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The Annual Survey Statistical Report on Internet Use in Macao

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Key Findings of Latest Survey by Macao Internet Project

<http://www.macaointernetproject.net/>

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The First Ten-year Internet Survey Report in Macao

Wireless and Mobile online Be the New Trend

The China Network Information Center (CNNIC) hosted the China Internet e-Summit 2011 and released the 27th China Internet Development Statistical Report yesterday (Jan 19) in Beijing. Dr. Angus Cheong, President of the Macao Association for Internet Research (MAIR), as the representative of Macao, attended the release and published the 9th Annual Survey Statistical Report on Internet Use by Macao Internet Project (MIP). Dr. Angus Cheong, also the director of ERS e-Research Lab in Macao, said that ten years has gone since the first survey report on Internet use published in 2001. During the first ten years, the Internet usage in Macao keeps developing with various new phenomena coming out continuously. Until now, the Internet usage among Macao residents has stepped into a steady stage and mobile wireless access has become the mainstream choice among Macao netizens to get online. There exist significant differences between mobile and the fixed online groups, in terms of whether demographic features, Internet tool usage, or their attitude towards the Internet. Based on this situation, Dr Cheong stated that the “netizen” cannot be considered as a whole group without diversity any longer, and it is wise to split them into several sub-groups before viewing their Internet using behaviors and the consequent influence.



Dr. Angus Cheong presented the survey results at China Internet e-Summit 2011

Entering A Steady Development State of Internet Usage

The online rate of computers at home has reached to 87% in 2010, around 155,000 computers. Among the online computers at home, 97% gets online by broadband method. The survey result shows that online rate is about 70%, 350,000 netizens if taking sampling error into consideration, which indicates that the Internet usage in Macao has entered a steady period. Among residents who use the Internet, the male (70%), people in 18-24 years old (100%), students (97%), those with college education degree (98%), the unmarried (92%), and those with relatively high family income (86%) occupy the majority of the whole population. In addition, the online rate of citizens who are over 40 years old declines in 2010, showing some drop-off phenomena of netizens among elders people in Macao.

Comparison of wireless and fixed online groups

The scale of wireless Internet access keeps enlarging and the mobile wireless online method has become the mainstream way to access the Internet recently. The data shows that 45% of netizens begin to surf the Internet using mobile method (including wireless set up by ISP and WLAN), increasing from 11% in 2006 to 45% in 2010. Among all of the whole netizens, the penetration rates by ISP and WLAN reach 19% and 27% respectively.

	Wireless online I (including mobile phone GPRS · HSDPA, Wifi)	Wireless online II (including Wifi access in company/school/home)
2010	19%	27%
2009	12%	26%
2008	9%	20%
2007	8%	19%
2006	11%	

Table 1 Wireless Online Rate by Year

According to methods of online access and relevant tools, netizens in Macao can be divided into the following five categories: a) wireless group only with laptop computer (5%), b) wireless group only with mobile phone (4%), c) wireless groups with both laptop and mobile phone (10%), d) fixed Wifi group with WLAN (27%), and e) fixed broadband group (55%). People who belong to the first three wireless categories get online using ISP in different places. As for the fourth one, although fixed Wifi is also a type of wireless method, the online location of this mode is limited to home, working place, or other non-mobile areas. The survey data shows, there are significant differences between wireless and fixed groups, in terms of whether demographic characteristics, online behaviors, or attitude towards the Internet.

A	B	C	D	E
Wireless group only with laptop computer	Wireless group only with mobile phone	wireless groups with both laptop and mobile phone	Fixed WiFi	Fixed broadband
5%	4%	10%	27%	55%

Table 2 Netizens Division by Online Accessing methods and tools

Comparison of Online Tools and Places

Also, the portable trend of tools accelerates the development of mobile online phenomenon. In recent years, the percentage of online desktop computers keeps going down (87% in 2010). However, meanwhile, the proportions of online laptop computers and mobile phones increase, 39% for the former and 13% for the latter last year. What's more, there are also a few of netizens get online with tablet computer (2%), iPad for instance.

Besides at home, people in the group B (only cell phone) or C (laptop and mobile phone) in above table 2 also get online in the street (19%, 13%) and places with Wifigo (4%, 5%), which means that the wireless group gets access to the Internet in more kinds of places than the others.

Wireless Online Access Users Are More Active in Social Interaction

People in the group E (fixed broadband) in table 2 are less active than the others as regard to the variety of online behaviors. In addition, it shows that group C (laptop and phone) displays more passion on online social interaction, entertainment, and information searching. For instance, 95% of group C use search engine, 90% of them read online news, 81% use SNS (Social Networking Site), 78% use instant messenger. Also, for people in this group, 78% of them cite the Internet as "important" in their life, 56% view the entertainment as "important", 66% for information, and 67% for communication. All of the mentioned percentages of group C are higher than other groups.

		Wireless group only with laptop compute	Wireless group only with mobile phone	wireless groups with laptop and phone	Fixed WiFi	Fixed broadband
Online Social Interaction	Instant Messenger	56%	79%	78%	75%	45%
	SNS	62%	79%	81%	75%	45%
	Forum	55%	55%	56%	51%	26%

Online Entertainment	Video Website	46%	55%	62%	59%	44%
	Upload/download Pictures	62%	56%	70%	65%	40%
Blog	Micro-blogging	16%	15%	22%	13%	8%
	Blogging	22%	14%	27%	25%	12%
	Read others' blog	67%	65%	60%	58%	40%
Online Information	Search Engine	87%	88%	95%	91%	75%
	Online news	89%	81%	90%	88%	74%
	Wikipedia	56%	41%	60%	51%	30%

Table 3. Online Social Interaction, Entertainment, and Information Usage of netizens
Note: the above groups are different significantly according to statistical test.

Most Online Phones Belong to Young People

As for the wireless group B (only phone), C (laptop and phone), and D (fixed WiFi) in table 2, the percentages of people in 18-24 years old (33%, 28%, and 32%) are all larger than other sub-groups. It shows that these online modes are popular among the young adults in Macao.

33% of the online users are in 18-24 years old, the young adults, higher than percentages of other online modes of this year sub-group. Besides, they are quite active in online social interaction. For instance, proportions of both instant messenger and SNS using of this group are 79%, much higher than those of other four groups.

	Wireless group only with laptop compute	Wireless group only with mobile phone	wireless groups with laptop and phone	Fixed WiFi	Fixed broadband
17 or below	15%	16%	8%	12%	26%
18-24	21%	33%	28%	32%	12%
25-30	12%	23%	27%	29%	13%
31-35	8%	14%	18%	10%	7%
36-40	33%	5%	10%	8%	14%
41-50	8%	7%	8%	9%	18%
51-60	2%	2%	1%	1%	8%
61 or above	2%	0%	0%	0%	2%

Table 4. Different Online Access Method by Age (different significantly according to statistical test)

According to Dr. Cheong, in terms of the Internet popularization in Macao, the online rate stays around 70% these two years. It means that the Internet adoption in Macao has stepped into a mature period. If divided by net access methods and tools, netizens are different in both demographic variables and online behaviors and attitudes. It can be concluded, based on this trend, that the “netizen” is not a zero-different group any longer and should be considered as diverse sub-groups when studying their online behaviors and evaluating the relevant influence.

The new trend of functions integration in SNS

Macao Internet Project witnesses the development of Internet and Internet usage in Macao, since the first survey report published in 2001. SNS (Social Networking Site), as an emerging online tool, develops markedly in recent years. By uniting some old functions, SNS is capable of meeting netizens’ various appeals, like social interaction, entertainment, information searching, and so on. Gradually, it has been considered as a necessary part of real life when talking about personal communication, indicating the mixing phenomenon of virtual Internet and real society. Hence, SNS is absorbing more and more fans in these years, which becomes the latest trend during the ten years of Internet development in Macao.

The New Trend of the Combination of SNS and Other Functions

Netizens in Macao get online for different reasons, 54% of them for information searching, 42% for entertainment, and 38% for communication with others. And to achieve their aim, they utilize various online tools and conduct different online activity. It shows that online social interaction behaviors include SNS (59%), instant messenger (58%), and forum (38%); entertainment behaviors include online game (52%), pictures upload/download (51%), and video website (50%); information searching behaviors include search engine (82%), online news (80%), wikipedia (40%), others’ blog (49%), self blog (17%), and micro-blog (11%).

Information	54%
Entertainment	42%
Communication	38%
Online News	30%
Education/Study	13%

Table5. The Main Reason for Online Behavior (first five ones)

Online Social Interaction	SNS (Social Networking Site)	59%
	Instant Messenger	58%
	Forum	38%
Entertainment	Online Game	52%
	Upload/download Pictures	51%
	Video Website	50%
Blog	Read Others' Blog	49%
	Blogging	17%
	Micro-blogging	11%
Online Information	Search Engine	82%
	Online news	80%
	Wikipedia	40%

Table 6. Online Behaviors

SNS develops with a rapid speed in recent years and owns more and more users. As a burgeoning tool, SNS captures 60% of netizens in Macao and the number reaches 83% among those in 18-24 years old. In addition, facebook becomes the most popular one in the SNS market. 95% of SNS users choose facebook, and 68% of them log on facebook one to several times every day. SNS users mainly apply it to know friends' status (66%), play games (30%), appreciate pictures (28%), chat with friends instantly (27%), and so on. It can be seen that SNS play a role of integrating various online functions and making the Internet become a necessary part of one's real life.

Dr. Cheong said, by merging functions like instant messenger, video, and news into one online platform, SNS meets netizens' diverse appeals of communication, social interaction, and information access at the same time. In addition, SNS has the functions of establishing events and groups, which is capable of making remarkable impact on real society. In a word, it is worth keeping an eye on people's usage of SNS in the future.

Survey Method

A. Study Population

The 2010 survey was carried out between November 19 and December 3, 2010. It was conducted by using a computer-assisted telephone interviewing (CATI) system, targeted at regular residents aged between 6 and 84 years old who speak Chinese (including Cantonese, Mandarin and other dialects) and live in Macao with a residential telephone line.

B. Sampling Method

Sample Size: 1808 residents were successfully interviewed in the survey. The sample size gives a sampling error of $\pm 2.4\%$ at the 95% confidence level.

Sampling Procedure: as in the seven previous surveys, all Macao residential telephone numbers formed the sampling frame. In the first step, 6999 telephone numbers were randomly selected by a computerized program. Then, with the assistance of the CATI system, all those numbers were dialed. When proven to be a residential number, interviewers requested a Chinese-speaking household person aged between 6 and 84, with the last birthday among other qualified members, to be interviewed. In the event of no answer from the dialed number, the chosen individual was not at home or unavailable or interview, interviewers randomly selected another qualified person in the house or made call backs up to five times at different times of different days. Eventually, 7898 numbers were used during the whole survey period.

Survey Response Rate: calculated by Response Rate Formulae 3 (RR3) and Cooperation Rate Formulae 3 (CR3) of the American Association for Public Opinion Research (AAPOR) (for details for http://www.aapor.org/default.asp?page=survey_methods/standards_and_best_practices/standard_definitions#response), the response rate of the current survey is 45.2%, and the cooperation rate is 69%.

C. Weighting Method

Prior to formal analysis, the data were weighted against the latest Macao Population Census Estimates, in terms of cross-distribution of age and gender. Consequently, the distribution of gender and age of the current sample resembles that of the

population.

D. Data Cleaning

A series of mean figures have been reported above, such as average online time per user. As is commonly known, mean averages are vulnerable to extremely large or small values in the data. We have therefore followed the customary practice in data processing: replacing extreme values (defined as larger or smaller than three standard deviations from the mean) with those equal to three standard deviations from the mean. Averages calculated from the adjusted data are generally about 2~18% smaller than the averages of the original data, which is closer to the parameters of the population.

About Macao Internet Project, MIP

The Macao Internet Project (MIP) is directed by Dr. Angus Cheong, the research director of [ERS e-Research lab](#) and Assistant Professor in Department of Communication in University of Macau. This project began in 2001, using random sampling method, conducting telephone survey among Macao residents in 18-84 years old.

Residents' Internet behavior and attitude is known from the survey and analysis, also the computer penetration rate, online rate, netizens' demographic features, Internet usage modes, and the influence of the Internet on everyday life.

The statistical and analytical results, based on the above surveys, help SAR government, companies, and the academic scholars to know the Internet development in Macao, and accordingly play a significant role in their decision making or academic studying. To achieve a more scientific and standard research, the Macao Internet Project cooperated with the China Network Information Center (CNNIC) in 2004. They adopted the same operation definition and scientific methods, conducted representative survey at the end of one year, and then publish it at the beginning of the next year. The timeliness and authority of the survey has been largely acknowledged by the industry.



About ERS e-Research Lab

ERS e-Research Lab was founded by Dr. Angus Cheong in 2009. It is the first of its kind as an independent research institute in the field of Internet and public opinion research in Macau. Its aim is to deepen research on the Internet technology and surveys, promote regional research cooperation, and regularly publish reports and electronic data to popularize and facilitate the applied utility of research findings.



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