69.1%). The O2O user penetration rate is 34.8% for group-purchase of food, 35.9% for leisure, 22.3% for hotel reservation, 31.5% for car-hailing, and 13.3% for medical services. Changsha has a high level of mobile network development with a strong industrial support capability, where the probability for non O2O users to convert into O2O users is high: 41.8% for non O2O users of group-purchase of food, 37.1% for non O2O users of leisure services, and 37.6% for non O2O users of online car-hailing. Hangzhou boasts a strong industrial support capability, where courier business volume is 845.628 million pieces, courier service income is RMB 10.22 billion, the tourism O2O penetration rate is high, air ticket booking O2O user penetration rate is 22.1%, and travel booking O2O user penetration rate is 15.5%.

In Hefei, the probability for non O2O users to convert into O2O users is high: 40.9% for reservation of restaurant seats, and 23.4% for home services. Jinan has a relatively high O2O user penetration rate for reservation of restaurant seats, 28.3%. In Lanzhou, the probability of non medical O2O users to convert into medical O2O users is 31.8%.

Figure 66 TOP 25 cities in terms of comprehensive O2O development level – ranking of provincial capital cities

Among other cities, the top three cities in terms of comprehensive O2O development level are Suzhou, Foshan and Qingdao, followed by Ningbo, Dalian and Xiamen ranking from the 4th to 6th place. Suzhou has a strong industrial support capability with a big O2O information demand, where the O2O user penetration rate for group-purchase of food is as high as 25.4%. Foshan boasts a high network development level with an O2O user penetration rate of 62.5% in which the penetration rate for hotel reservation is 20.8% and that for travel booking is 13.7%. In Qingdao, the O2O user penetration rate is 21.6% for air-ticket booking and 30% for online car-hailing; and the probability for non group-purchase catering O2O users to convert into group-purchase catering O2O users is 34.1%. Ningbo has a strong industrial support capability where the O2O user penetration rate is 22.1% for restaurant seat reservation and 17.9% for medical services, and where the probability for non O2O users to convert into O2O users is as high as 31.9% for leisure, 30.8% for online car-hailing, 26% for home services, and 30.1% for medical services. In Dalian, the probability is as high as 32.4% for non users of O2O restaurant seat reservation to convert into users of O2O restaurant seat reservation. Xiamen has a relatively high level of network development, where the O2O user penetration rate is 25.6% for leisure.

Figure 67 TOP 25 cities in terms of comprehensive O2O development level – ranking of other cities

(Ⅳ) Research of User Application Level

In the present study conducted by CNNIC, users who frequently use O2O applications are defined as "heavy users"; those who often use O2O applications are referred to as "moderate users"; those who occasionally use these applications are described as "light users"; those who know but have not used O2O applications are classified as "potential users"; and those who do not know such applications at all are categorized as "to-be-developed users".

Statistics show that O2O application level decreases in the order from first- to third-tier cities. First-tier cities have the largest number of heavy O2O users, 21.2% of the national total; second-tier cities have the largest populations of moderate and light users, 19.6% and 29.2% of the national total respectively; and third-tier ones have the largest number of potential users, 36.6% of the national total.
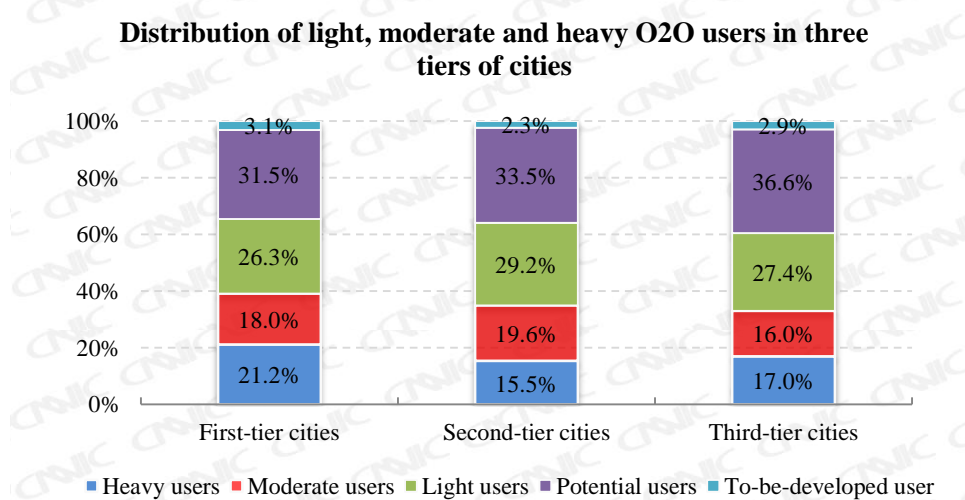
Figure 68 Distribution of light, moderate and heavy O2O users in three tiers of cities

O2O users in first-tier cities like social networking and online shopping in their free time and therefore, the probability for them to use social networking platforms and shopping websites is the highest. O2O users in second-tier cities are more interested in online reading in their spare time, so the probability for them to use portal websites is the highest. Those in third-tier cities are reliant on social networking and entertainment, so the probability for them to use social networking platforms, log in video websites and play online games is the highest.

Distribution of O2O users on various Internet platforms in leisure time in three tiers of cities

	First-tier cities	Second-tier cities	Third-tier cities
Online games	6.2%	7.9%	13.1%
Video websites	24.7%	30.1%	32.2%
Shopping websites	52.9%	40.0%	45.7%
Social networking platforms	51.0%	44.8%	51.0%
Forums and post bars	10.4%	11.4%	12.1%
Portal websites	35.7%	37.8%	26.3%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
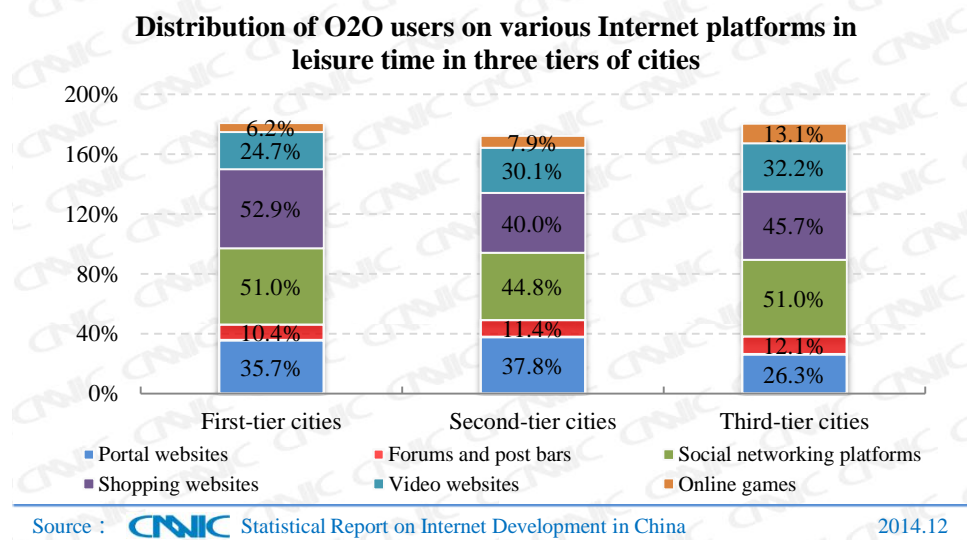
Figure 69 Distribution of O2O users on various Internet platforms in leisure time in three tiers of cities

In the three tiers of cities as a whole, 50% of O2O users like sharing consumption experiences on social media. This percentage is a little higher in third-tier cities: 56%.

Willingness of O2O users to share consumption experiences online in three tiers of cities

	First-tier cities	Second-tier cities	Third-tier cities
Unwilling to share	49.5%	50.7%	44.0%
Willing to share	50.5%	49.4%	56.0%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
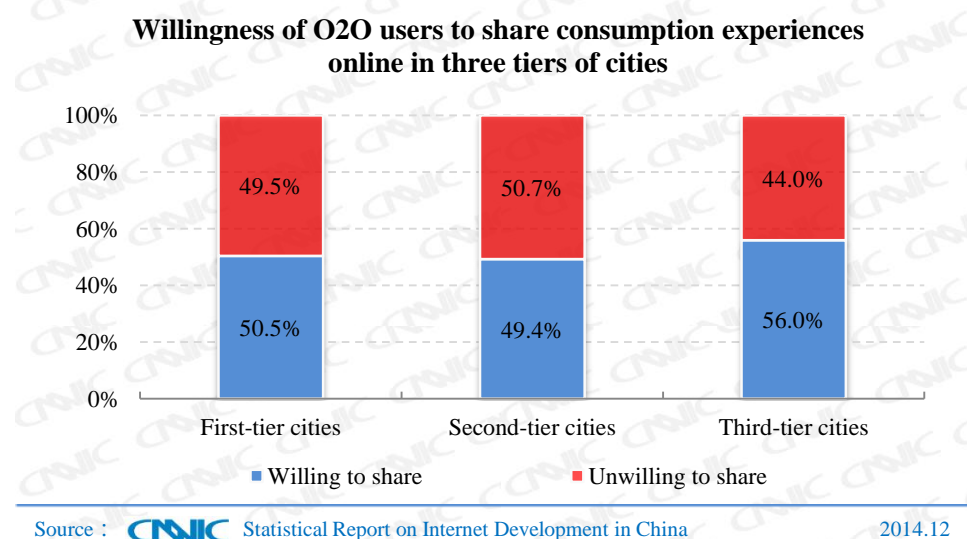
Figure 70 Willingness of O2O users to share consumption experiences online in three tiers of cities

In first-tire cities about 60% O2O users are more interested in using Wechat to share

consumption experiences; in second-tier ones, a higher percentage of O2O users like to use social networking websites and microblogs for this purpose. In third-tier cities, however, as many as 63.4% O2O users use social networking websites for the same purpose, the highest of all.

The ways in which O2O users share consumption experiences on social media in three tiers of cities

Source: **CNNIC** Statistical Report on Internet Development in China 2014.12
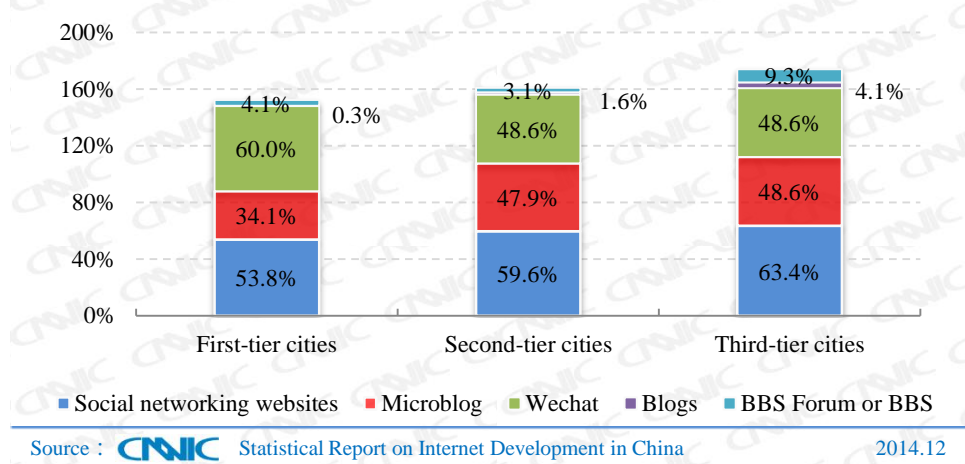
Figure 71 The ways in which O2O users share consumption experiences on social media in three tiers of cities

In first-tier cities, the frequency for O2O users to interact with each other on social networking websites is not high, only 41.5% of whom occasionally make comments or reply to comments. In second-tier cities, the frequency of such interaction is not high either, with 33.9% of O2O users only browsing comments without replying. In third-tier cities, however, more O2O users are willing to interact, 15.8% of whom make and reply to comments every now and then.

O2O users' behavior of posting comments/replying to comments on social media in three tiers of cities

Source: **CNNIC** Statistical Report on Internet Development in China 2014.12
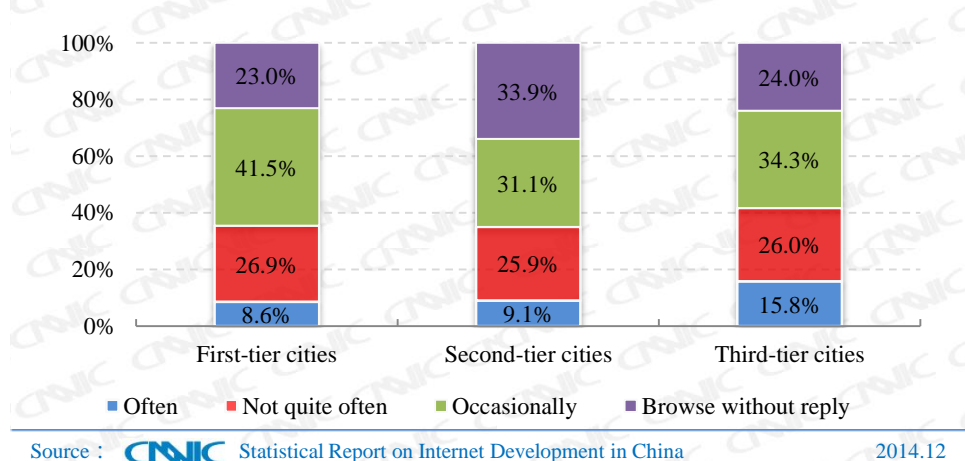
Figure 72 O2O users' behavior of posting comments/replying to comments on social media in three tiers of cities

Ⅲ O2O Market Development Trend

O2O consumption is shifting from incremental development to qualitative development in first-tier cities, while second- and third-tier cities will come into the stage of incremental development

According to studies, first-tier cities have the strongest comprehensive O2O market strength: a sound basic network environment serves as a solid foundation for O2O market development; O2O enterprises made their first deployment in these cities where they quickly concentrated a large number of O2O users by satisfying their hungry needs for O2O information; first-tier cities have a bigger consumption capacity and higher Internet application level, thanks to which large numbers of netizens become heavy O2O users; and since the probability for non O2O users to convert into O2O users in first-tier cities is about the same as in second- and third-tier cities, the focus of O2O development in first-tiers cities is to deepen O2O users' application, improve their consumption level and enhance their application frequency. Second- and third-tier cities have a fairly good network development environment with a relatively strong industrial support capability, where the development focus is to cultivate an O2O consumption habit and quickly expand the O2O user scale.

YRDEC and PRDEC are expanding and taking advantage of their huge user scale, while BEC is further tapping users' needs to realize maximum value

Through the Internet, O2O business is integrating online and offline resources and promoting coordinated development of online economy and offline economy. YRDEC and PRDEC have a high network development level and strong industrial support capability, which has provided necessary conditions for the rapid development of O2O business and remarkable expansion of the O2O user scale. In addition, the two economic circles also boast a high Internet penetration rate, third-party payment penetration rate and good Internet application habit, all of which have promoted the development of local O2O life services. BEC has already possessed a big O2O user scale and high Internet application level, where inter-connection of and frequent population flow between city clusters will boost the O2O economy of Tianjin and Tangshan. Since BEC, especially Beijing, already has a huge O2O user scale, its future development will focus on further tapping the needs of O2O users.

The market pattern is maturing for O2O catering and leisure, while market demand for O2O medical and home services is to be released

Seen from the enterprise level, O2O catering and leisure originates from group purchase, but now the pattern of group-purchase market has basically stabilized. So, O2O catering should seek refined development on the basis of group purchase. Seen from the user level, first- and second-tier cities have achieved a high user penetration rate for O2O catering services and leisure services, with a high probability for non O2O users to convert into users of O2O catering and leisure, which means that the market of O2O catering and leisure has become relatively mature. But O2O medical and home services are just starting in these cities. In big and medium-sized cities nowadays, it is more and more difficult to see a doctor, and a lot of people do not have enough time to do housework. Therefore, the market demand for O2O medical and home services is big and the probability for non O2O users to convert into users of O2O medical and home services is high due to a strong consumption capacity in first- and second-tier cities.

Chapter Ⅸ Development of Online Video Market

Ⅰ. Online Video User Scale in China

The network video user scale has been on the rise since 2008, reaching 433 million by the end of 2014, an annual increment of 4.78 million, with a utilization ratio of 66.7%, a drop of 2.6 percentage points from the end of 2013. The online video utilization ratio of new netizens is around 50%, indicating that the role of network video in driving the growth of new-netizen population is weakening, and that although user scale keeps increasing, the utilization ratio is on the decline.

Online video user scale and utilization ratio from 2008 to 2014

10,000 people

Source： CNNIC Statistical Report on Internet Development in China   2014.12
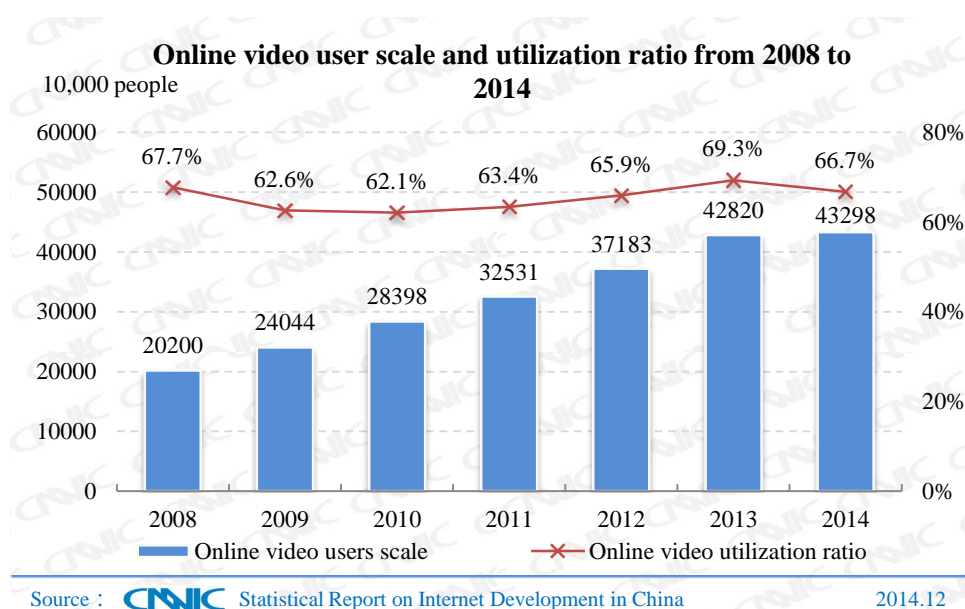
Figure 73 Online video user scale and utilization ratio from 2008 to 2014

Ⅱ. Online Video Terminal Equipment Usage

(Ⅰ) Terminal Devices for Watching Online Video

Surpassing PC, mobile phones became the first terminal device for watching network video programs

71.9% of users choose to use mobile phones to watch online video, and this percentage is 71.2% for desktops/laptops, 23.3% for Tablet PCs, and also 22.4% for TVs, a fact that shows mobile phones have become the first terminal device for watching online video, with tablet PCs and TVs as supplementary tools for this purpose.

Utilization ratios of different terminal devices for watching online video

Source： CNNIC Statistical Report on Internet Development in China   2014.12
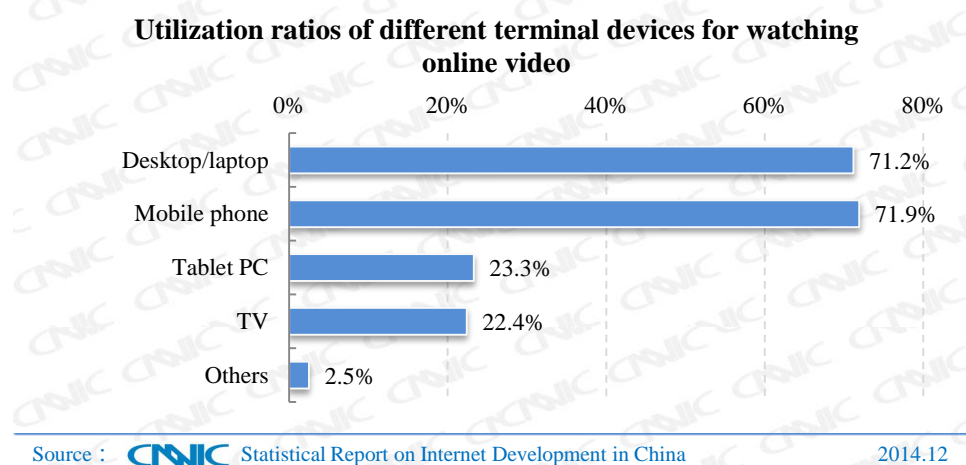
Figure 74 Utilization ratios of different terminal devices for watching online video

With the upgrading of network environment plus the advantage that mobile-end video makes it possible to use time fragments to watch online video at any place, the size of mobile video users are increasing rapidly. Seen from the trend of usage of terminal devices, the proportion of online video watchers is declining at the PC end but rising at the mobile end.

Comparison of utilization ratios of different terminal devices for watching online video

Source： CNNIC Statistical Report on Internet Development in China   2014.12
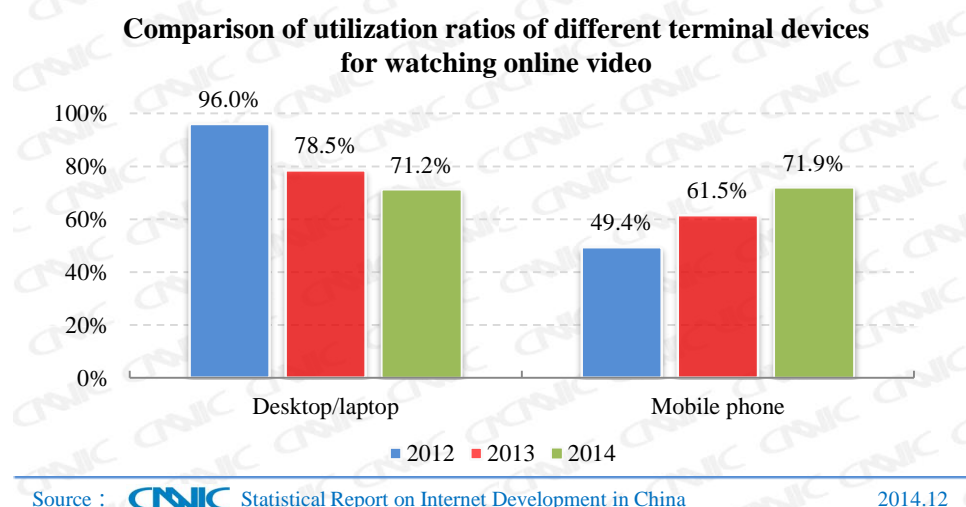
Figure 75 Comparison of utilization ratios of different terminal devices for watching online video

"Home" is the foremost place for watching online video, followed by public places

"Home" is the first place for most people to watch online video programs, where the utilization ratios of desktops/laptops and tablet PCs are both above 87% and the utilization ratio of mobile phones is close to 80%. This fact also foretells the development prospect of Internet TV. Since home is the main place for people to pass time and have fun with TV as the entertainment center, TV, especially big-screen Internet TV will become an important device for watching network video programs in the future due to the advantages that the user can choose the program at will, watch it at any time that is convenient for them, and enjoy a satisfactory watching experience.

In addition, public places with Internet access conditions are also an important scene for watching network video programs, especially for mobile-end watchers.
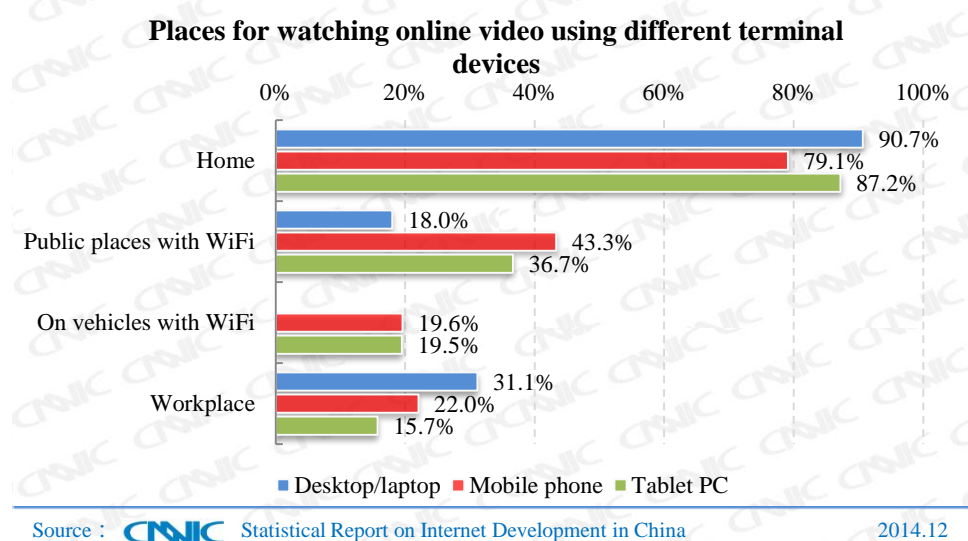
Figure 76 Places for watching online video using different terminal devices

(Ⅱ) Duration of Online Video Watching

Seen from the duration of online video watching on different terminal devices, the longest duration is on desktops/laptops on which 32.4% users spend at least 2 hours watching online video every day. The second-longest duration is on tablet PCs on which 20.9% users spend at least 2 hours each day. The duration of mobile-end online video watching is relatively short. TV dramas, movies and other long video programs have increased the viscosity of users. More than 80% users watch these programs for at least 30 minutes each day on desktops/laptops and tablet PCs. At the mobile end, this percentage is 56.1%.

Durations of online video watching on different terminal devices

Source: CNNIC Statistical Report on Internet Development in China   2014.12
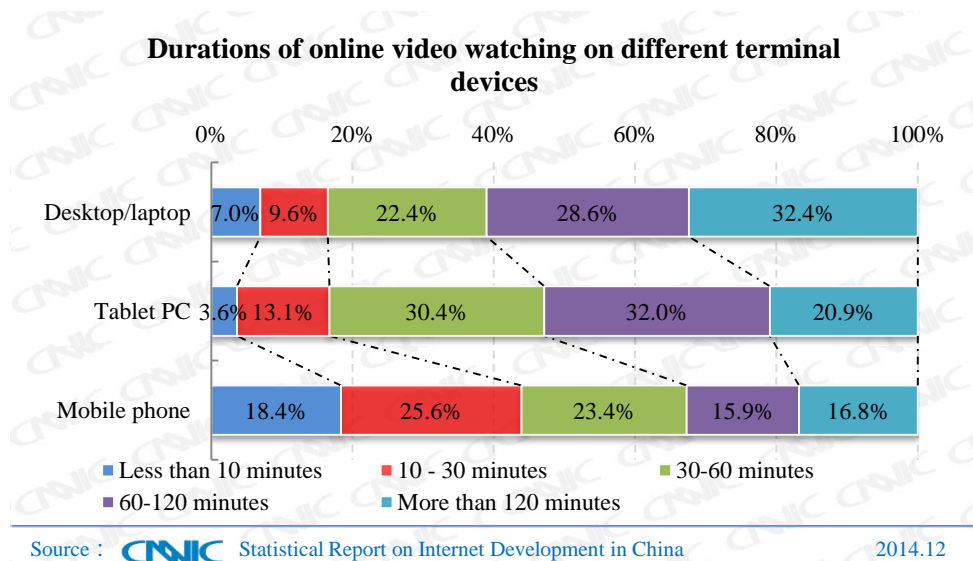
Figure 77 Durations of online video watching on different terminal devices

(Ⅲ) Paths for Online Video Watching

Network set-top boxes and smart TVs are the main path for TV viewers to watch online video programs

Of those who watch online video on TV, 58.5% use smart TVs and 70.0% use network set-top boxes. Set-top boxes of the broadcasting and television industry and those of the Internet industry enjoy the same market share, both 25%, followed by IPTV, nearly 10%.

Utilization ratios of different TV terminal devices

Source: CNNIC Statistical Report on Internet Development in China   2014.12
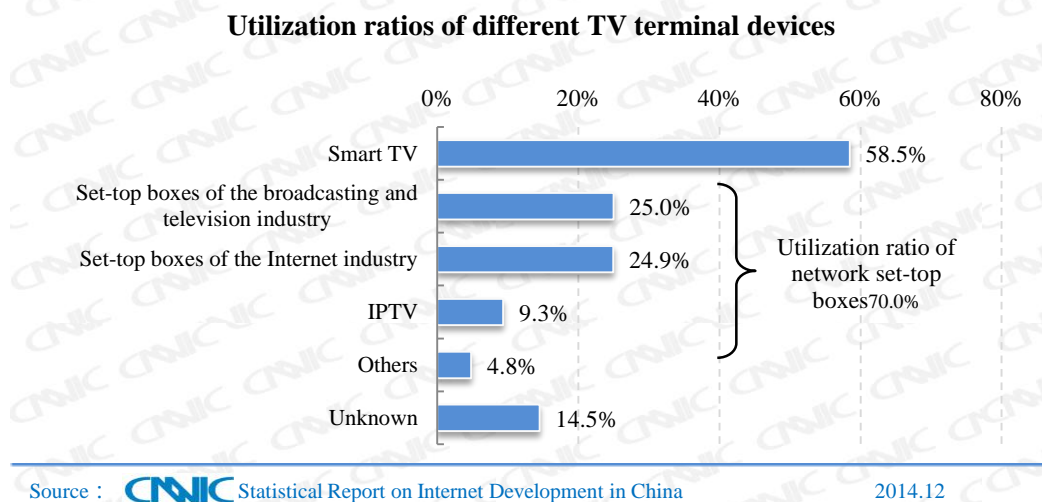
Figure 78 Utilization ratios of different TV terminal devices

When TV is used to watch online video, the main forms are Internet live broadcast, video-on-demand (VOD), and program playback. As revealed by the survey, 80.4% of Internet TV viewers have the experience of using VOD functions, to which 36.3% is contributed by frequent users and 44.1% by occasional users. The rest 19.6% viewers say they have never used VOD functions. Popularization of VOD functions shows that the pay-per-view (PPV) mode of Internet TV is becoming more and more mature.

Usage of VOD functions of Internet TV

Source： CNNIC Statistical Report on Internet Development in China   2014.12
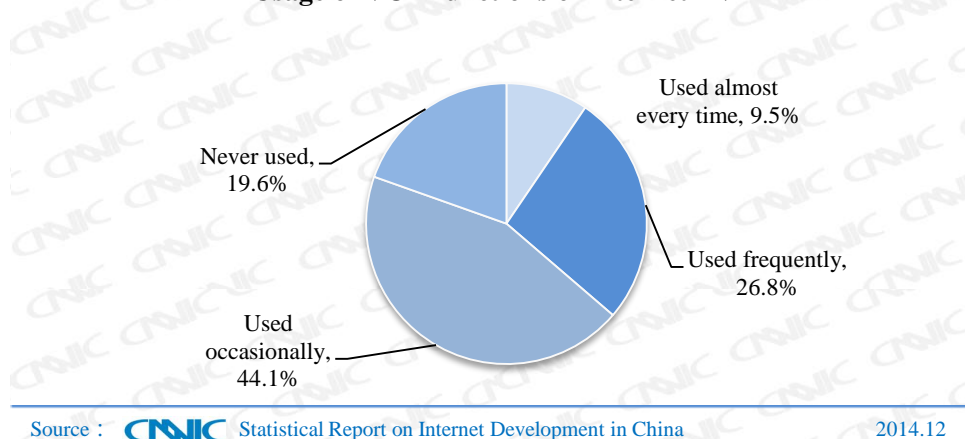
Figure 79 Usage of VOD functions of Internet TV

In addition to VOD functions, another big advantage of Internet TV over traditional TV is the playback function which enables viewers to freely choose the program they like to watch and the time to watch it when it is convenient to them. According to the survey, 67.3% of Internet TV viewers have the experience of using playback functions, of which frequent users constitute 27.1%. The State Administration of Press, Publication, Radio Film and Television has nullified the playback functions provided on the integrated Internet TV broadcasting platform, which will cause certain inconvenience to those who use Internet boxes to watch video playbacks.

Usage of Internet TV playback functions

Source： CNNIC Statistical Report on Internet Development in China   2014.12
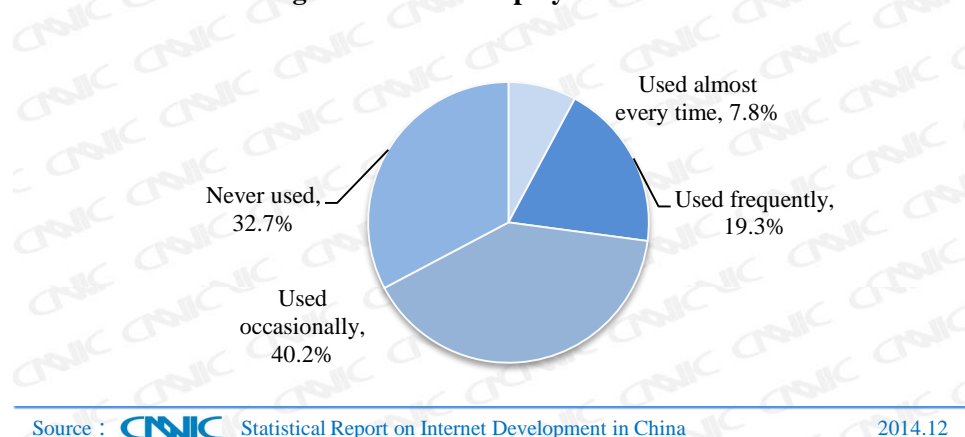
Figure 80 Usage of Internet TV playback functions

The brand effect of video websites is on the rise while the diversion effect of search engines is on the decline

At the PC end, the proportions of users who watch online video from the video client and those who do so by directly visiting the video website are both around 35%. Those who use search engines to search the video before watching it account for 27.5%. This shows that most users have been familiar with certain video websites or have installed video clients, that many people have developed a habit of directly visiting the video website, and that the brand effect of video websites is on the rise while the diversion effect of search engines is on the decline. The

situation at the mobile end is more so, where more than 60% of users search and watch online video from the video client and those who use search engines to search the video before watching it account for less than 20%.

Paths for watching online video using different terminal devices

Source： CNNIC Statistical Report on Internet Development in China   2014.12
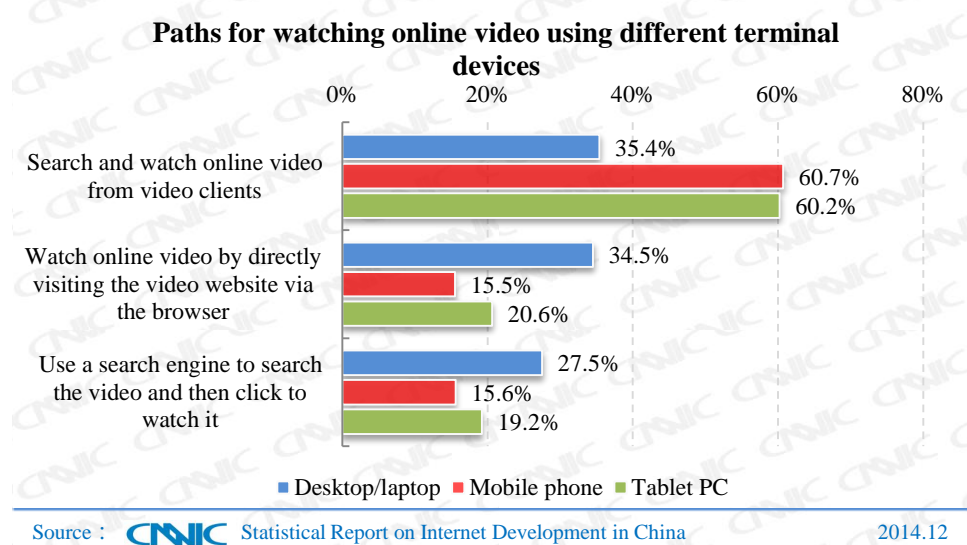
Figure 81 Paths for watching online video using different terminal devices

At the mobile end, the most important way for watching online video is to use video clients

At the mobile end, 44.4% of mobile phone users and 50.6% of tablet PC users watch network video programs online via video clients; 16.3% of mobile phone users and 9.6% of tablet PC users watch network video by means of offline caching.

Paths for watching network video at the mobile end

Source： CNNIC Statistical Report on Internet Development in China   2014.12
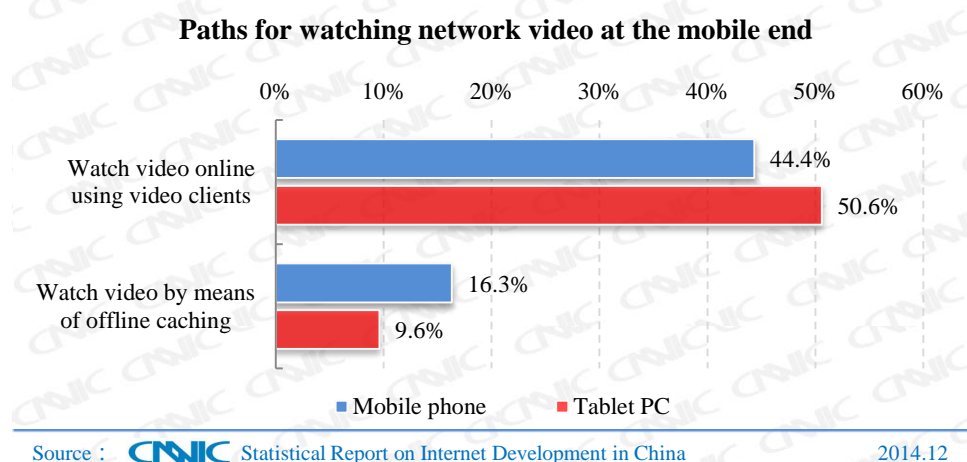
Figure 82 Paths for watching network video at the mobile end

Network video viewers, especially female viewers, are mainly attracted by the content rather than the brand of the video website

At the PC end, it is almost costless for a user to shift from one video website to another. At the mobile end, the cost is just to install a new video client. To watch a particular network video program, 56.5% mobile users will install a new video client, and this percentage is as high as 67.6% for female users, indicating that video websites attract viewers mainly by content rather than by

brand. Therefore, it is high-quality content that determines the size of audience of a video website.

Usage of mobile client for watching network video

Source： Statistical Report on Internet Development in China   2014.12
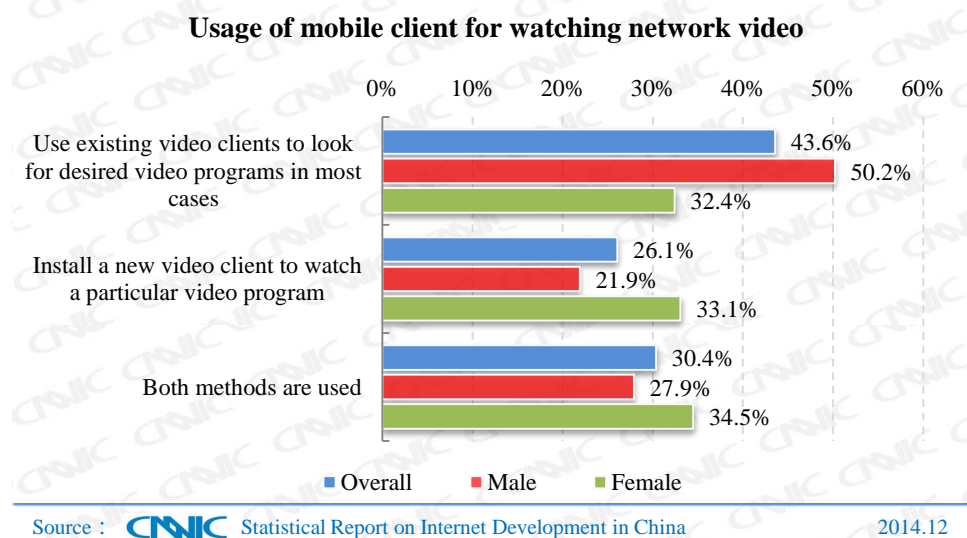
Figure 83 Usage of mobile client for watching network video

Ⅲ. Competitive Landscape of Main Video Websites

In 2014 the pattern of competition between main video websites is basically stabilized. Youku, a video platform that has integrated professional films & television programs, self-produced programs and UGC contents is high above others in terms of overall brand penetration rate, the proportion of loyal users and the percentage of paying users. Taking the second and third places are respectively Qiyi/iQiyi and Tencent Video thanks to large numbers of users of their search engines and portal websites plus their vast investments in popular variety shows and self-produced dramas. With a powerful diversion capability, brand image, overall brand penetration rate, and mobile-end brand penetration rate, Baidu Video occupies the fourth place although it does not directly provide video services at the PC end. By giving priority to user UGC content, Tudou ranks the fourth in terms of the proportion of loyal users (16.1%). With good performance on mobile-end brand penetration, Sohu Video takes up the fourth place in terms of the proportion of paying users (4.7%).

As observed through the survey, video websites that perform outstandingly are either those under the powerful support of Baidu, Alibaba, Tencent or other major capitals, or those that persist in their own uniqueness to differentiate themselves from others. At present, major video websites are still exploring how to make profits.

Table 10 User penetration of major video websites

	Overall brand penetration rate	PC-end brand penetration rate	Mobile-end brand penetration rate	Proportion of loyal users	Proportion of paying users
Youku.com	63.0%	48.1%	48.3%	40.4%	10.7%
Qiyi/iQiyi.com	56.6%	41.2%	41.6%	22.2%	6.6%

v.qq.com	54.2%	39.8%	43.2%	22.3%	5.1%
Video.baidu.com	48.8%	32.8%	32.9%	10.5%	2.5%
Tudou.com	47.3%	34.2%	27.2%	16.1%	4.0%
Tv.sohu.com	46.4%	31.9%	30.9%	13.8%	4.7%
Letv.com	39.5%	26.0%	24.9%	7.4%	1.9%
PPS.tv	39.0%	28.6%	23.0%	5.4%	0.8%
PPTV.com	37.0%	26.3%	25.5%	6.7%	1.2%
Kankan.com	32.9%	23.8%	18.1%	7.6%	2.4%
360kan.com	30.8%	21.2%	18.5%	2.8%	0.5%
Video.sina.com.cn	25.8%	16.7%	15.6%	1.6%	0.2%

Ⅳ. Content Preference of Network Video

（Ⅰ）Different Types of Video Contents Watched on Different Terminal Devices

Users' content preference is different on different terminal devices. On desktops/laptops or tablet PCs, they prefer to watch long videos. When using mobile phones, they tend to watch short videos, especially funny and game videos.

Movies, TV dramas and variety shows are most favored by video users at present. These contents, especially movies and TV dramas, are also the areas where major video websites have invested most heavily. But movies and TV dramas are updated too quickly and their contents are often repetitive, so their contribution to the brand image of video websites is limited.

Funny videos are the most preferred content for 23.2% mobile video users, followed by variety shows. In addition, users' preference for original videos and game videos is on the mobile also higher than other terminal devices. In the future, video websites may provide different video contents for users of different terminal devices according to the above characteristics, so as to realize well-targeted marketing.

Video contents preferred by users of different terminal devices
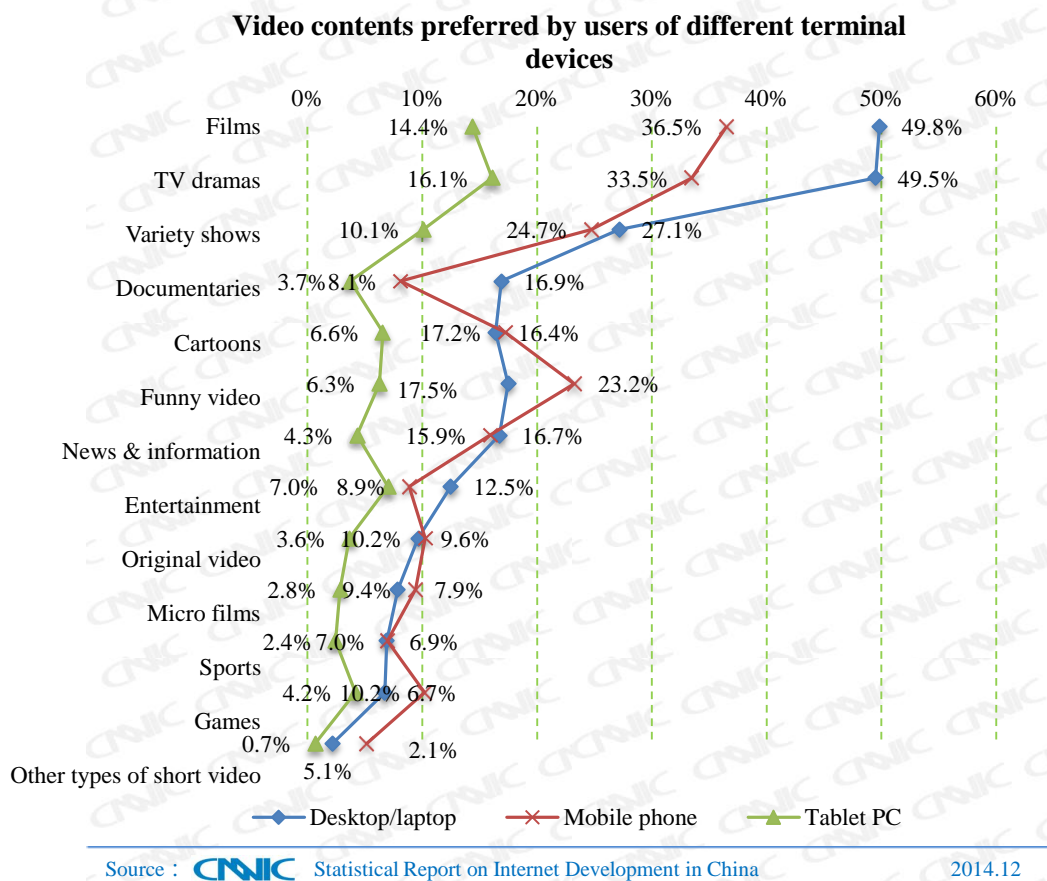
Figure 84 Video contents preferred by users of different terminal devices

Source： CNNIC Statistical Report on Internet Development in China   2014.12

（Ⅱ）Watching of Popular TV Series

38.8% of video users watch popular TV series completely online, 20.7% mostly online, and 14.9% completely on TV.

Traditional TV media has some congenital disadvantages: the program cannot be saved or replayed; the viewer is passive; the length of playing time is restricted; and the advertisement is too long. Network videos do not have such disadvantages and therefore, better meet users' needs. However, purchasing popular TV series in large quantities has also significantly increased the cost of video websites.

Watching popular TV series

Seldom watch popular TV series, 16.7%

Mostly watch online and occasionally watch on TV, 20.7%

Mostly watch on TV and occasionally watch online, 8.8%

Watch on TV, 14.9%

Watch online, 38.8%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
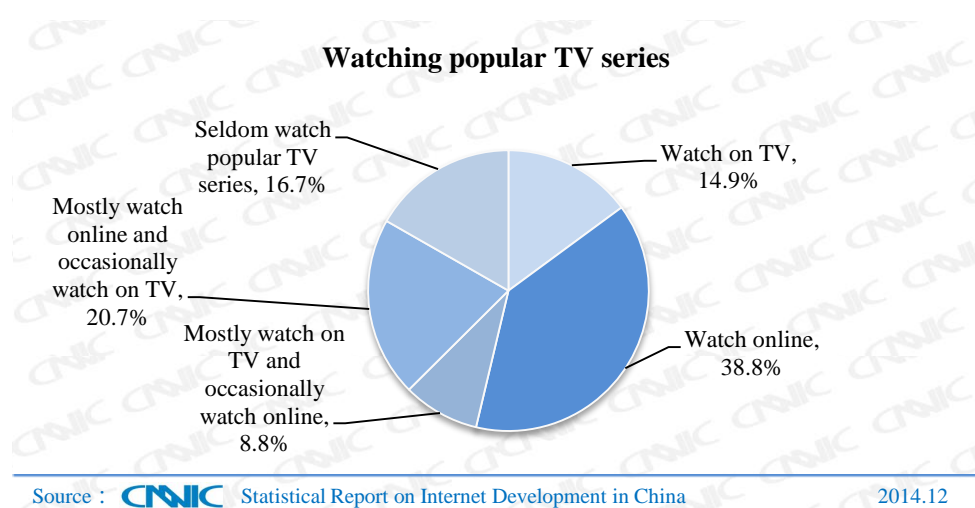
Figure 85 Watching popular TV series

（Ⅲ）Users' interest in Website-Produced Videos

Early in 2014 when major TV stations began to tighten video program copyright control, several video websites declared the arrival of "the first year of website-produced videos" and decided to inject more fund in this field. Although in the 2014 network video market there were some self-produced video dramas/programs that were quite popular with the audience and increased the visibility and user traffic of the websites, most of the dramas/programs were not very well accepted by the audience and failed to bring expected economic returns to the websites.

According to the present survey, only 21.7% / 23.1% of users are interested in website-produced programs / dramas; 47.4% of them only watch the contents they are interested in but do care whether they are self-produced or not; and another 16.4% show little interest in website-produced contents. It is evident that the focus of network video users' interest is on "content" rather than on whether the video is website-produced or not.

Users' interest in website-produced videos

Interested in website-produced video programs, 13.2%

Interested in website-produced video dramas, 14.6%

Interested in both website-produced video programs and dramas, 8.5%

Not very interested in website-produced contents, 16.4%

Only watch the contents which they are interested in, without caring whether the contents are produced by the website or not, 47.4%

Source： **CNNIC** Statistical Report on Internet Development in China

Figure 86 Users' interest in website-produced videos

Ⅴ. Development Trend of Online Video Industry in China

Network video came into China about 10 years ago in 2004. With the injection of large amounts of venture capital, the network video industry has developed rapidly and grown mature, becoming a main application for leisure and entertainment. Today, the pattern of the network video industry has been basically solidified, and therefore, industry players have to seek new breakthroughs in business mode. Based on the data collected in the present survey, CNNIC predicts that the industry will develop toward the following directions in the future:

Integrated multi-screen PCs, cell phones, tablet PCs and TVs will develop hand in hand, and Internet TV will become the center of home entertainment. In the early days of network video development, PC was the main device for people to watch online video programs. In the current age of mobile Internet, however, more and more people begin to use cell phones, tabletPCs or other mobile devices for this purpose. In 2013 Internet companies began to launch their own Internet TVs and set-top boxes, which have brought changes to the living-room entertainment ecology. Internet-connected TVs will play a central role in the living room in the future.

Sinking to hardware, the "platform + content + terminal" mode will become the mainstream of the future video industry. In the video industry so far, the focus of competition has been "content" with which websites attract users. In the future, however, industry giants will seek competitive edges by hardware-software integration. In the first half of 2014 the video industry's smart-hardware market was very brisk. Smart hardware plays the same role as Internet traffic entrance does.

Content will continue to be the core competitiveness of video websites. As video copyright management is more and more standardized, high-quality content copyright will bring greater user traffic. Therefore, the fierce competition between major video websites for high-quality content copyright will continue. At the same time, the websites will continue to make

heavy investments in self-produced contents based on their own resources and operational advantages. In the years to come, launching self-produced videos will be a major strategy of video websites. In addition, video websites will strengthen collaboration with professional movie-making companies as another way of "self-production" so as to ensure the quality of content, enhance brand influence and acquire content copyright.

Chapter Ⅹ Development of Online Game Market

Ⅰ. Scale and Features of Game Users

(Ⅰ) User Scale

In December 2014 there were approximately 377.16 million online game users in China, accounting for 58.1% of the total netizen population. As a typical Internet entertainment application that is rich in content, interactive in playing, and provides players with a strong sense of participation, online games have become an indispensable part of netizens' everyday life.

User scale of online games in China in 2014

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
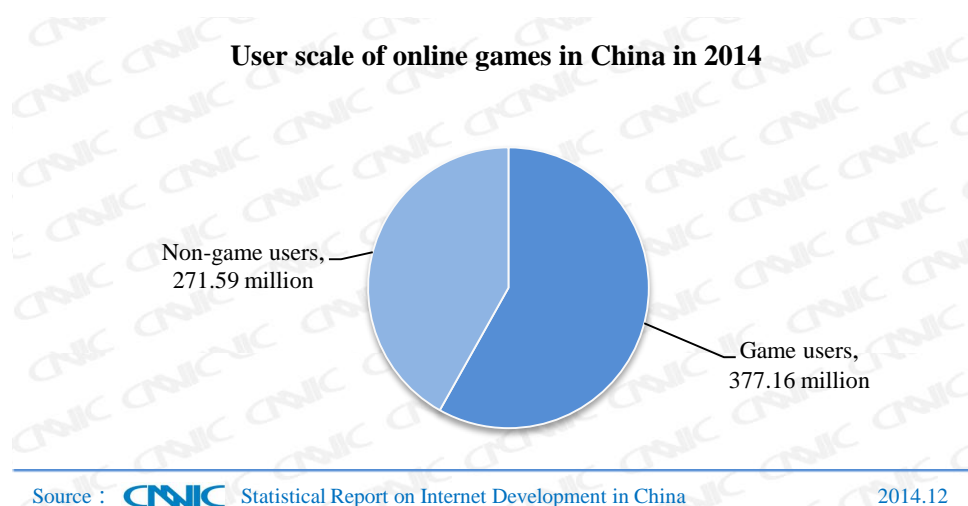
Figure 87 User scale of online games in China in 2014

In the period of 2010-2013, netizens' utilization ratio of online games was on the decline year by year. This was mainly because the increase of mobile Internet users outweighed the increase of PC netizens but mobile online games developed slower. However, this situation was beginning to change in 2014 with the maturation of mobile online games and the popularization of game terminal devices. The Chinese online game industry will maintain steady development in the next few years, trying to attract a wider range of users by developing multi-terminal multi-play game modes while constantly improving its own environment and the surrounding environment.

Online game user scale and utilization ratio in China from 2010 to 2014

10,000 people

Source: CNNIC Statistical Report on Internet Development in China   2014.12
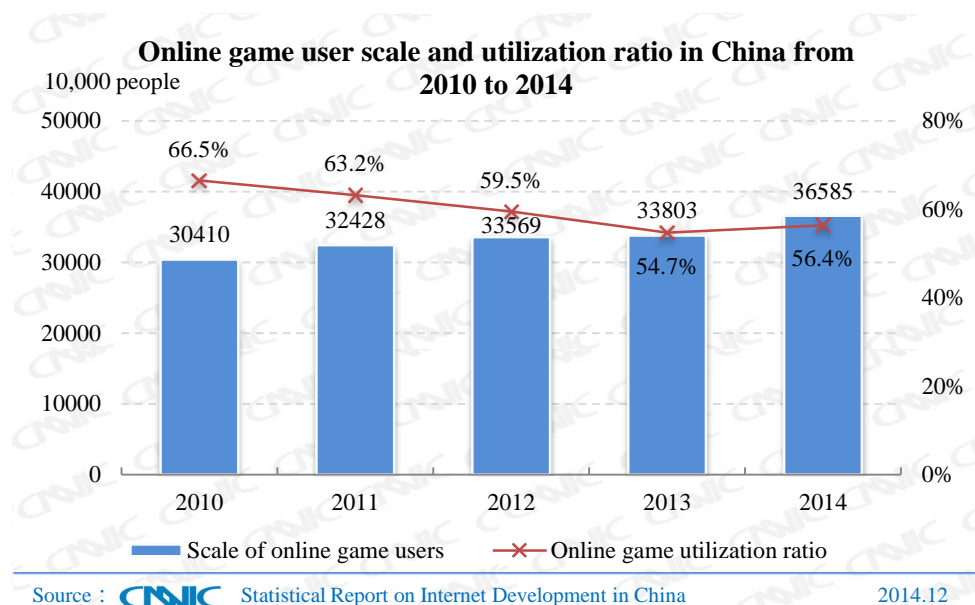
Figure 88 Online game user scale and utilization ratio in China from 2010 to 2014

Mobile online game user scale and utilization ratio in China from 2010 to 2014

10,000 people

Source: CNNIC Statistical Report on Internet Development in China   2014.12
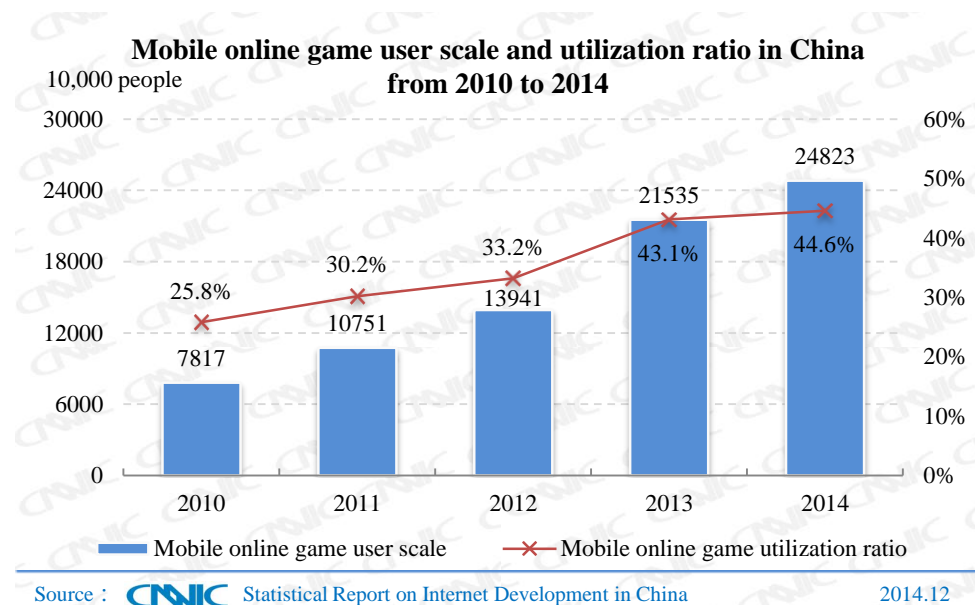
Figure 89 Mobile online game user scale and utilization ratio in China from 2010 to 2014

(Ⅱ) Usage of Internet Access Equipment and Game Devices

Compared with ordinary netizens, online game players tend to use more advanced and diversified devices for Internet access such as tabletPCs and Internet TVs.

Game players' usage of Internet access devices
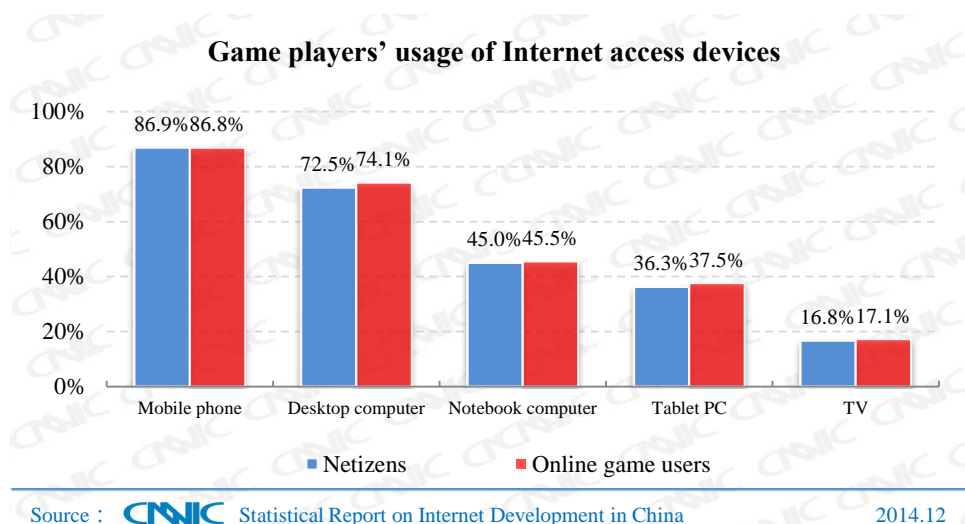
Figure 90 Game players' usage of Internet access devices

For the majority of online game players, desktops/laptops and mobile phones/tablet PCs are the most frequently used devices for game playing. The utilization ratio of professional game playing equipment such as TV game consoles and hand-held game consoles remains low. As policies concerning game consoles were improved, "Xbox One" was officially launched in China on September 29 and China-version PS4 is expected to be released in early 2015. These devices will provide more options for domestic game users and open the market of home entertainment centers and game consoles.

Usage of online game-playing devices
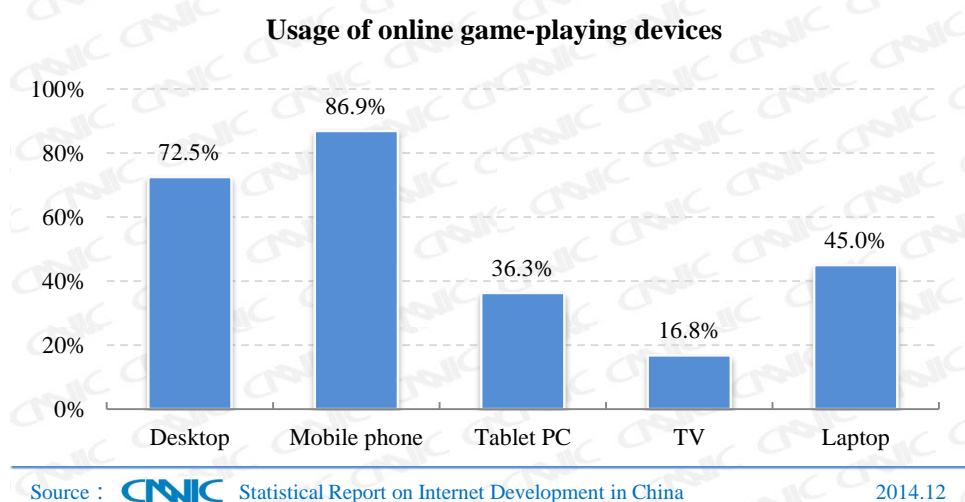
Figure 91 Usage of online game-playing devices

Ⅱ. Game Players' Behavioral Features and Preferences

（Ⅰ）PC Game Players' Behavioral Features and Preferences

1.1 Game-Playing Years of PC Online Game Users

50.6% of online game users are those who have played PC online games for at least 3 years, and 7.3% are new users who have played online games for only half a year at most, indicating that the development of PC online games is slowing down.

Game-playing years of PC online game users

Source： CNNIC Statistical Report on Internet Development in China   2014.12
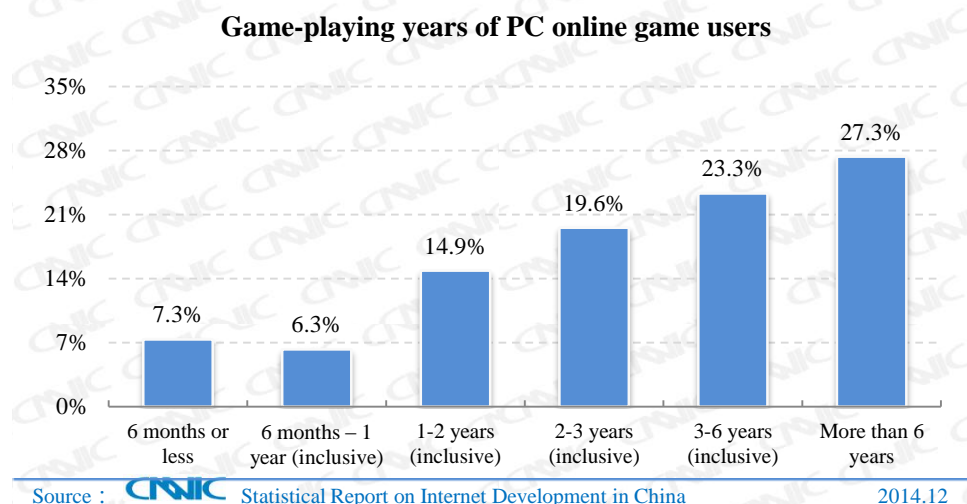
Figure 92 Game-playing years of PC online game users

1.2 Game-Playing Duration of PC Online Game Users

Most PC online game users spend averagely less than 2 hours playing games everyday, while those spending more than 2 hours each day account for only 35.5%. The daily average online game-playing duration of heavy users is obviously above the average level, with 50.6% of them spending more than 2 hours online per day.

Average PC online game-playing duration every day

Source： CNNIC Statistical Report on Internet Development in China   2014.12
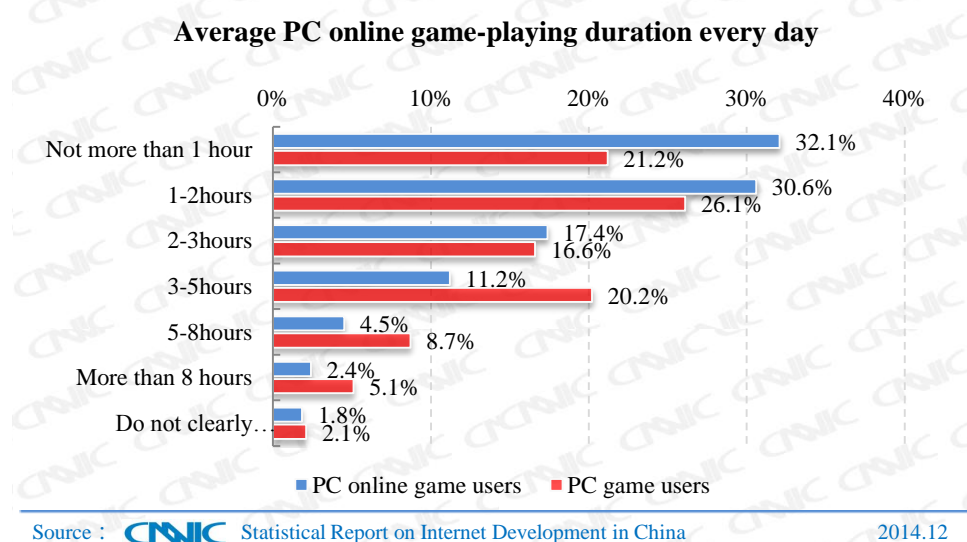
Figure 93 Average PC online game-playing duration per day

1.3 Payment for PC Online Games

Paying users account for 24.9% of PC online game users, with a monthly payment ranging from 11 Yuan and 300 Yuan. Their pay rate is 48.3%, and those paying more than 300 Yuan per month account for over 30% of all paying users of PC online games. It is evident that PC online games, which provide a strong sense of participation and rich gaming experience, play an important role in earning profits.

Payment for PC online games

	PC online game users	PC game users
Have the experience of payment	24.9%	48.3%
10 Yuan or less	2.8%	5.5%
11-50 Yuan	5.4%	8.5%
51-100 Yuan	6.1%	10.5%
101-300 Yuan	4.6%	9.3%
301-500 Yuan	2.3%	4.4%
501-1000 Yuan	1.3%	4.3%
Above 1000 Yuan	2.5%	5.8%

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
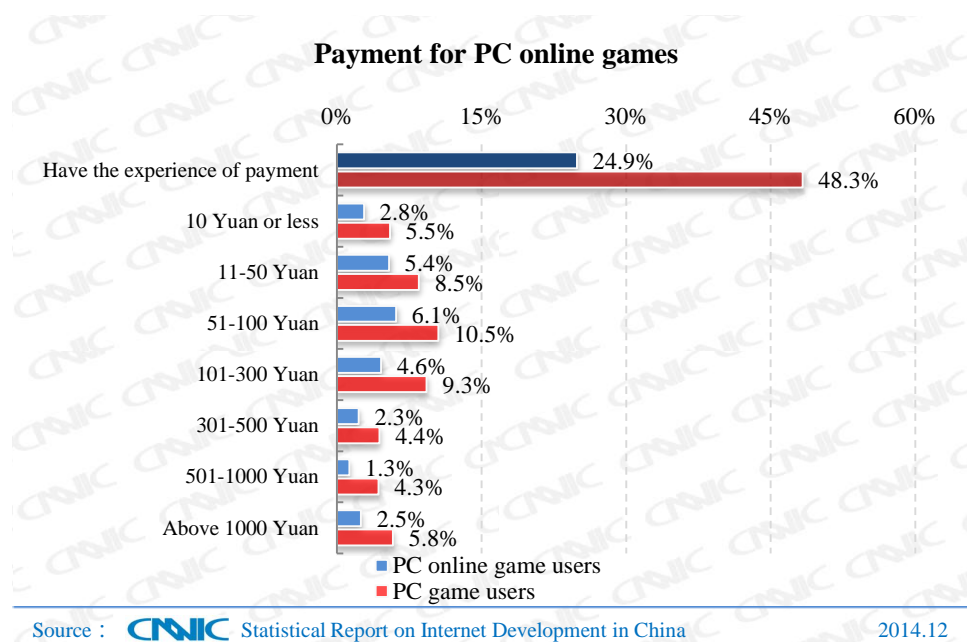
Figure 94 Payment for PC online games

1.4 Main Products of PC Online Games

Users of PC online games are relatively concentrated, with each of the top 15 game products having more than 1 million users. Of the 15 most popular game products, Tencent accounts for 8, Netease for 3, and each of ChangYou, PWRD, Tiancity and SNDA for 1. In addition, PC online game products usually have a long life cycle, the oldest of which has been in operation for 13 years. It is also observed that heavy games such as role-playing, combating, shooting and real-time strategy making are preferred by most players.

Table 11 Main products of PC online games

Ranking	Name of game	Type	Operator	Put online in (Year)
1	Cross Fire	First-person shooting	Tencent	2007
2	League of Legends	Real-time strategy making	Tencent	2011
3	QQ Speed	Racing	Tencent	2008
4	Dungeon Fighter	Combating	Tencent	2005
5	World of Warcraft	Role playing	Netease	2004

Ranking	Name of game	Type	Operator	Put online in (Year)
6	QQ Dancer	Music	Tencent	2008
7	Fantasy Westward Journey/ Fantasy Westward Journey 2	Role playing	Netease	2003
8	Blade & Soul	Role playing	Tencent	2013
9	Westward Journey Online (game series)	Role playing	Netease	2001
10	Assault Fire	First-person shooting	Tencent	2011
11	Counter-strike/ CS Online	First-person shooting	Tiancity	2008
12	Dragon Oath (game series)	Role playing	ChangYou	2007
13	DOTA2	Real-time strategy making	PWRD	2013
14	QQ Game Hall	Leisure	Tencent	2003
15	Legend/Legend of Mir	Role playing	SNDA	2001

1.5 PC Online Game Information Access and Download Channels

A variety of channels are available for PC online game information access and download, the most important two of which are game websites/forums and recommendation of friends (word of mouth). The download channels are relatively concentrated, in which game websites are the most important, a fact that shows PC online game operators have absolute control over download channels.

Channels of downloading PC online games

Channel	Percentage
Games' official websites	78.6%
Game websites and forums (such as 17173)	30.1%
Professional websites for download (such as Thunder)	21.9%
Game platforms (such as Steam)	21.2%
Directly search the resources or links for download	12.1%

Source： CNNIC Statistical Report on Internet Development in China   2014.12
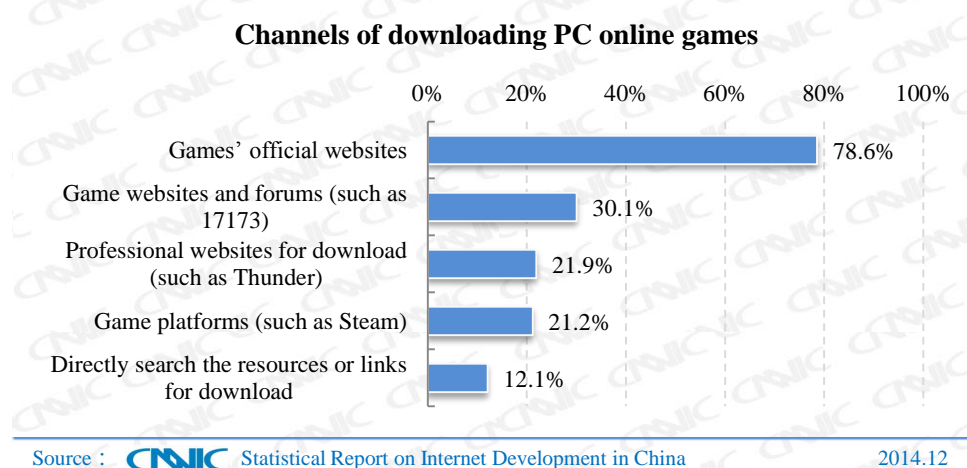
Figure 95 Channels of downloading PC online games

（Ⅱ）Mobile Game Players' Behavioral Features and Preferences

2.1　Game-Playing Years of Mobile Game Users

49.7% of mobile game users are new ones with a game-playing history of less than two years, which shows that mobile games have experienced explosive growth in the recent couple of years. Important factors for such explosive growth include improved mobile network environment, enhanced performance and reduced price of smart phones, increased investment of capitals and game producers, etc.

Game-playing years of mobile game users

Source：**CNNIC** Statistical Report on Internet Development in China　　2014.12
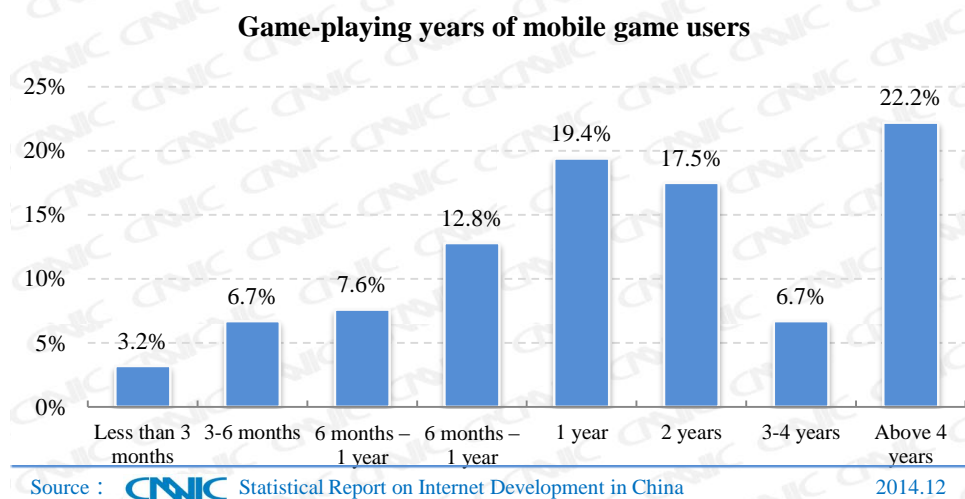
Figure 96 Game-playing years of mobile game users

2.2　Mobile Game Type Preference

Today, mobile games are no longer dominated by stand-alone games but by online games. In terms of game type, light games such as parkouring, chess/card playing, and puzzle-solving are preferred by most players. Although only 10%-20% of users have a preference for heavy games such as combating, role playing and war strategy making, these games show a strong development potential and therefore, will be the main source of income of mobile games in the future.

Types of mobile game users

Source：**CNNIC** Statistical Report on Internet Development in China　　2014.12
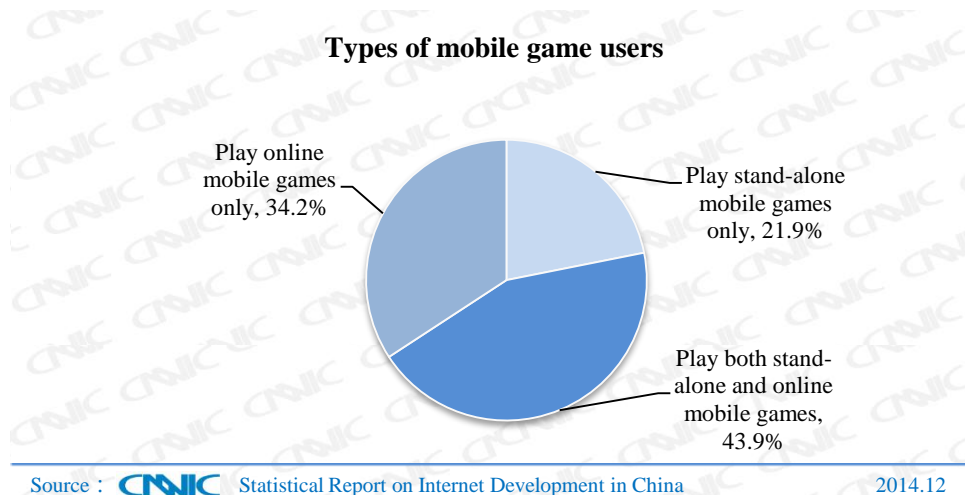
Figure 97 Types of mobile game users

Mobile game type preference

Type	Percentage
Parkouring	72.1%
Chess/card playing	62.8%
Leisure and puzzle	53.7%
Tower defense	45.3%
Shooting	43.9%
Eliminating	42.7%
Music	40.9%
Racing	31.8%
Combating	23.5%
Adventure and puzzle	20.2%
Trading card and role playing	17.5%
Simulated business	16.0%
Sports	15.2%
War strategy	13.3%
Non trading card and role…	8.9%

Source： CNNIC Statistical Report on Internet Development in China   2014.12

Figure 98 Mobile game type preference

2.3 Duration of Mobile Game Playing

79.6% of mobile game users spend less than 2 hours per day playing games, mostly using time fragments. As mobile game makers' attention is shifted from light games to premium heavy games, the hardware level of smart terminals is improved, and the 4G network is popularized, more and more heavy mobile games will be produced and the average daily duration of online game-playing will be prolonged.

Average online duration of mobile game-playing every day

Duration	Percentage
Not more than 1 hour	46.5%
1-2 hours	33.1%
2-3hours	10.4%
3-5hours	5.4%
5-8hours	2.1%
More than 8 hours	1.2%
Do not clearly remember	1.3%

Source CNNIC Statistical Report on Internet Development in China   2014.12
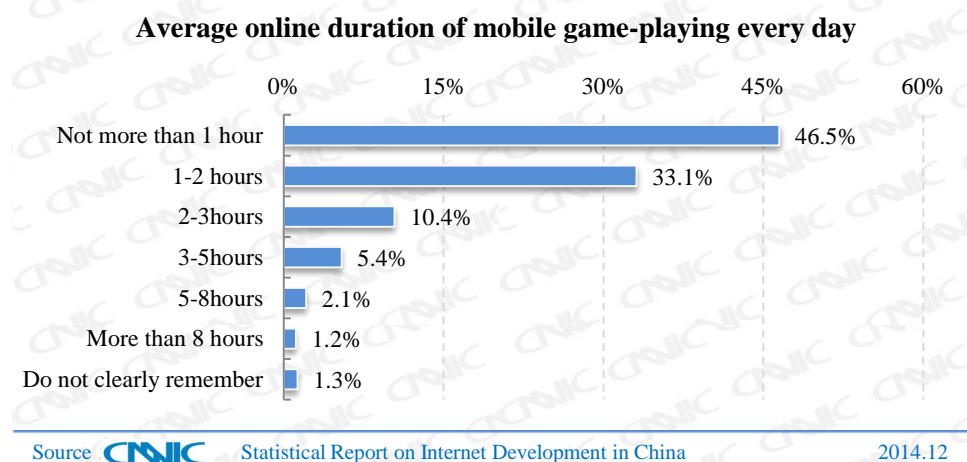
Figure 99 Average online duration of mobile game-playing every day

2.4 Payment for Mobile Games

Of mobile game users, paying users account for 24.0%; and 72% of paying users pay no more than 100 Yuan per month on average. With the maturation of users, improvement of mobile payment functions and increase in heavy mobile games, there will be more and more paying users of mobile games in the future.
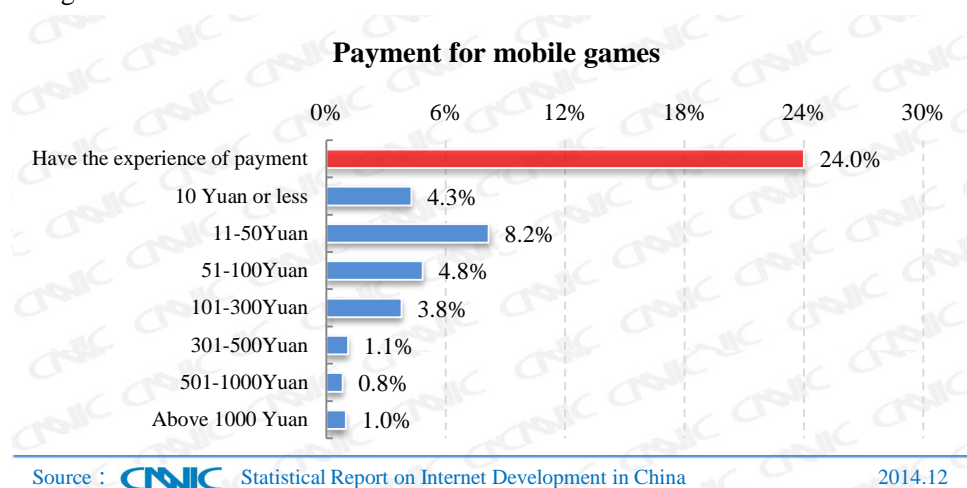
Figure 100 Payment for mobile games

2.5 Main Products of Mobile Games

Each of the Top 15 mobile game products has a user scale of more than 10 million. Among these products, 8 are online games owned by Tencent, and 7 are stand-alone games, 4 of which are owned by foreign companies and 3 by domestic companies. Though the life cycle of mobile games is relatively short, premium stand-alone games may have a life span of more than 5 years.

Table 12 Main products of mobile games

Ranging	Name of game	Type	Operator	Put online in (Year)
1	Cool Running Everyday	Parkouring	Tencent	2013
2	WeChat Speed	Racing	Tencent	2013
3	ThunderRaid	Shooting	Tencent	2014
4	Rhythm Master	Music	Tencent	2012
5	Thunder Fighter	Shooting	Tencent	2014
6	Crazy Match Everyday	Eliminating	Tencent	2013
7	Fight the Landlord Lite	Chess/card playing	Tencent	2012
8	Angry Birds	Leisure and puzzle	Rovio	2009
9	Plants V.S. Zombies	Leisure and puzzle	PopCap Games	2009
10	Fruit Ninja	Leisure and puzzle	Halfbrick Studios	2010
11	Happy to Eliminate	Eliminating	Tencent	2013

Ranging	Name of game	Type	Operator	Put online in (Year)
12	Fishing Joy	Leisure and puzzle	Chukong Technologies	2011
13	PopStar	Eliminating	ZPLAY	2014
14	Carrot Fantasy	Tower defense	Feiyu	2012
15	Temple Run	Parkouring	Imangi Studios	2012

2.6   Mobile Game Information Access and Download Channels

Unlike PC online games, mobile games rely heavily on promotion channels. Due to this reason, promotion of mobile games has been costly, small-scale game makers have difficulty surviving, R&D investment has been restricted, and high-quality mobile games are rare. Predictably, the mobile game market will be further monopolized by game makers that have promotion channels.

Access channels for mobile game informaiton

Source： **CN∖IC** Statistical Report on Internet Development in China   2014.12
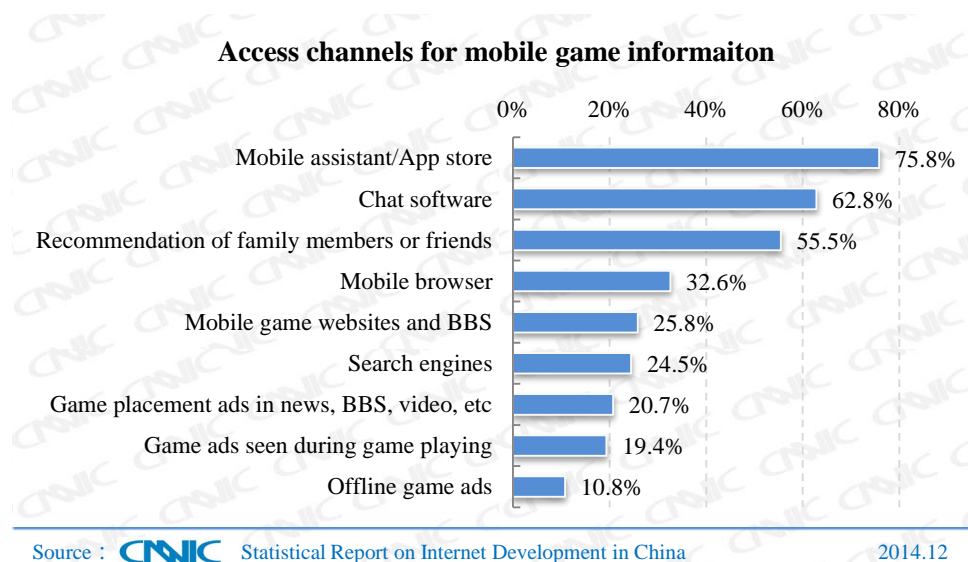
Figure 101 Access channels for mobile game information

Download channels for mobile games

360 (guardian, assistant, and browser)	49.1%
Wechat	48.9%
Mobile QQ	46.5%
Android Market	31.6%
91 mobile assistant	25.9%
MyApp	25.0%
UC	21.9%
Appstore	21.6%
Wandoujia	19.8%
Anzhi	14.2%

Source： **CNNIC** Statistical Report on Internet Development in China   2014.12
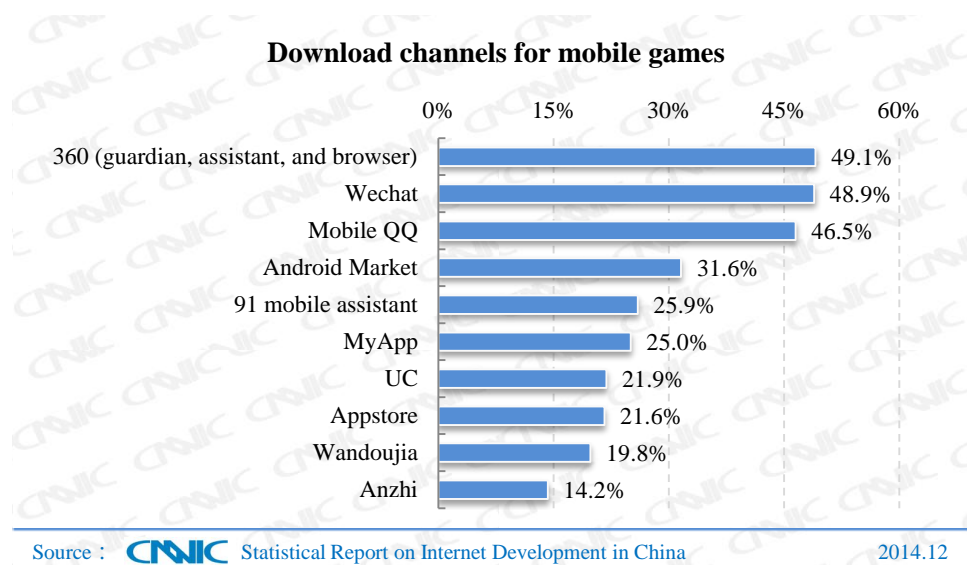
Figure 102 Download channels for mobile games

Ⅲ. Game Market Development Trend in 2015

PC online games: Still the mainstay of market, with growth rate slowing down and new business modes springing up

From the perspective of user scale, online time and game proceeds, PC online games have attracted most valuable heavily-dependent users, and remain the mainstay of market. But its growth rate was on the decline because the entire netizen population almost stopped increasing, the percentage of young netizens was shrinking due to changes in demographic structure, and avid PC game players were less and less with the increase in age.

One the other hand, new business modes are being explored for PC online games. Some originally pure online games are being combined with offline contests or even live TV broadcasts. More and more commercial competitive games have come into people's sight. At the International Tournament of Competitive Games held in Seattle USA in July 2014, for instance, the Chinese Team secured all the championships and runners-up, winning more than 6 million US dollars in prize money. The money came from a fund pool formed by means of crowd funding, i.e., extracting a fraction of money from the proceeds of E-ticket sales. In similar commercial tournaments, players, participants, club sponsors and organizers each do their best and take what they need. Such competition events not only provide players with a sense of participation, inject vitality into the online game industry but also promote the development of related industries. For example, early voice communication tools such as YY Voice and QT Voice for online games, and the more recent professional live game broadcast platforms such as douyutv.com, huya.com and 17173.com developed based on these early tools have provided a good condition for game players to exchange experience with and learn from each other. Through these platforms some highly skilled popular players have become game stars who share game profits with the live broadcast platform and thus a complete industry chain has formed. As the industry is more and more standardized and attracts more and more media attention, some network games will combine with competitive sports to turn into "competitive games" operated in mature commercial modes. This

represents a new development direction of PC online games and will be the next pillar of the network game industry.

Mobile games: Scale is basically stable with a slight decline, but the share of online games will be increased

Mobile online games experienced an explosive growth in the first half of 2014 and entered into the period of steady growth in the second half of the year. This trend is expected to continue in 2015 and the market share of mobile online games will continue to expand.

For a long time, the core problem hampering the development of mobile games has been a short life cycle, high channel cost and serious homogeneity of products. After two years of industry reshuffling in 2013 and 2014; the mobile game market has eliminated quite a few medium and small-sized developers lacking originality and technical strength. Meanwhile, low-cost small simple stand-alone mobile games are being replaced by large-traffic ones that are finer in image quality and more complex to play. With the popularization of 4G network and various terminal devices, many of the traditional mobile games that are simple to play will be outdated and new types of games will be developed which allow deep participation of players. For current game developers, therefore, it will be unavoidable to seek game differentiation, improve players' experience and enrich game content, which is also the correct way for China to transform from a large country of mobile games into a stronger one.

TV games: A new hot spot of the market, with set-top boxes developing faster than consoles

In 2014, the State Council lifted the ban on game consoles in Shanghai Pilot Free Trade Zone, after which TV games soon became a new focus of the market. Judging from the present situation of the TV game market, what will swiftly seize the market in the coming year is not game consoles but Internet TV/box. First, the scale of Internet TV/box users has exceeded 100 million, among whom more than 10 million has the experience of using Internet TV/box to play games. Even so, the penetration rate of Internet TV/box is still on a rapid rise. In contrast, the scale of game console users is only a little more than 40 million and the growth rate is much lower than that of Internet TV/box users due to relatively high costs, restricted purchase channels and single game functions. Second, domestic hardware vendors and game makers are more interested in Internet TV/box, and some game companies have even begun to cooperate with hardware manufacturers to jointly launch Internet TV/box products. The game console market is basically monopolized by Microsoft, SONY and Nintendo. Although the domestic game console market has seen some sign of deregulation, the three monopolizers still take a cautious attitude, showing no eagerness to push ahead. It is expected that Internet TV/box will be the foremost booster of the 2015 TV game market and game consoles will have a long way to go.

Appendix 1 Tables of Basic Internet Resources

Table 1 Number of IPv4 addresses in different regions of China

Region	Number of addresses	Equivalence
Mainland China	331988224	19A+201B+189C
Taiwan	35471104	2A+29B+63C
Hong Kong SAR	11956736	182B+114C
Macau SAR	331008	5B+13C

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

Organization name	Number of addresses	Total number of IPv4 addresses
China Telecom	125761280	7A+126B+247C
China United Network Communications Corporation	69866752 [1]	4A+42B+21C
Members of CNNIC IP Address Allocation Alliance	54751744 [2]	3A+67B+114C
China Mobile Communications Corporation	51089408 [3]	3A+11B+144C
China Education and Research Network	16649728	254B+14C
Others	13869312	211B+161C
Total	331988224	19A+201B+189C

Data source: APNIC and CNNIC

Note 1: The addresses of China United Network Communication Limited include the addresses of former China Unicom and former China Netcom. Specifically, the IPv4 address 6316032 (96B+96C) of former China Unicom is assigned by CNNIC;

Note 2: As a national Internet registry (NIR) approved by APNIC and national competent authorities in China, CNNIC has organized ISPs, enterprises and public institutions of certain size in China to set up IP Address Assignment Alliance of China. So far, the total number of IPv4 addresses held by the members of CNNICIP IP Address Assignment Alliance is 76862976, equivalent to 4A+148B+214C. The IPv4 addresses of the members of IP Address Assignment Alliance of China listed in the above table do not include those IPv4 addresses already assigned to former China Unicom and Tietong.

Note 3: The addresses of China Mobile Communications Corporation include the addresses of former China Mobile and China Tietong. Specifically, the IPv4 address 15795200 (241B+4C) of China Tietong is assigned by CNNIC;

Note 4: The deadline for the above statistical data is 31 December 2014.

Table 3 Number of IPv6 addresses in different regions of China

Region	Number of addresses
Mainland China	18797 blocks/32
Taiwan	2357 blocks/32
Hong Kong SAR	200 blocks/32
Macau SAR	4 blocks/32

Table 4 IPv6 address allocation in Mainland China

Organization name	Number of IPv6 addresses (/32 [1])
Members of CNNIC IP Address Allocation Alliance	4370 [2]
China Telecom	4099
China United Network Communications Corporation	4097
China Mobile Communications Corporation	4097
China Tietong Telecommunications Co., Ltd.	2049 [3]
China Science and Technology Network	17 [4]
China Education and Research Network	16
Others	52

Data source: APNIC and CNNIC

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

Note 2: At present, the total IPv6 addresses held by the members of IP Address Assignment Alliance of CNNIC are 6436/32. The IPv6 addresses held by the members of IP Address Assignment Alliance listed in the above table do not include those IPv6 addresses already assigned to China Tietong and CSTNET.

Note 3: The IPv6 addresses of China Tietong Telecommunications Corporation are assigned by CNNIC;

Note 4: The IPv6 addresses of CSTNET are assigned by CNNIC;

Note 5: The deadline for the above statistical data is 31 December 2014.

Table 5   Proportion of IPv4 address in each province

Province	Proportion
Beijing	25.68%
Guangdong	9.60%
Zhejiang	5.40%
Shandong	4.96%
Jiangsu	4.80%
Shanghai	4.49%
Liaoning	3.38%
Hebei	2.88%
Sichuan	2.81%
Henan	2.67%
Hubei	2.42%
Hunan	2.40%
Fujian	1.96%
Jiangxi	1.76%
Chongqing	1.70%
Anhui	1.68%
Shaanxi	1.65%
Guangxi	1.40%
Shanxi	1.29%
Jilin	1.23%
Heilongjiang	1.22%
Tianjin	1.06%
Yunnan	0.99%
Inner Mongolia	0.79%
Xinjiang	0.62%
Hainan	0.48%
Gansu	0.48%
Guizhou	0.44%
Ningxia	0.24%
Qinghai	0.18%
Tibet	0.13%
Others	9.22%
Total	100.00%

Data source: APNIC and CNNIC

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

Note 2: The deadline for the above statistical data is 31 December 2014.

Table 6 Number of domain names, .CN domain names and .中国 domain names by province

Province	Domain name		.CN Domain name		.中国 domain name	
	Number	Proportion in total domain names	Number	Proportion in total CN domain names	Number	Proportion in total .中国 domain names
Guangdong	3904905	19.0%	2318586	20.9%	43667	15.3%
Shandong	3041693	14.8%	2318028	20.9%	17099	6.0%
Beijing	2654888	12.9%	1212146	10.9%	33701	11.8%
Shanghai	1023124	5.0%	381538	3.4%	15834	5.5%
Zhejiang	911562	4.4%	384831	3.5%	18219	6.4%
Fujian	902089	4.4%	398560	3.6%	14022	4.9%
Jiangsu	836449	4.1%	308077	2.8%	21191	7.4%
Heilongjiang	790851	3.8%	595629	5.4%	18545	6.5%
Sichuan	670677	3.3%	198001	1.8%	11884	4.2%
Henan	632911	3.1%	223325	2.0%	5259	1.8%
Hebei	359846	1.7%	134404	1.2%	7457	2.6%
Anhui	356011	1.7%	141864	1.3%	3638	1.3%
Hubei	354941	1.7%	152484	1.4%	5282	1.9%
Hunan	325229	1.6%	151104	1.4%	4052	1.4%
Liaoning	302609	1.5%	118357	1.1%	10762	3.8%
Guangxi	264330	1.3%	170014	1.5%	3515	1.2%
Chongqing	227627	1.1%	85139	0.8%	6712	2.4%
Shaanxi	202147	1.0%	83251	0.8%	4735	1.7%
Hainan	196329	1.0%	19841	0.2%	607	0.2%
Jiangxi	180127	0.9%	88181	0.8%	2958	1.0%
Tianjin	153507	0.7%	52724	0.5%	2864	1.0%
Shanxi	131922	0.6%	47276	0.4%	2952	1.0%
Yunnan	111535	0.5%	50860	0.5%	5402	1.9%
Jilin	107369	0.5%	40136	0.4%	2974	1.0%
Guizhou	86004	0.4%	48832	0.4%	1575	0.6%
Inner Mongolia	63131	0.3%	23997	0.2%	1872	0.7%
Xinjiang	57172	0.3%	23956	0.2%	1053	0.4%
Gansu	48074	0.2%	14454	0.1%	678	0.2%
Ningxia	22989	0.1%	6849	0.1%	463	0.2%
Qinghai	15940	0.1%	2861	0.0%	211	0.1%
Tibet	8645	0.0%	2928	0.0%	291	0.1%
Others	1650870	8.0%	1285975	11.6%	15921	5.6%
Total	20595503	100.0%	11084208	100.0%	285395	100.0%

Note: The total number of domain names by provinces does not cover .EDU.CN.

Table 7 Number of websites by province

	Number of websites	Proportion in total number of websites
Guangdong	532787	15.90%
Beijing	457032	13.60%
Shanghai	314374	9.40%
Fujian	223442	6.70%
Zhejiang	218630	6.50%
Jiangsu	164935	4.90%
Shandong	158028	4.70%
Henan	123824	3.70%
Sichuan	122172	3.60%
Liaoning	96599	2.90%
Hebei	94171	2.80%
Hubei	67815	2.00%
Hunan	48834	1.50%
Anhui	40029	1.20%
Shaanxi	37911	1.10%
Tianjin	36213	1.10%
Shanxi	36039	1.10%
Chongqing	33610	1.00%
Heilongjiang	28160	0.80%
Guangxi	25454	0.80%
Jiangxi	23140	0.70%
Jilin	20649	0.60%
Yunnan	14315	0.40%
Inner Mongolia	12036	0.40%
Hainan	11885	0.40%
Guizhou	9809	0.30%
Xinjiang	7602	0.20%
Gansu	7174	0.20%
Ningxia	3665	0.10%
Qinghai	2111	0.10%
Tibet	965	0.00%
Others	375516	11.20%
Total	3348926	100.00%

Note: The total number of websites by province does not cover .EDU.CN.

Table 8 Web pages classified by updating cycle

Web page updating cycle	Proportion
Update weekly	5.6%
Update monthly	20.3%
Update every three months	24.2%
Update every six months	19.3%
Update every more than six months	30.7%
Total	100%

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 9 Web pages classified by suffix

Web page suffix	Proportion
html	33.3%
htm	6.4%
/	12.9%
shtml	4.0%
asp	6.0%
php	9.1%
txt	0.0%
nsf	0.0%
xml	0.1%
jsp	1.4%
cgi	0.0%
pl	0.0%
aspx	5.5%
do	1.5%
dll	0.0%
jhtml	0.0%
cfm	0.0%
php3	0.0%
phtml	0.0%
Other suffixes	19.8%
Total	100%

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 10 Web pages classified by multimedia form

Web page multimedia form	Proportion (in multimedia web pages)
jpg	31.5%
gif	3.7%
zip	0.6%
swf	0.7%
doc	24.2%
pdf	31.4%
rm	0.0%
mid	0.0%
ram	0.0%
mp3	0.7%
ppt	1.8%
mpg	0.0%
Other multimedia	5.4%
Total	100%

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 11 Number of web pages by province

	Total of web pages after duplicated ones are removed	Static	Dynamic	Static-dynamic ratio
Anhui	1,550,134,292	952,057,131	598,077,161	1.59
Beijing	55,161,533,346	35,225,124,865	19,936,408,481	1.77
Fujian	1,768,383,516	882,015,538	886,367,978	1.00
Gansu	57,312,416	14,627,852	42,684,564	0.34
Guangdong	30,218,300,072	16,666,419,599	13,551,880,473	1.23
Guangxi	1,330,900,742	194,084,938	1,136,815,804	0.17
Guizhou	20,020,822	11,039,236	8,981,586	1.23
Hainan	1,756,629,606	457,698,657	1,298,930,949	0.35
Hebei	6,786,153,241	3,988,679,743	2,797,473,498	1.43
Henan	5,103,255,581	2,520,386,912	2,582,868,669	0.98
Heilongjiang	348,046,672	200,101,209	147,945,463	1.35
Hubei	1,901,762,067	1,147,087,546	754,674,521	1.52
Hunan	712,918,942	542,334,651	170,584,291	3.18
Jilin	1,308,921,226	709,355,879	599,565,347	1.18
Jiangsu	14,511,572,110	11,024,744,470	3,486,827,640	3.16
Jiangxi	3,071,005,572	2,207,735,178	863,270,394	2.56
Liaoning	2,408,546,354	1,165,722,838	1,242,823,516	0.94
Inner Mongolia	279,201,993	158,929,398	120,272,595	1.32
Ningxia	17,335,676	78,242	17,257,434	0.00
Qinghai	8,271,386	3,454,869	4,816,517	0.72
Shandong	6,275,746,273	4,589,090,914	1,686,655,359	2.72
Shanxi	4,533,140,132	2,655,564,301	1,877,575,831	1.41
Shaanxi	498,392,159	318,581,578	179,810,581	1.77
Shanghai	11,310,361,238	6,032,607,444	5,277,753,794	1.14
Sichuan	806,182,767	399,550,795	406,631,972	0.98
Tianjin	7,936,760,750	3,945,564,105	3,991,196,645	0.99
Tibet	2,015,345	1,937,461	77,884	24.88
Xinjiang	89,719,981	51,354,303	38,365,678	1.34
Yunnan	2,950,178,616	1,991,830,696	958,347,920	2.08
Zhejiang	26,635,668,755	14,320,962,178	12,314,706,577	1.16
Chongqing	560,277,437	366,030,215	194,247,222	1.88
The whole country	189,918,649,085	112,744,752,741	77,173,896,344	1.46

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 12 Number of web page bytes by province

	Total page size	Average page size (KB)
Anhui	49,757,656,991	32
Beijing	3,376,401,496,829	61
Fujian	73,747,749,800	42
Gansu	2,638,970,490	46
Guangdong	1,241,498,745,169	41
Guangxi	95,639,950,566	72
Guizhou	636,370,983	32
Hainan	47,369,965,575	27
Hebei	265,572,789,458	39
Henan	217,965,124,510	43
Heilongjiang	22,258,548,413	64
Hubei	72,407,519,686	38
Hunan	25,900,755,840	36
Jilin	40,157,967,976	31
Jiangsu	593,546,495,055	41
Jiangxi	70,676,209,517	23
Liaoning	87,436,842,118	36
Inner Mongolia	35,995,840,388	129
Ningxia	616,083,103	36
Qinghai	340,203,352	41
Shandong	296,852,793,401	47
Shanxi	181,499,660,154	40
Shaanxi	20,913,825,196	42
Shanghai	693,673,370,242	61
Sichuan	42,009,966,210	52
Tianjin	398,825,186,431	50
Tibet	222,350,702	110
Xinjiang	2,423,796,379	27
Yunnan	146,838,912,596	50
Zhejiang	1,185,258,673,537	44
Chongqing	21,228,625,800	38
The whole country	9,310,312,446,467	49

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 13 Proportion of web pages classified by updating cycle in each province

	Update weekly	Update monthly	Update every three months	Update every six months	Update every more than six months
Anhui	5.4%	22.0%	24.8%	20.3%	27.5%
Beijing	5.0%	18.0%	24.7%	19.9%	32.5%
Fujian	6.4%	22.0%	21.8%	18.0%	31.8%
Gansu	8.4%	19.2%	23.5%	15.5%	33.4%
Guangdong	6.0%	21.2%	24.4%	18.2%	30.1%
Guangxi	6.2%	24.7%	22.9%	20.6%	25.6%
Guizhou	5.1%	19.4%	18.8%	17.5%	39.1%
Hainan	5.6%	19.6%	23.0%	24.9%	27.0%
Hebei	4.3%	19.0%	20.7%	18.9%	37.1%
Henan	7.4%	25.2%	24.3%	17.5%	25.4%
Heilongjiang	5.8%	19.0%	29.7%	22.8%	22.6%
Hubei	7.0%	26.0%	22.2%	19.9%	24.9%
Hunan	4.8%	18.4%	22.6%	25.4%	28.8%
Jilin	7.3%	21.6%	25.9%	22.4%	22.8%
Jiangsu	6.1%	22.0%	25.2%	17.9%	28.8%
Jiangxi	5.9%	22.1%	23.7%	15.2%	33.1%
Liaoning	7.4%	23.9%	24.2%	18.2%	26.3%
Inner Mongolia	5.5%	21.9%	22.7%	21.8%	28.1%
Ningxia	13.0%	26.1%	20.7%	12.1%	28.0%
Qinghai	5.2%	26.8%	30.6%	20.8%	16.6%
Shandong	6.4%	23.4%	25.3%	24.0%	20.9%
Shanxi	4.4%	16.3%	19.2%	21.9%	38.1%
Shaanxi	9.4%	23.7%	30.5%	14.0%	22.4%
Shanghai	5.6%	20.7%	22.5%	21.4%	30.0%
Sichuan	11.1%	31.8%	22.2%	14.6%	20.3%
Tianjin	5.8%	21.8%	26.6%	17.6%	28.2%
Tibet	22.9%	23.0%	24.6%	18.3%	11.2%
Xinjiang	7.4%	19.4%	18.9%	18.9%	35.5%
Yunnan	7.5%	26.1%	26.7%	15.2%	24.5%
Zhejiang	5.0%	19.4%	23.8%	18.9%	32.8%
Chongqing	6.5%	19.4%	16.8%	22.9%	34.3%
The whole country	5.6%	20.3%	24.2%	19.3%	30.7%

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Table 14 Proportion of web pages classified by coding type in each province

	Chinese	Traditional Chinese	English	Others
Anhui	97.8%	1.6%	0.4%	0.2%
Beijing	98.5%	0.7%	0.3%	0.5%
Fujian	99.0%	0.3%	0.3%	0.4%
Gansu	98.6%	0.1%	0.5%	0.8%
Guangdong	99.1%	0.3%	0.4%	0.3%
Guangxi	91.7%	7.7%	0.2%	0.3%
Guizhou	97.9%	0.3%	1.3%	0.5%
Hainan	99.6%	0.2%	0.0%	0.2%
Hebei	99.5%	0.1%	0.2%	0.2%
Henan	94.7%	3.5%	1.2%	0.6%
Heilongjiang	98.1%	0.6%	0.3%	1.0%
Hubei	95.1%	0.4%	4.3%	0.2%
Hunan	97.9%	1.7%	0.2%	0.1%
Jilin	98.8%	0.2%	0.7%	0.3%
Jiangsu	98.6%	0.4%	0.3%	0.7%
Jiangxi	95.1%	2.2%	2.4%	0.3%
Liaoning	99.3%	0.1%	0.5%	0.2%
Inner Mongolia	85.1%	7.2%	7.2%	0.5%
Ningxia	99.0%	0.0%	0.4%	0.6%
Qinghai	99.8%	0.0%	0.0%	0.1%
Shandong	98.3%	0.3%	0.8%	0.6%
Shanxi	99.1%	0.1%	0.1%	0.8%
Shaanxi	99.1%	0.1%	0.5%	0.3%
Shanghai	98.6%	0.6%	0.5%	0.2%
Sichuan	98.7%	0.2%	0.8%	0.3%
Tianjin	99.2%	0.0%	0.1%	0.7%
Tibet	99.5%	0.0%	0.4%	0.1%
Xinjiang	99.1%	0.2%	0.2%	0.5%
Yunnan	97.5%	0.7%	0.2%	1.6%
Zhejiang	97.6%	0.3%	1.7%	0.4%
Chongqing	99.8%	0.0%	0.1%	0.1%
The whole country	98.3%	0.6%	0.6%	0.4%

Data source: Baidu Online Network Technology (Beijing) Co., Ltd.

Appendix 2   Organizations Supporting the Survey

We would like to express our heartfelt thanks to the following organizations (listed below randomly) which have provided strong support for the availability of online questionnaires for this survey and the collection of the basic resources data.

(Ⅰ) Portal websites for the survey

People.com.cn   Xinhuanet.com   Chinanews.com

CCTV.com   China.com.cn

(Ⅱ) Organizations supporting the survey

China Telecom

China International Electronic Commerce Center

China Education and Research Network Center

China Science and Technology Network Center

China United Network Communications Limited

China Mobile Communications Corporation

Baidu Online Network Technology (Beijing) Co., Ltd

Beijing East Netscape Information Technology Co., Ltd

Beijing SinoNetsXinye Network and Telecommunication Co., Ltd

Beijing Innovative Linkage Technology Ltd

Beijing XinnetHuatong Information Technology Co., Ltd

Guangdong Eranet International Limited

Xiamen Shangzhong On-line Technology Co., Ltd (its brand Bizcn)

Xiamen 35.com Technology Co., Ltd

Xiamen ZZY Network Service Co., Ltd

NET.cn

Zhongqi Power S&T Co., Ltd

Appendix 3 Calculation Method for the O2O Market Assessment Model

A bottom-up stepwise computation method is adopted for the O2O market development level evaluation index system. The score of measured index is calculated at first, based on which the scores of third-, second- and first-level indexes and the score of target layer are calculated. In this process, the basic and most difficult step is to calculate the measured index, and indexes at all levels share the same calculation method.

(Ⅰ) Calculation Methods of Measured Indexes

The score of measured index is calculated according to the difference between the index value and reference value (representing the cross level) as well as the benchmark value (representing the good level). For different types of indexes, the way to determine and calculate the reference value and benchmark value is different.

1) Types of Indexes

According to the value range of the index as well as the relationship between the index value and the development level of the things it characterizes, evaluation indexes are classified into the following three types:

The first type is unidirectional evaluation indexes with a finite value range. The value of the index is within a known finite continuous range, in which the index value and the development level of the things it characterizes have a unidirectional linear relationship: the greater (smaller) the index value, the higher (lower) the development level. This type of index is usually expressed in the form of a percentage, for example, personal Internet penetration rate, etc.

The second type is non-unidirectional evaluation indexes with a finite value range. The value of the index is within a known finite continuous range, in which the index value and the development level of the things it characterizes do not show a unidirectional linear relationship. In most cases this type of index is also expressed in the form of a percentage, such as the proportions of light, moderate and heavy O2O users, etc. For this type of index, a greater/smaller index value does not necessarily mean a higher/lower development level of the things it characterizes. It needs specific analysis to determine whether a particular index value is "good" not. In most cases, the "best" value is not at the ends of the range, and it is usually difficult to say what value is the "best".

The third type is indexes without a finite value range. Without a finite range, the index value may be infinite. This type of index is usually represented by an absolute value, such as the scale of 4G users, per-capita disposable income, etc. The things characterized by this type of indexes are always in the process of development and people do not know the ultimate extent of their development. Therefore, it is difficult to say a particular index value is "good" or "poor".

2) Determination of Reference Values and Benchmark Values

Seen from the above description, it is rather difficult to accurately evaluate a particular index, especially the second and third types of indexes. To be simple, practical and as scientific as possible, the following methods are adopted in the present survey for determining the reference

values and benchmark values of indexes.

For a unidirectional evaluation index with a finite value range, the reference value and benchmark value are on the two ends of the range. Specifically, for a positive index, the reference value is the lower limit of the range and the benchmark value is the upper limit of the range. For a negative index, the case is just the opposite. In the O2O market development level evaluation index system, the reference value of this type of index is usually 0% and the benchmark value is usually 100%.

For non-unidirectional evaluation indexes with a finite value range and those without a finite value range, the reference and benchmark values are determined using the following method. For a particular index, if its value in 2014 is taken as the reference value, the benchmark value will be n (n>1) times the reference value. The multiplier "n" is different for different indexes, depending on the current development stage and future development prospect of the things characterized by the index.

3) Calculation Formulas

Different formulas are used to calculate different indexes.

For a unidirectional evaluation index with a finite value range, the reference value is taken as 0 and the benchmark value as 100, based on which a linear equation is established as below for calculating the score of the index:

$$S_{score} = \frac{U_{index} - U_{reference}}{U_{benchmark} - U_{reference}} \times 100$$

Where, S_{score} is the score of the measured index; U_{index} is the index value; $U_{reference}$ is the reference value; and $U_{benchmark}$ is benchmark value.

For non-unidirectional evaluation indexes with a finite value range and those without a finite value range, their scores are calculated using the following equation.

$$\frac{U_{benchmark} - U_{index}}{U_{benchmark}} = \frac{100 - S_{score}}{100}$$

(Ⅱ) Calculation of Index Layers and Target Layers at All Levels

A stepwise bottom-up simple linear weighting method is adopted for calculating the index layers and target layers at all levels. After the score of measured index layer has been calculated, the first thing is to, according to the weight of measured index in the third index layer, calculate the weighted sum of scores of indexes to obtain the score of the third index layer. The next step is to, according to the weight of third index layer in second index layer, calculate the weighted sum of scores of the third index layer to obtain the score of the second index layer. The same method is used to calculate the score of higher index layers until the score of the target layer is obtained. The formula of the simple linear weighting method is shown below:

$$\text{Target value} = \sum_{i=1}^{n} \text{Index}_i \times W_{\text{Index}_i}$$

Where, $index_i$ is the score of the ith item evaluated; and $W_{index\ i}$ is the weight of the ith item evaluated.

Appendix 4   Introduction to CNIDP

China Internet Data Platform (cnidp.cn) – open and shared Internet statistical data and services

◆Launched and run by CNNIC

◆Providing Internet statistical data and services for free

◆Reflecting the situation of Internet development in China objectively and timely

Website of the platform: www.cnidp.cn

Introduction to the platform

China Internet Data Platform, launched and run by CNNIC, adopts the research method of fixed sample panel to reflect multiple facets (macro and micro) of the development situation of Internet in China and provide multifaceted decision-making support for the participants of the Internet industry through the Internet using behavior data of Chinese Internet users samples collected by the survey clients continuously in real time and by analyzing those data statistically.

Function Demonstration

Statistical data Provide weekly, monthly, quarterly and half-year statistical data including the covered users, visiting times, page views, visiting duration and other indicators for domestic mainstream websites/software; the data are updated within no more than 3 days.	覆盖人数　访问次数 PV 页面浏览量　访问时长
	User feature Provide multidimensional structure distribution data including sex, age, education, occupation, income, region, and city level for domestic mainstream websites/software.
Superposition analysis Count the superposition of user groups, and the structure distribution of different user groups for different websites/software.	
	Trend comparison Provide detailed historical statistics data on a "daily" basis for domestic mainstream websites/software, so as to reflect the historical change trend.

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