

Internet Use in Macao: The 2005 Annual Survey Report

Angus Cheong

anguswhc@umac.mo

Wang Hsu

hsuwang@umac.mo

Macao Internet Project

University of Macau

PART I. EXPLANATORY NOTES

1. Internet Users: There are two definitions of the term in the current study: the first is the version by the World Internet Project (WIP), which asked the Macao residents aged between 18 and 74 with the question “are you using the Internet?” (hereafter the “WIP definition”), and the second is by the China Internet Network Information Center (CNNIC), which extended the age range from 6 to 84 and only counted those “use of the Internet at least one hour on average per week” (“CNNIC definition”). The WIP definition has been used in the surveys since 2001 while the CNNIC definition has been added since 2003, which allows comparisons among the survey parties including Macau, Hong Kong and Chinese mainland. Attention should be paid to these two definitions whenever cited as they produced slight statistical differences.
2. Online Computers: the term refers to the desktop and notebook computers at home that were connected to the Internet. Other Internet-ready handheld devices, such as PDAs or mobile phones, are excluded.
3. This report is part of the survey results generated from the Macao Internet Project (MIP) which was funded by the Research Committee of the University of Macau and Macau Foundation. The report, however, doesn't represent any viewpoints of these two organizations. All the data were collected up to December 29, 2005.

PART II. SURVEY FINDINGS

A. Overview of Internet Growth in Macau

a. Online Computers of Household

Table 6.1 Number of Online Computers (2005)

Total households ⁽¹⁾ (000)	Online PCs (000)	Dialup PCs ⁽²⁾ (000)	Broadband PCs ⁽³⁾ (000)
153	95	19	75
% of total households	62%	12%	49%
% of online households	100%	20%	79%

Notes: (1) The total households were counted based on the total population of Macao and the average heads of each household.

(2) and (3) excluding those using leased lines, wireless or mobile phones to go online.

Table 6.2 Growth of Online Computers

	Online PCs	Dialup PCs	Broadband PCs
2003	57%	30%	27%
2004	59%	23%	35%
2005	62%	12%	49%

Note: Percentages in the table are based on total households

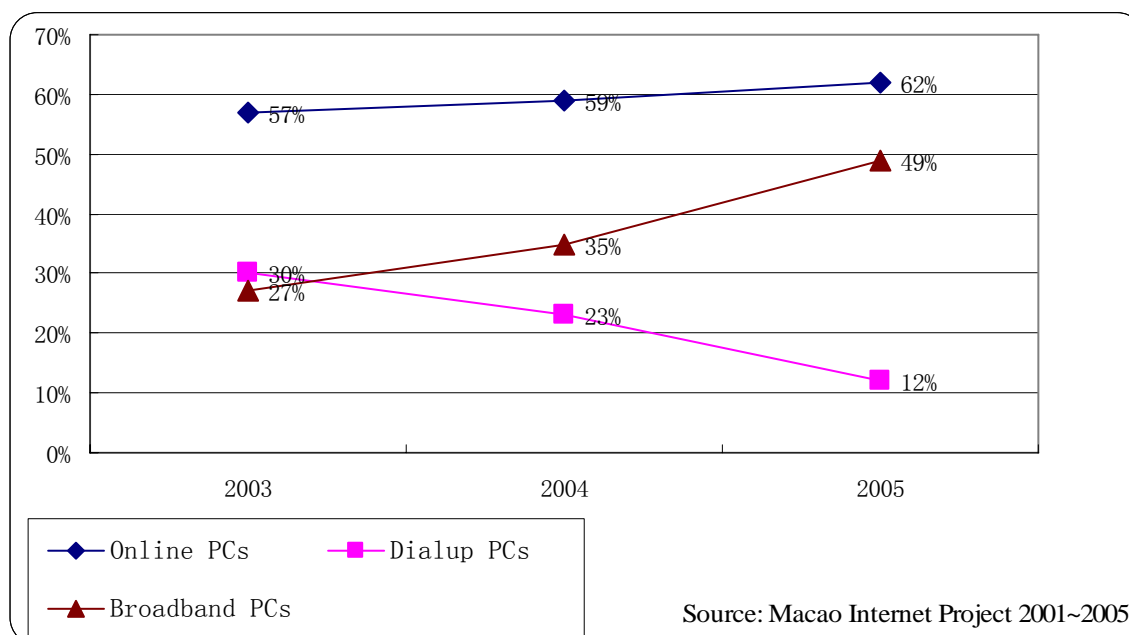


Figure 6.1 Growth of Online Computers

Table 6.3 Changes of Internet Connection Methods ⁽¹⁾

	Broadband	Dialup	Others (including leased line, wireless etc.)
2001 ⁽²⁾	22%	78%	0%
2003	47%	51%	2%
2004	60%	39%	1%
2005	79%	20%	1%

Notes: (1) No survey was conducted in 2002.

(2) WIP definition.

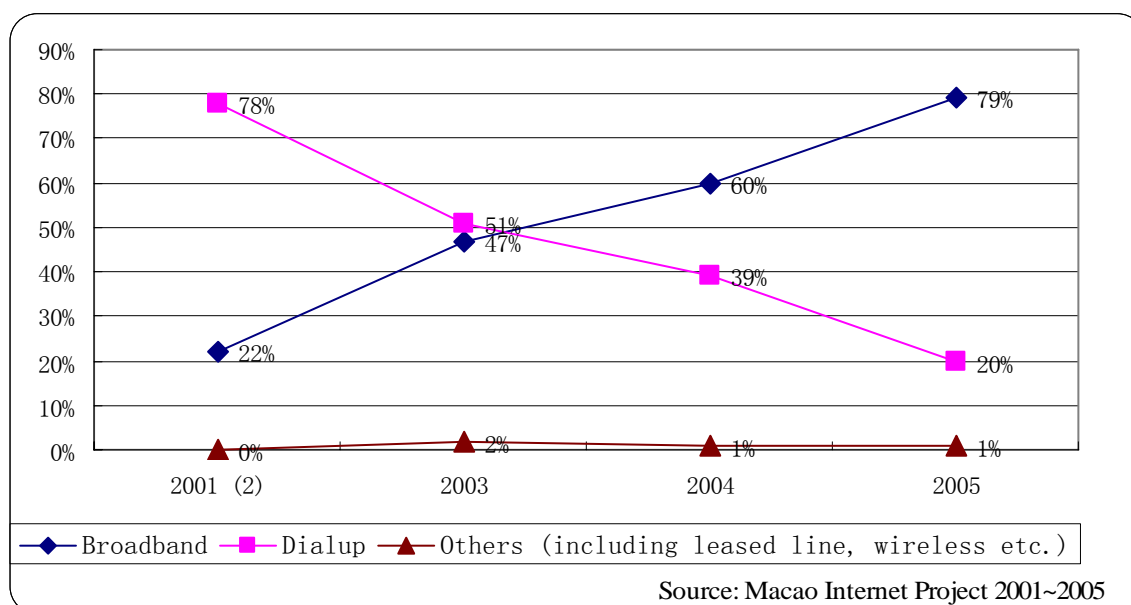


Figure 6.2 Changes of Internet Connection Methods

At the end of 2005, the online computers reached 62% of the total households in Macao. Among all online computers, 79% are broadband PCs while 20% are dialup PCs. From 2001 to 2005, broadband PCs have increased from 22% to 79% whereas dialup PCs have dropped from 78% to 20%. It shows that broadband connection has become the dominant Internet connection method.

b. Number of Internet Users and Penetration Rate in Macao

By the CNNIC definition, there are 233 thousands of Internet users in Macao in 2005, which account for 52.7% of the corresponding population (i.e. 443 thousands of regular residents) between age of 6 and 84. Taking sampling error ($\pm 2.3\%$) into consideration, the actual number of Internet users may vary from 223 thousands to 244 thousands.

By the WIP definition, there are 170 thousands of Internet users in Macao in 2005, which account for 50% of the corresponding population (i.e. 340 thousands of regular

residents) between age of 18 and 74. Taking sampling error ($\pm 2.7\%$) into consideration, the actual number of Internet users may vary from 161 thousands to 180 thousands.

Table 6.4 Growth of Internet Users and Non-Users

	Users	Disconnected Users	Non-Users
2001 ⁽¹⁾	32.9%	15.0%	52.0%
2003	39.5%	10.0%	51.0%
2004	46.2%	8.0%	46.0%
2005	52.7%	6.9%	40.4%

Notes: (1) WIP definition.

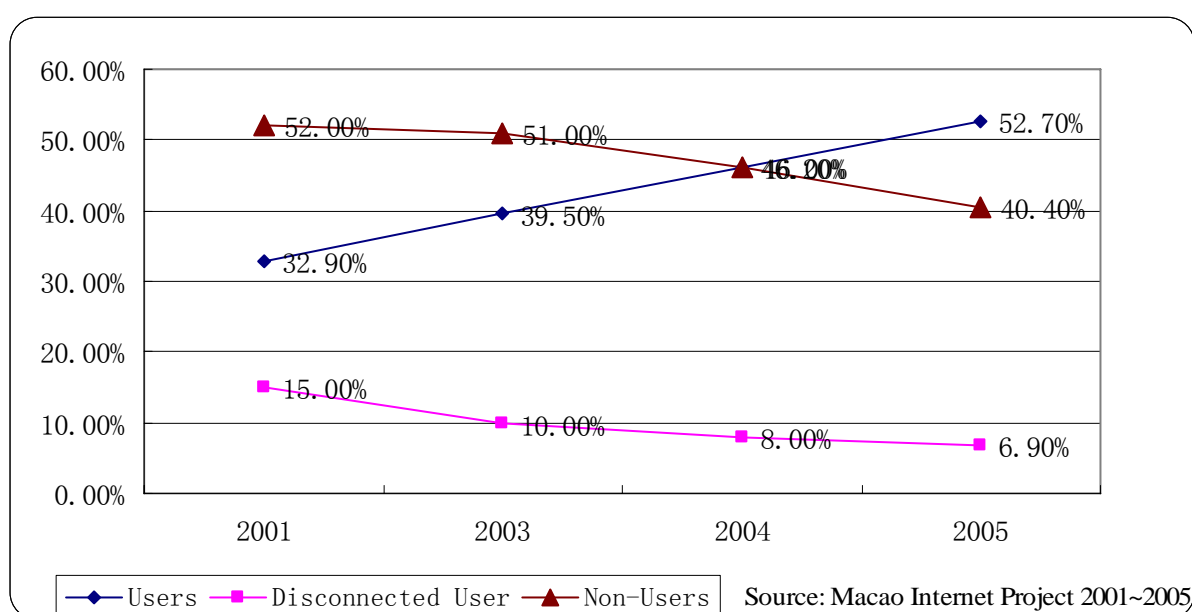


Figure 6.3 Growth of Internet Users and Non-Users

As shown in Table 6.4, there is a sustainable growth of the Internet penetration rate in Macao. From 2001 to 2005, the penetration rate has increased from 32.9% to 52.7% with an average annual growth rate of 12.5%. On the other end, the proportion of non-users has decreased from 52% to 40.4% with an average annual rate of 6.3%.

Table 6.5 shows the estimated Internet penetration rates in the past eleven years since the Internet was connected by the general public in 1995, with an average annual growth rate of 35%.

Table 6.5 Annual Growth of Internet Users in Macau

Year	Penetration Rate
1995	3%
1996	4%
1997	6%
1998	10%

1999	16%
2000	25%
2001	33%
2002	36%
2003	40%
2004	46%
2005	53%

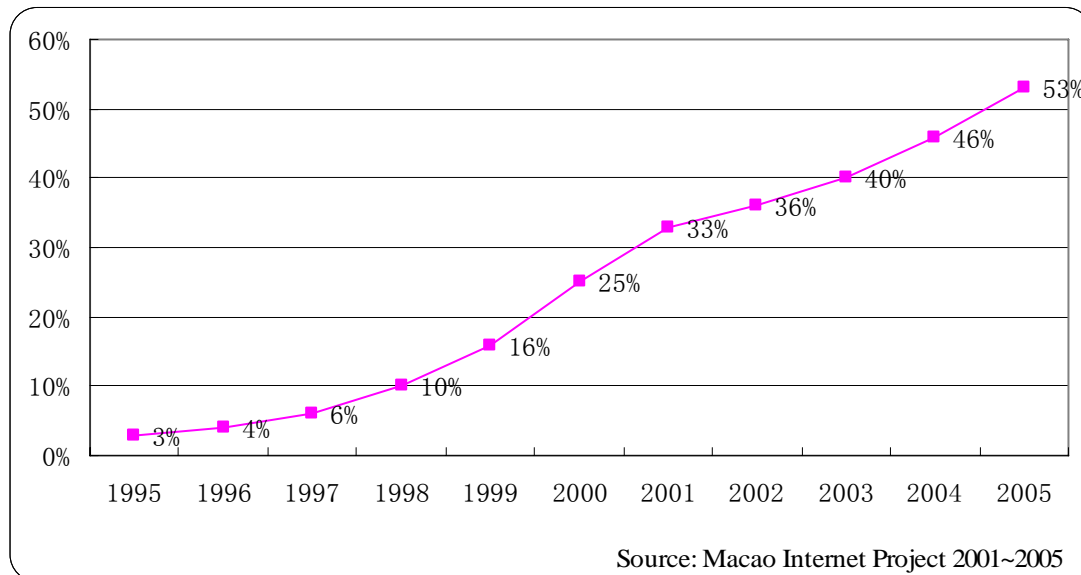


Figure 6.4 Annual Growth of Internet Users in Macau

c. Internet Penetration Rate by Demographics

1. By Gender

	2003	2004	2005
Male	42%	49%	53%
Female	37%	43%	53%

As shown in Table 6.6, the Internet penetration rates of male were higher than female in 2003 and 2004. However, the 2005 survey results reveal an identical rate of 53% for both groups.

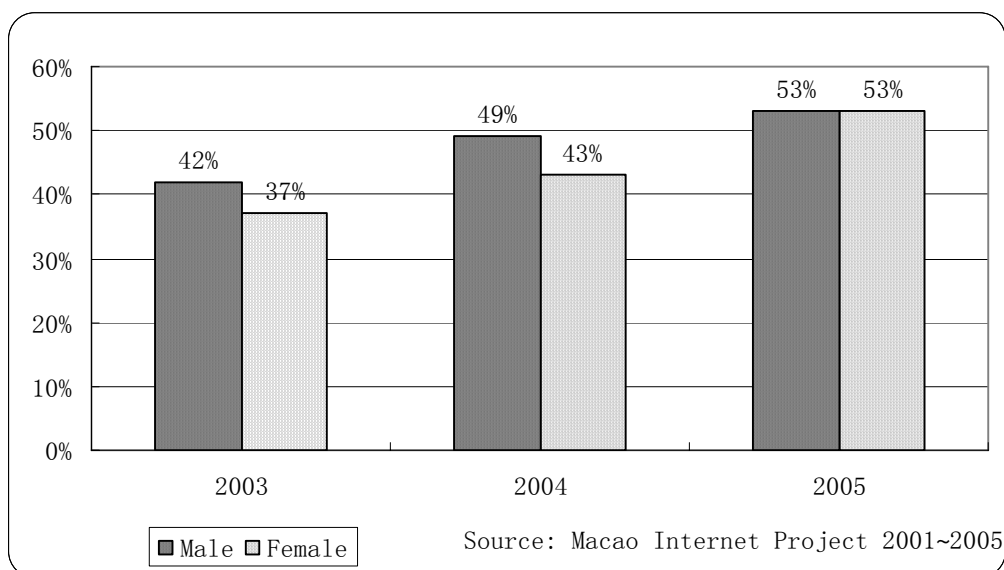


Figure 6.5 Internet Penetration Rate by Gender

2. By Age

Table 6.7

Internet Penetration Rate

by Age

	2003	2004	2005
below 18 years old	44%	67%	74%
18-24 years old	84%	88%	95%
25-30 years old	70%	78%	81%
31-35 years old	48%	59%	61%
36-40 years old	40%	41%	56%
41-50 years old	20%	22%	33%
51-60 years old	14%	9%	18%
above 60 years old	1%	1%	6%

Table 6.7 shows that there was a trend of increasing rates in the past three years with significant differences among age groups. Other than the group under 18, the figures indicate that the Internet penetration rate decreased as the age increased, from the rate of 95% in the age group of 18-24 to the rate of 6% in the age group of above 60.

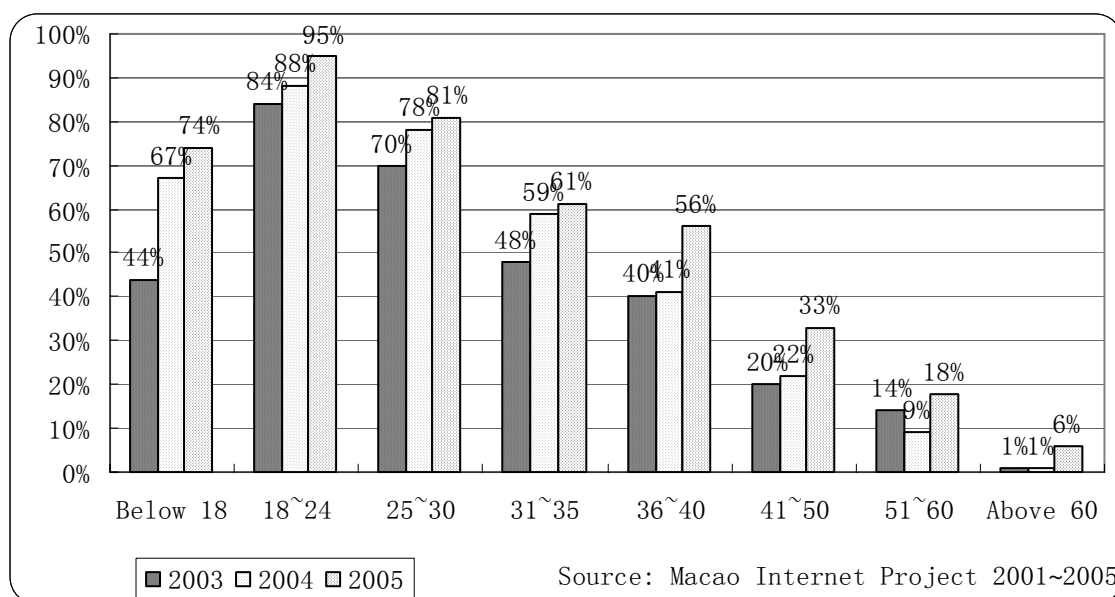


Figure 6.6 Internet Penetration Rate by Age

3. By Occupation

Table 6.8 Internet Penetration Rate by Occupation

	2003	2004	2005
Managerial, Professional and White Collar	72%	78%	83%
Public Servants	68%	88%	81%
Students	54%	72%	80%
Self Employed	36%	32%	52%
Blue Collar, Workers & Sale Service	22%	25%	27%
Retired, Unemployed & Housewife	13%	11%	17%
Others	42%	50%	33%

As shown in Table 6.8, the Internet penetration rates in the population of managerial, professional, white collar, and students are significantly higher than those in other occupation groups. The rates in the population of blue collar, sale service, and those without a job are comparatively low. Interestingly, there was a significant increase of the penetration rate in the population of self-employed, accounting for a difference of 20% point.

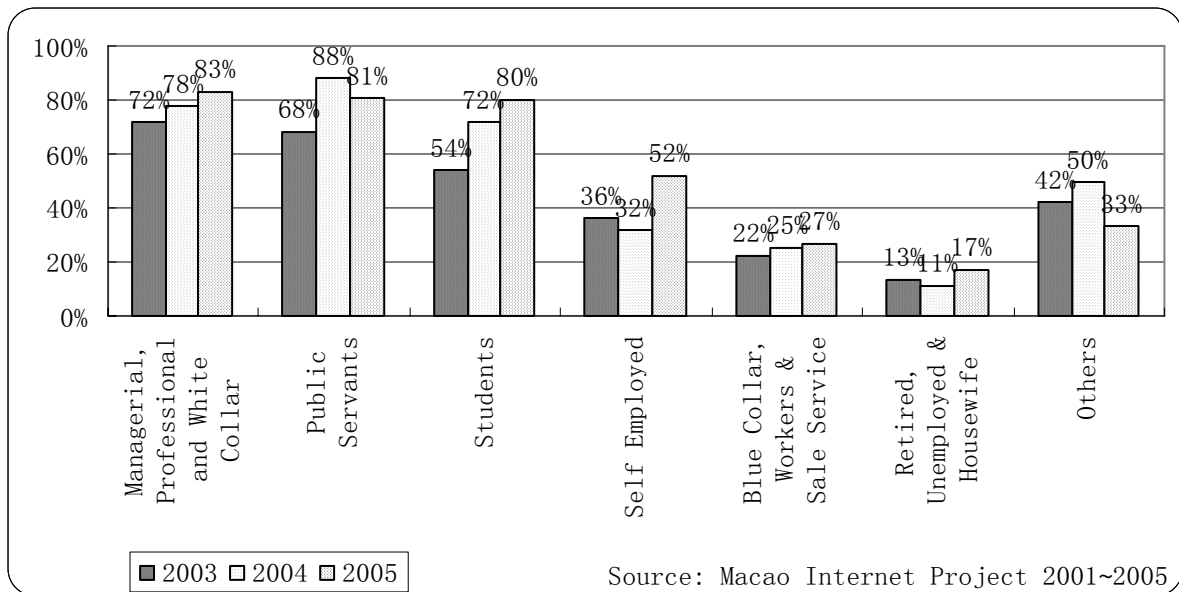


Figure 6.7 Internet Penetration Rate by Occupation

4. By Education

Table 6.9 Internet Penetration Rate by Education

	2003	2004	2005
Junior Middle School or less	23%	26%	32%
Senior Middle School	54%	65%	70%
Associate Degrees	80%	90%	80%
University Degree	91%	86%	92%
Postgraduate Degree	88%	100%	94%

As shown in Table 6.9, the higher the educational level of the population, the higher the penetration rate of the Internet users, with the exception of the population of those with a university degree in 2004. It seems that nearly everybody goes online from the population of those with a university degree or above. The rate is comparatively low for those with a senior middle school degree or below.

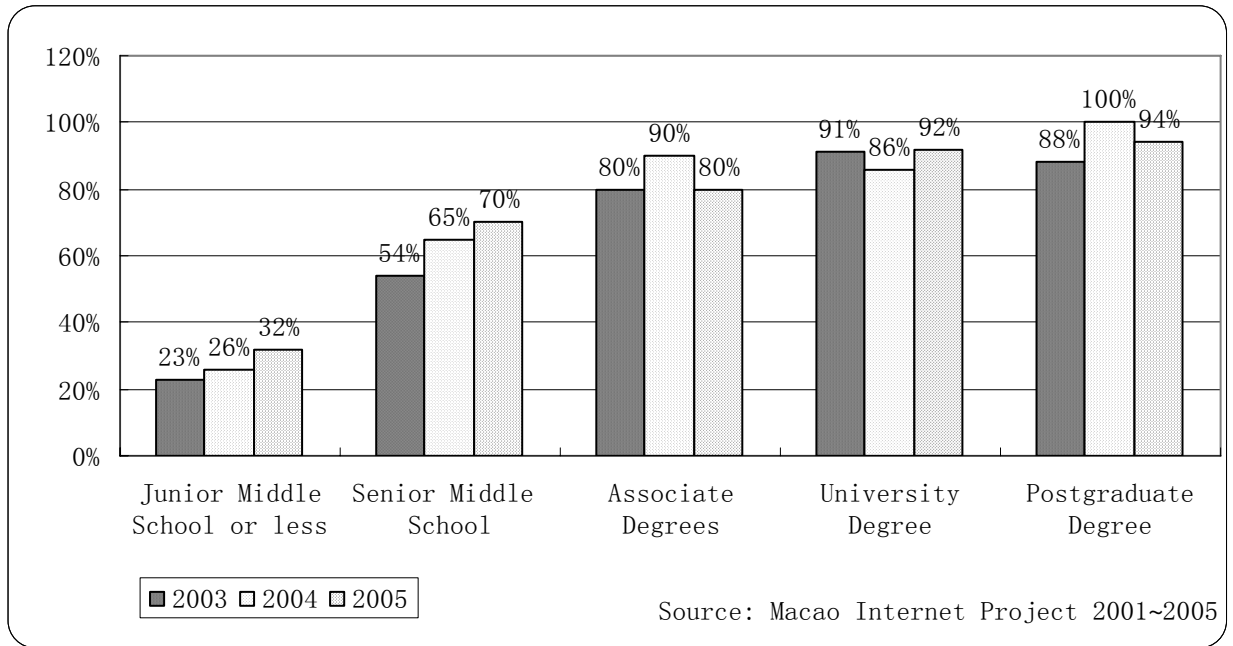


Figure 6.8 Internet Penetration Rate by Education

5. By Marital Status

Table 6.10 Internet Penetration Rate by Marital Status

	2003	2004	2005
Married	27%	27%	35%
Unmarried	56%	69%	73%

Table 6.10 shows that the Internet penetration rate in the unmarried population is much higher than in the married population, accounting for differences from 30% to 40% in the previous annual surveys.

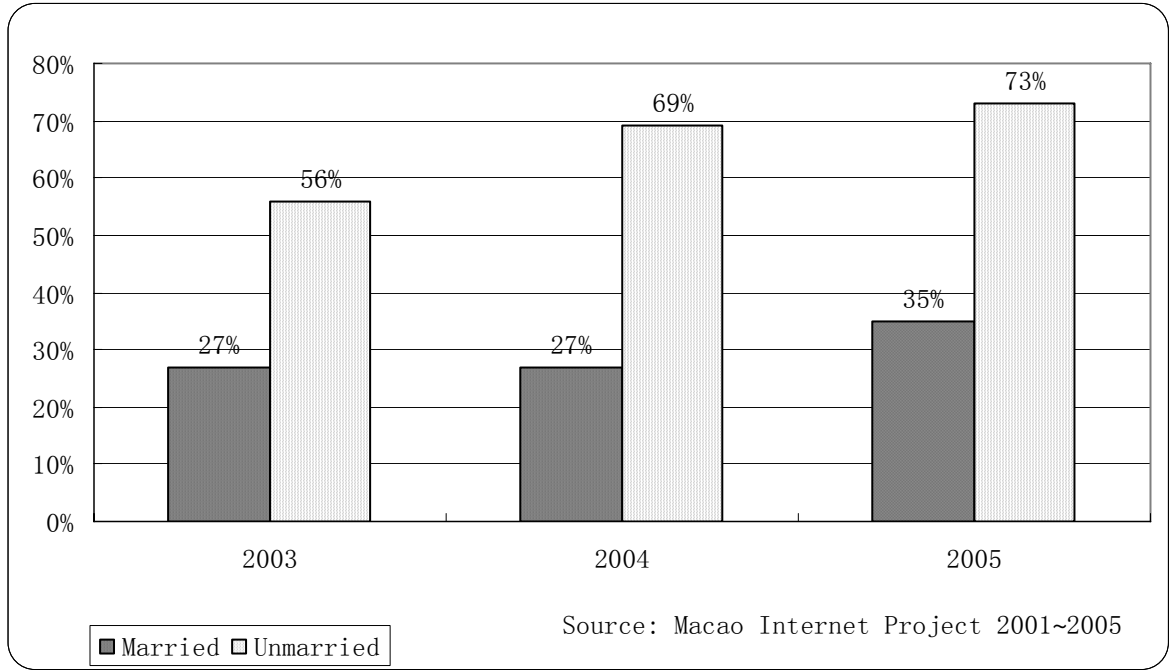


Figure 6.9 Internet Penetration Rate by Marital Status

6. Monthly Household Income (Macao dollars, MOP)

Table 6.11

Internet Penetration Rate by Monthly

Household Income

	2003	2004	2005
<\$6,000	20%	14%	21%
\$6,000-\$12,000	40%	44%	40%
\$12,000-\$18,000	54%	55%	66%
\$18,000-\$24,000	69%	66%	78%
>\$24,000	75%	84%	90%

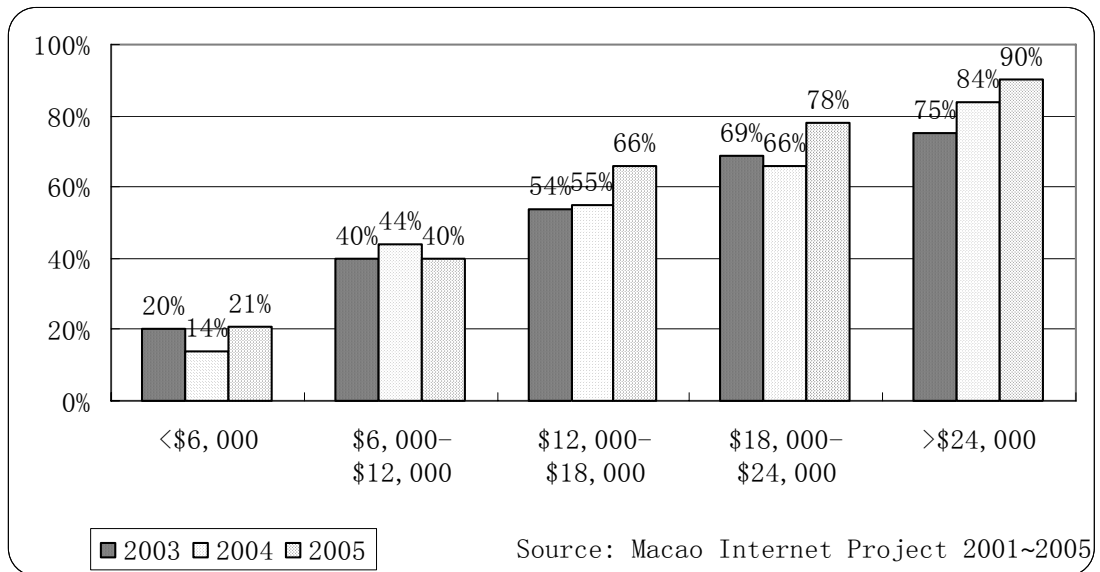


Figure 6.10 Internet Penetration Rate by Monthly Household Income

B. Behaviors and Perceptions of Internet Users

To compare, the term “Internet users” in this section refers to those defined by the CNNIC definition (i.e., 6-84 years old), unless indicated as “WIP definition” (18-74 years old). The questions with “*” are adopted from the offline survey of CNNIC whereas the questions without “*” are specifically designed for the Macao survey.

a. Individual Characteristics

***1. Sex Distribution:**

Table 6.12 Sex Distribution of Internet Users

Male	Female
48%	52%

Table 6.12 shows that of the users, 48% are male and 52% female. Such composition distribution is consistent with that of the corresponding general population.

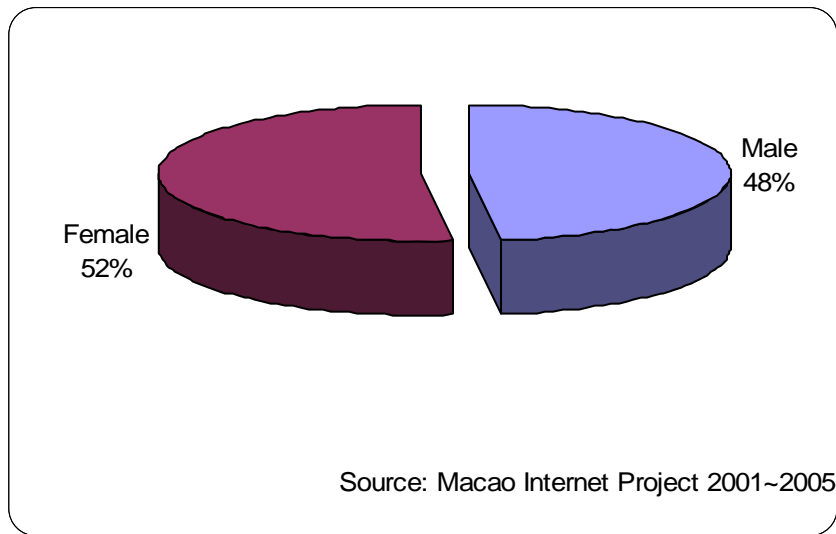


Figure 6.11 Sex Distribution of Internet Users

***2. Age Distribution:**

Table 6.13 Age Distribution of Internet Users

below 18 years old	18-24 years old	25-30 years old	31-35 years old	36-40 years old	41-50 years old	51-60 years old	above 60 years old
28%	20%	14%	9%	11%	13%	4%	1%

Table 6.13 shows that those aged 24 or below share nearly half of the total users whereas those aged above 50 accounts for only 5% of the total users.

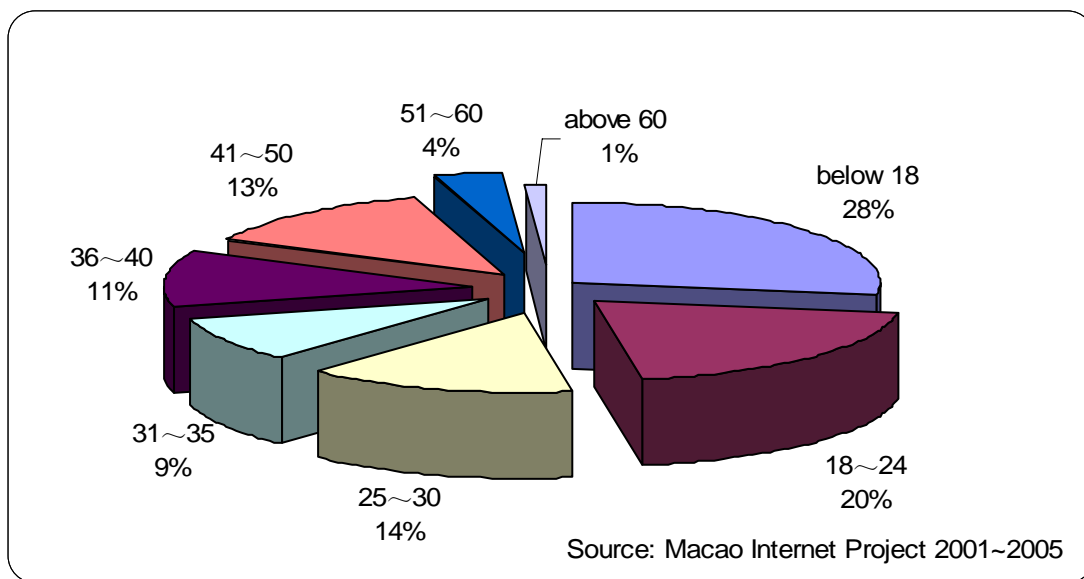


Figure 6.12 Age Distribution of Internet Users

***3. Marital Status:**

Table 6.14 Marital Status of Internet Users

Married	Unmarried
35%	65%

Table 6.14 shows that of the users, 65% are unmarried (including singles, divorced and widows) and 35% married.

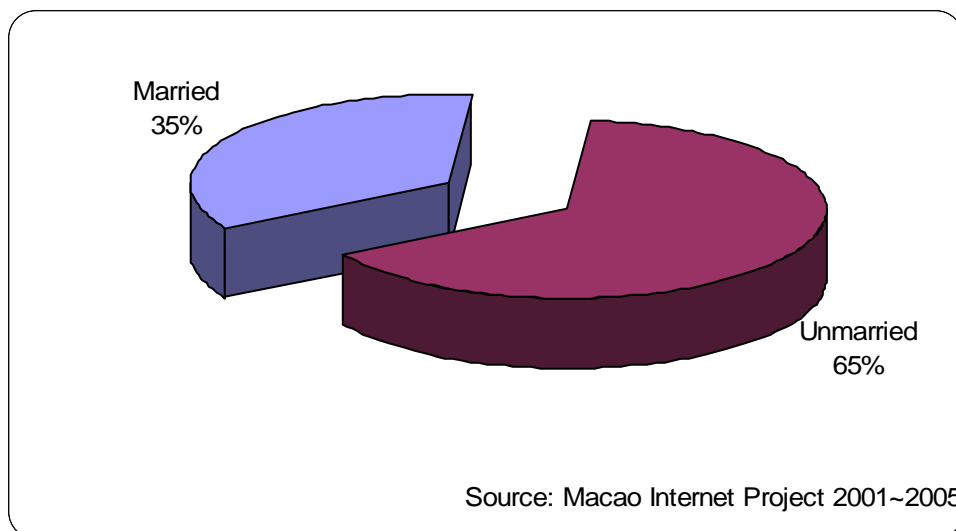


Figure 6.13 Marital Status of Internet Users

***4. Education Level of Internet Users:**

Table 6.15
Users

Education Levels of Internet

Junior Middle School or less	Senior Middle School	Associate Degrees	University Degree	Postgraduate Degree
33%	35%	9%	20%	3%

Table 6.15 shows that of the users, more than two-third hold a senior middle school degree or below. While 20% of the users have a university degree, those with an associate degree and a postgraduate degree account for 9% and 3% respectively.

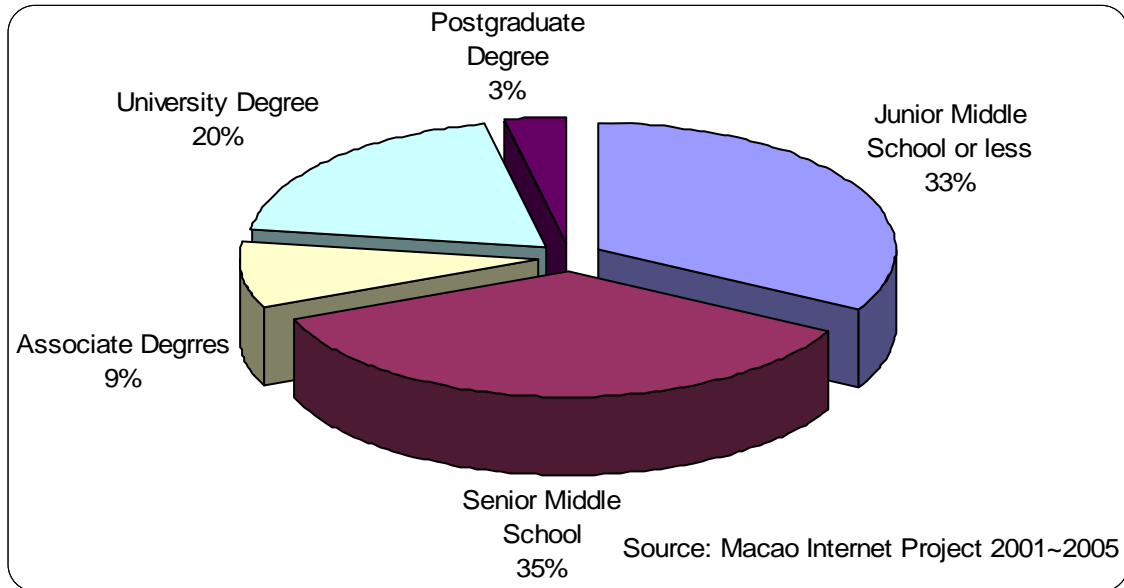


Figure 6.14 Education Levels of Internet Users

***5. Occupational Distribution:**

Table 6.16
Internet Users

Occupational Distribution of

Public Servants	Managerial, Professional and White Collars	Worker & Sales Assistant	Self Employed	Students	Retired & Unemployed	Others
5%	33%	13%	1%	39%	7%	0.7%

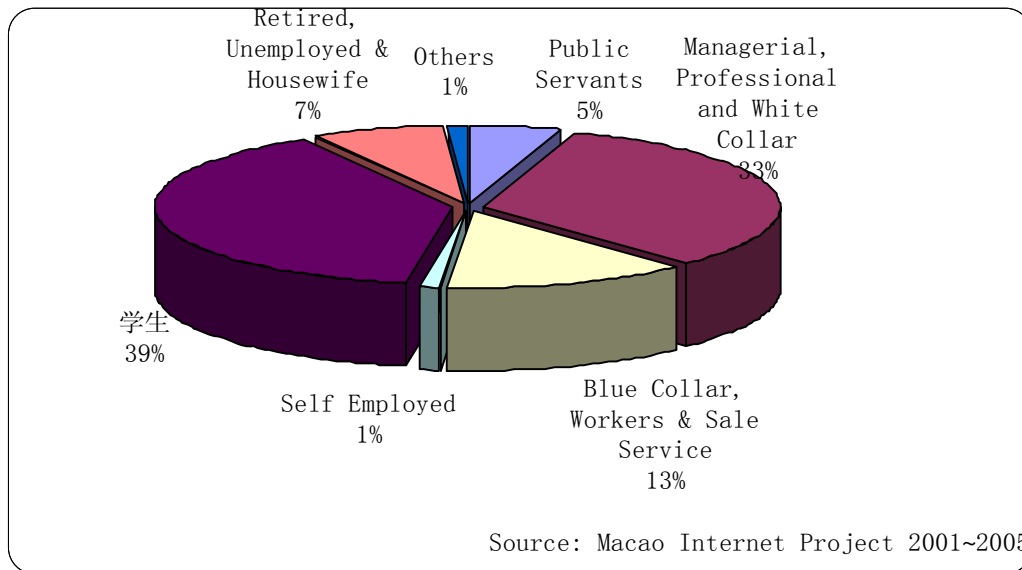


Figure 6.15 Occupational Distribution of Internet Users

Table 6.16 shows that of the user, students, as well as managerial, professional and white collars are the majority, accounting for 39% and 33% respectively. Workers and sales assistant only share 13% and other categories account for even less.

***6. Family Income (Macao dollars):**

Table 6.17 Family Income Distribution of Internet Users

<\$6,000	\$6,000-\$12,000	\$12,000-\$18,000	\$18,000-\$24,000	>\$24,000
12%	23%	22%	20%	23%

As shown in Table 6.17, apart from those 12% of the users who earn less than MOP 6,000 monthly, the distribution is quite even across all other groups, accounting for from 20% to 23%.

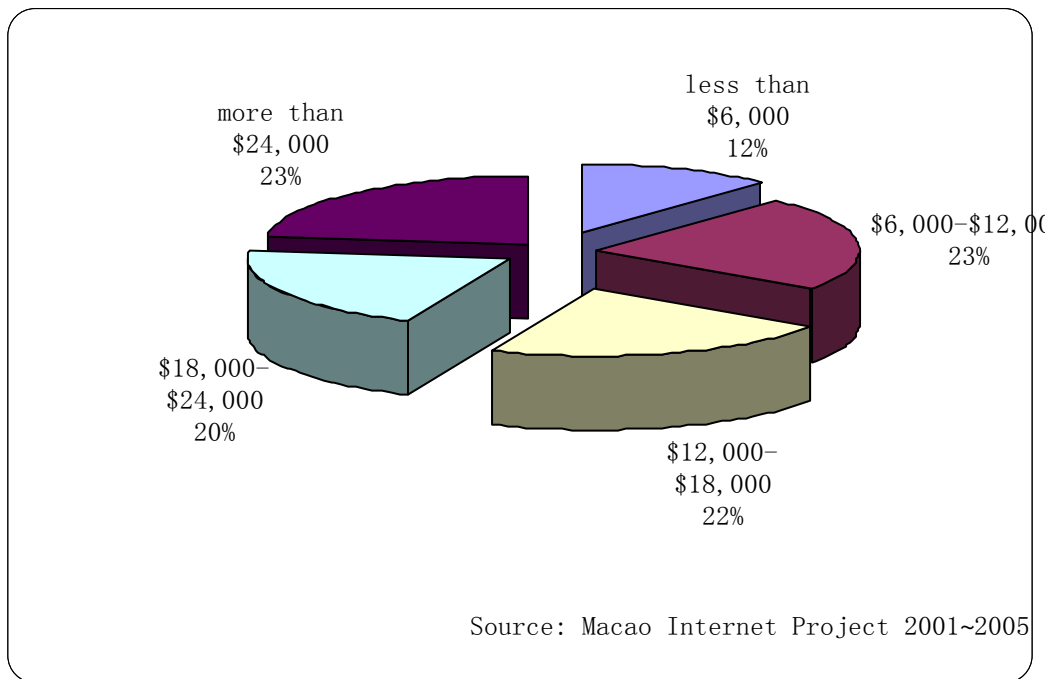


Figure 6.16 Family Income Distribution of Internet Users

b. Internet Usage and Online Behavior

***1. Places to get online (multiple selections allowed):**

Table 6.18

Where Users Go

Online

Home	Office	School	Internet Café, Library & Other Public Places	can't decide
88%	27%	18%	16%	4%

Table 6.18 shows that the majority of the users usually go online at home, accounting for 88%, followed by office (27%), school (18%), and other public places (16%).

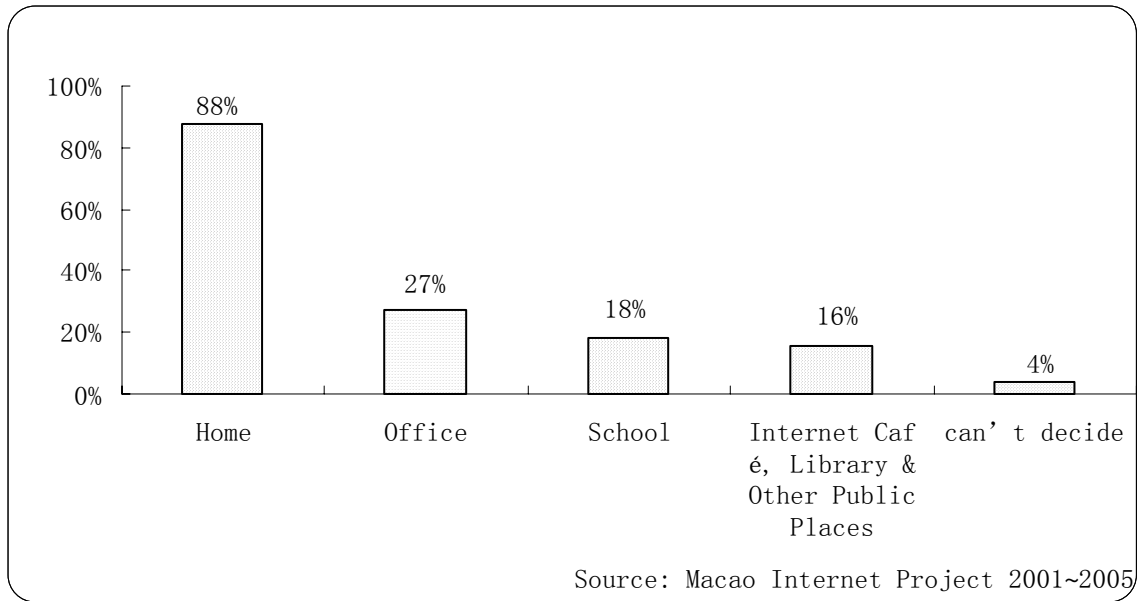


Figure 6.17 Where Users Go Online

***2a. Monthly Spending on Internet Connection:**

Table 6.19 Monthly Expenditure on Internet Connection (HK\$)

<HK\$51	HK\$51-100	HK\$101-200	HK\$201-300	HK\$301-400	HK\$401-500	>HK\$500
2%	24%	47%	18%	7%	1.8%	0.8%

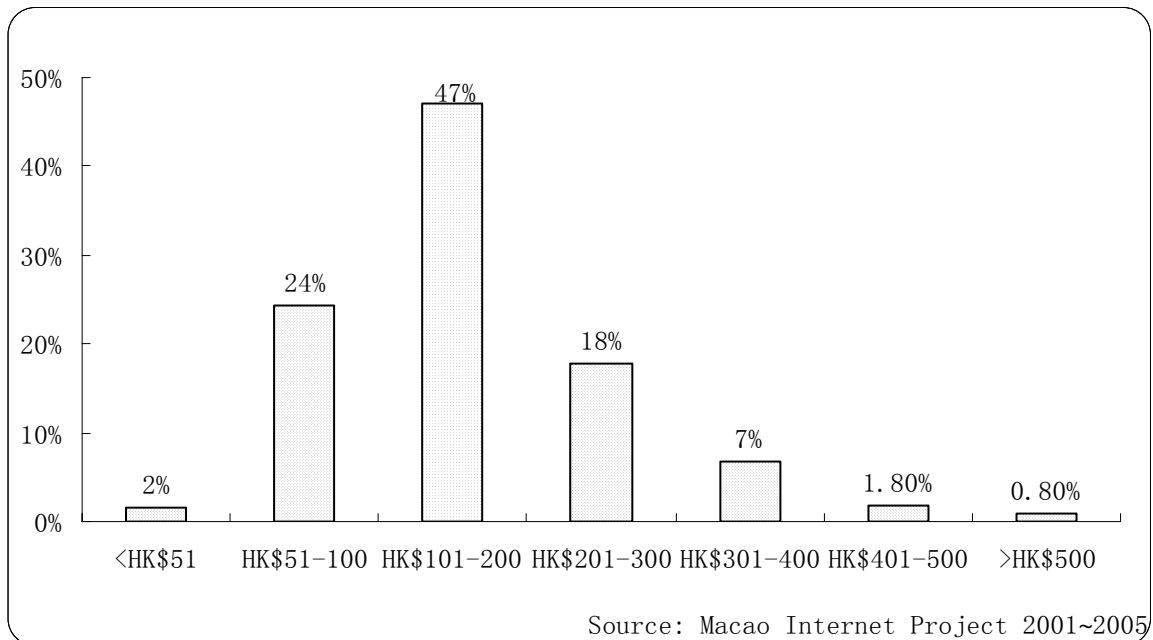


Figure 6.18 Monthly Expenditure on Internet Connection (HK\$)

The survey results show that online households spend an average of HK\$181 (USD23) per month on the Internet (including connection fee and e-mail account charge). It can be estimated as more than HK\$17 millions spending per month from

all online households based on the 95 thousands of online households. As shown in Table 6.19, nearly half of the households spend between HK\$101 to HK\$200 per month while less than 2% of the households' spending exceeds HK\$400.

***2b. Online History:**

Table 6.20 Online History

2 years or fewer	20%
2-4 years	41%
5-7 years	26%
7 years or more	13%

Table 6.20 shows that 41% of the users have two to four years of online experience, 26% of five to seven years, 20% of less than two years, and 13% of more than seven years. The survey results also reveal that the average online experience is four years. The most experienced users have gone online for 15 years whereas the least have connected the Internet for less than one month.

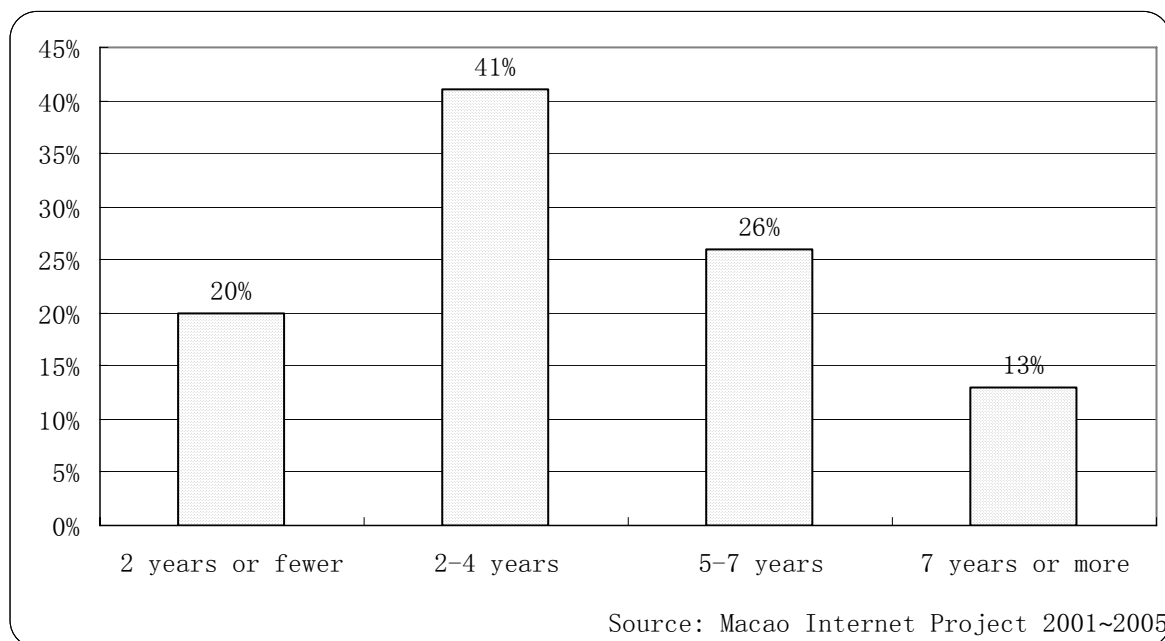


Figure 6.19 Online History

***2c. Methods of Internet Connection (multiple selections permitted):**

Table 6.21 Methods of Internet Connection

Broadband	85%
Telephone dialup	17%
Wireless (including WLAN, GPRS, WAP, WiFi)	12%
Leased line	2%

Others	0.4%
Don't know	4%

Of the users, 85% of them go online via broadband and 17% via dialup. Interestingly, 12% claimed that they use wireless connection.

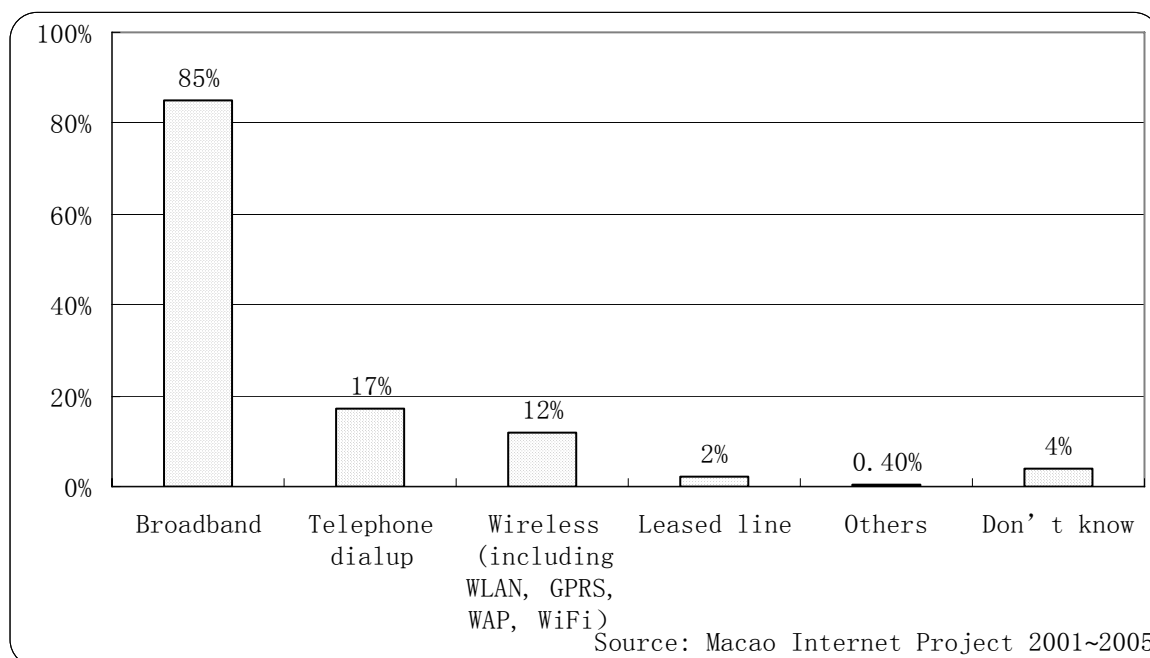


Figure 6.20 Methods of Internet Connection

***3. Average Hours of Internet Use per Week:**

Table 6.22
Internet Users

Average Hours of
Internet Use

Internet Users	13.3 hours/user
6-17 years old	11 hours/user
18-84 years old	14.3 hours/user

The survey results show that users spend an average of 13.3 hours per week on the Internet. When looking into different groups, it was found that adults spend 14.3 hours and youngsters spend 11 hours weekly, showing a significant 3.3 hours difference between the two groups.

4. Average days of Internet Use per Week:

The survey results reveal that users normally go online for an average of 4.8 days per week.

***5. Time of the Day Using the Internet (multiple selections permitted):**

Table 6.23

Daily Cycle of Online Activities

1:00	2:00	3:00	4:00	5:00	6:00
14%	9%	5%	3%	2%	2%
7:00	8:00	9:00	10:00	11:00	12:00
1%	2%	10%	13%	12%	12%
13:00	14:00	15:00	16:00	17:00	18:00
11%	14%	15%	18%	21%	24%
19:00	20:00	21:00	22:00	23:00	24:00
27%	40%	48%	54%	42%	32%

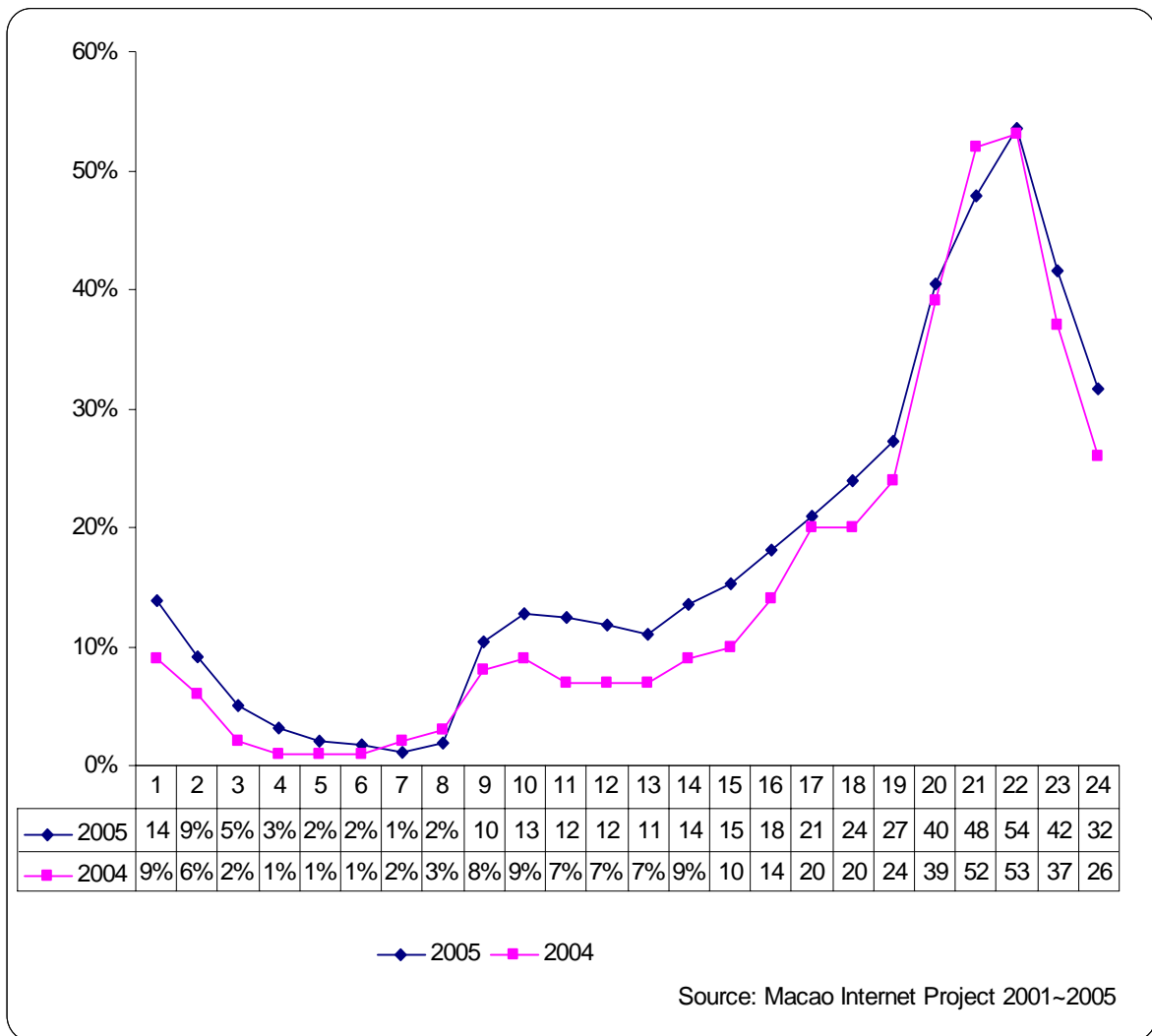


Figure 6.21 Daily Cycle of Online Activities

Table 6.23 shows that more and more users go online from 2 o'clock in the afternoon till midnight. The prime time for being online is from nine to eleven at night while the low tide is from four to eight in the early morning.

***6. Number of E-mail accounts:**

Table 6.24

Number of E-mail

Accounts

Average number of E-mail accounts	2.4/user
Number of free E-mail accounts	2.2/user

On average, each user has 2.4 e-mail accounts, of which 2.2 accounts are free of charge.

***7. Average number of E-mail messages arranged per week**

Table 6.25 Average number of E-mail Messages Arranged Weekly

Received e-mail messages (excluding junk messages)	24.7/user
Received junk messages	23.9/user
Sent E-mail messages	12.0/user

On average, each user receives 24.7 e-mail messages and sends out 12 e-mail messages per week. Besides, each user needs to handle 23.9 junk messages weekly.

***8. Primary Purposes for Internet Use (multiple selections permitted):**

Table 6.26 Primary Purposes for Internet Use

Information acquisition	80%
Communication	48%
Leisure and entertainment	40%
Online News	25%
Study	11%
Software download	11%
Virtual community	6%
Online finance	5%
Online public service	5%
Online shopping	3%
Online job	2.7%
Webpage authoring	1.9%
Online gaming	1.6%
Internet phony	1.2%
Purchase of goods or services	0.7%
Others	3%

As shown in Table 6.26, users' major online activity is information acquisition, accounting for 80%, followed by communication (48%), leisure and entertainment (40%), and online news (25%).

8b. Reading online news:

Table 6.27
News

Frequency of Reading Online

	Never	Seldom	Sometimes	Often	Every day
Reading online news	24%	21%	27%	20%	8%

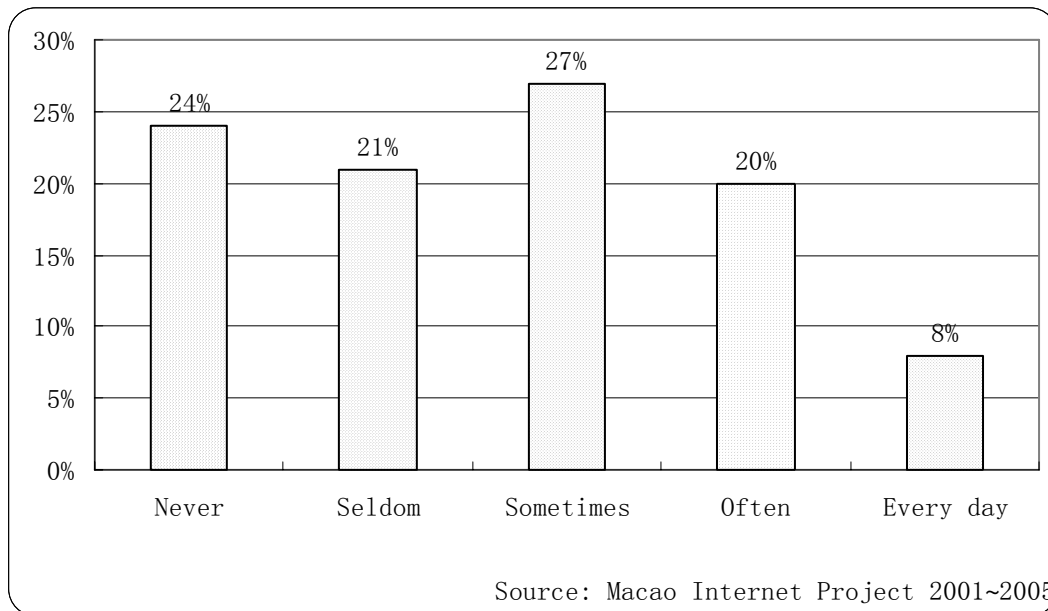


Figure 6.22 Primary Purposes for Internet Use

8c. Type of Online News (multiple selections permitted):

Table 6.28
News

Type of Online

Local News	73.8%
Hong Kong News	65.4%
International News	30.1%
China News	21.7%
Taiwan News	19.7%

As shown in Table 6.27 and Table 6.28, 24% of the users never read online news while 28% often or read online news everyday. Of the readers, they mainly read local news and Hong Kong news, accounting for 73.8% and 65.4% respectively.

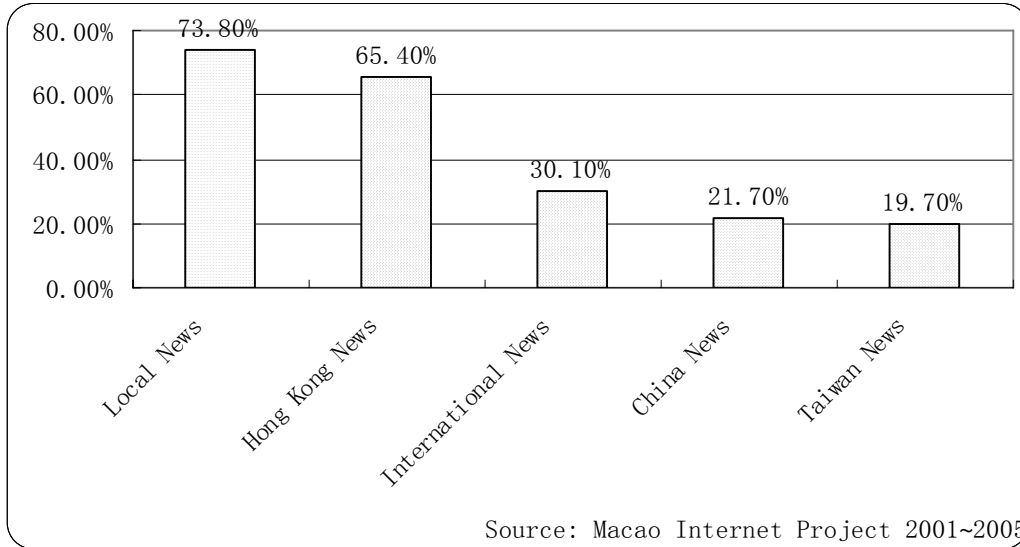


Figure 6.23 Type of Online News

***9. Purchase of Goods or Services Online within the Last 12 Months:**

Table 6.29
Experience

Online Purchase

Yes	19%
No	81%

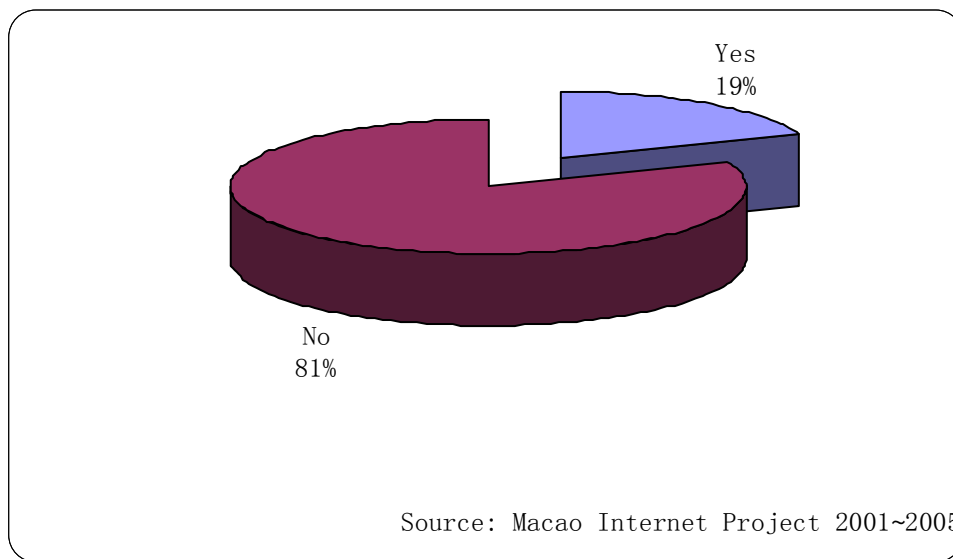


Figure 6.24 Online Purchase Experience

***10. Goods or Services Purchased within the Last 12 Months (multiple selections permitted):**

Table 6.30

Type of Goods or Services on the Internet

Books	28%
Traveling (air/train tickets, hotels)	20%
Cloths	16%

Leisure and entertainment products (e.g., movie tickets, sports tickets)	14%
Computers or parts	10%
Housewares or art crafts	9%
Online games	8%
Home appliances	7%
Online gaming (bet on football, basketball, etc.)	5%
Stock investment	4%
Make up, cosmetics	4%
Food	3%
Subscription or membership	2%
Audio/Video products	1%
Others	14%
can't decide	4%

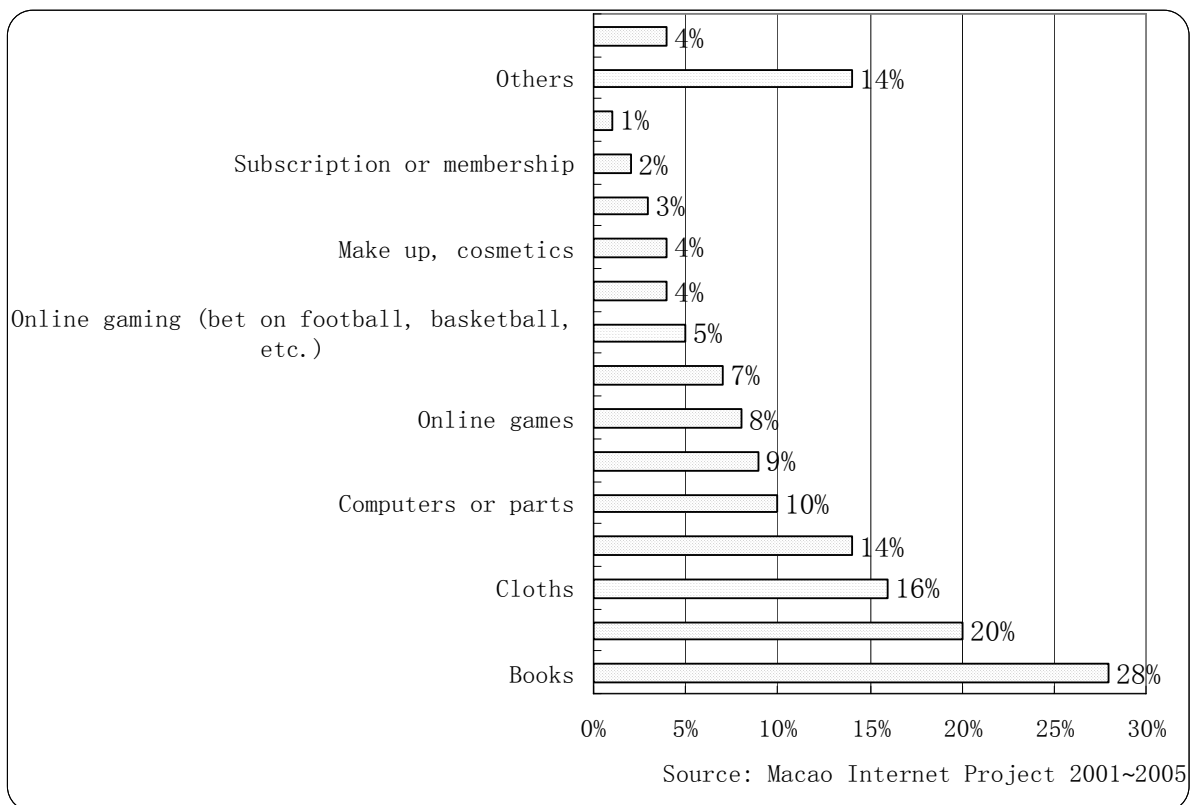


Figure 6.25 Types of Goods or Services on the Internet

In 2005, there are 19% of the users had the online purchase experience. The most popular goods or services by the online consumers are books, accounting for 28%, followed by traveling (20%), cloths (16%), leisure and entertainment products (14%), and computers (10%).

11. Average Hours per Week on Six Major Online Activities:

Table 6.31

Average Hours per

Week Activates Online

	2003	2004	2005
Information acquisition	4.1	4.3	4.8
Online chat (e.g., MSN, ICQ)	-	1.9	3.2
Reading online news	2.0	2.5	2.5
Receiving/sending E-mails	1.9	2.7	2.4
Playing online games	1.7	1.1	1.3
Participating in online chatting or discussions	2.3	0.5	0.8

Table 6.31 shows that users devote their time mainly to information acquisition, reading online news, and handling e-mails in the past three years. However, the popularity of the online chatting is becoming more apparent.

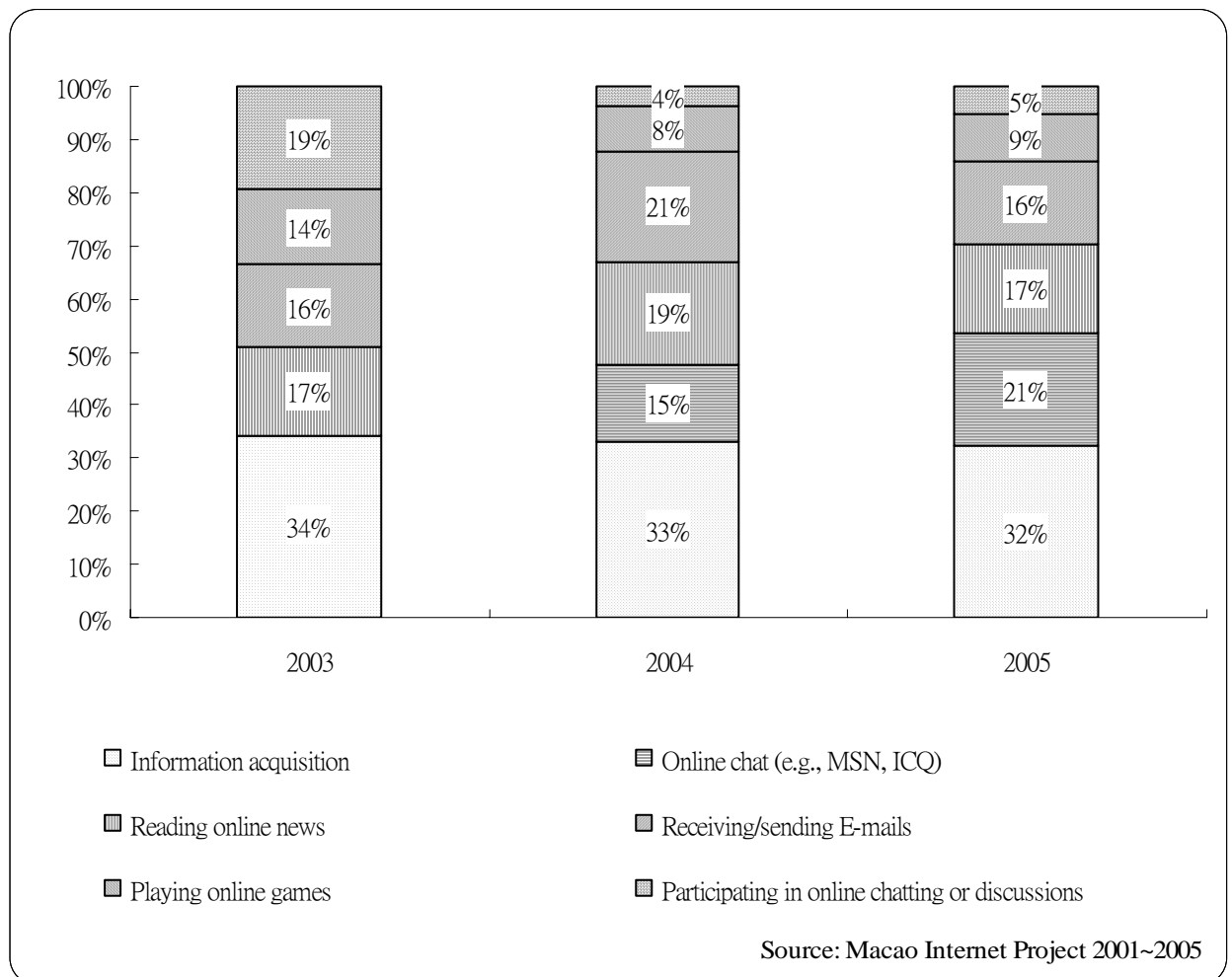


Figure 6.26 Average Hours per Week Activates Online

12a. The Websites that Users Browsed Frequently (multiple selections permitted):

Table 6.32 The Major Websites Browsed	
Hong Kong websites	77%

Macao websites	40%
Taiwan websites	23%
Chinese mainland websites	22%
Overseas websites	15%
Others	1%

Of the users, 77% browse Hong Kong websites most frequently, followed by Macao websites (40%), Taiwan websites (23%), Chinese mainland websites (22%), and overseas websites (15%).

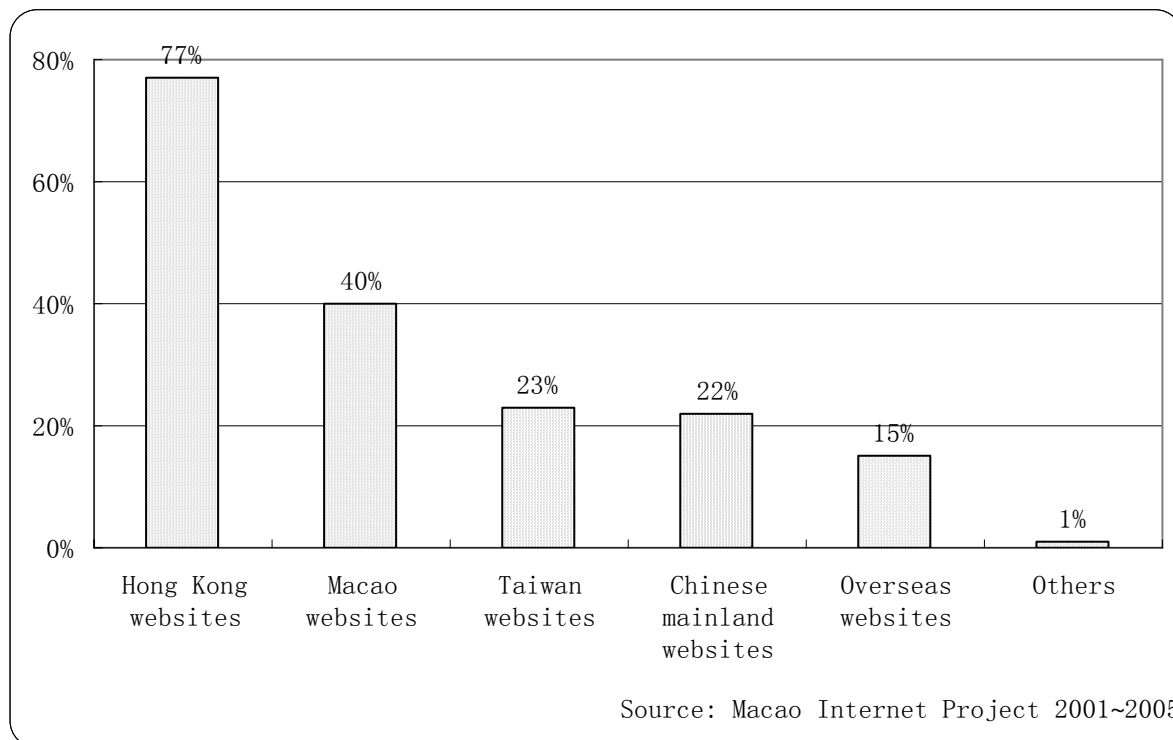


Figure 6.27 The Major Websites Browsed

12b. The Websites that Users of 6-17 Years Old Browsed Frequently (multiple selections permitted):

Table 6.33 The Major Websites Browsed by Youngsters

Search Engines --Yahoo/Google etc.	71%
Online games websites	29%
Entertainment websites	25%
MSN/ICQ	22%
School websites	19%
CTM websites	11%
Others websites	11%
News websites	9%
Classmate/myself websites	6%
don't know/hard to say	4%

Of the young users, 71% claimed that they most frequently browse search engines, followed by online games websites (29%), entertainment websites (25%), and MSN/ICQ online chatting websites (22%).

13a. Frequency of Using the Government Websites

Table 6.34 Frequency of Using the Government Websites

Every day	7%
Several times a week	18%
Several times a month	24%
Several times a year	17%
Never	30%
Don't know/hard to say	4%

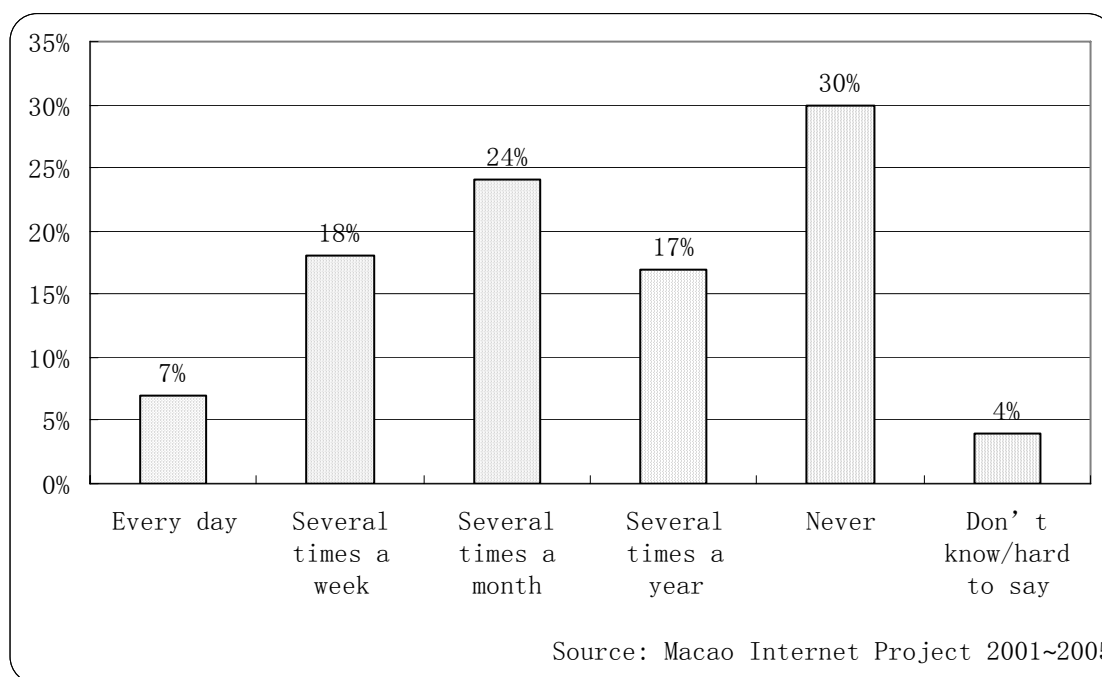


Figure 6.28 Frequency of Using the Government Websites

13b. The e-Government Services that Users Used (multiple selections permitted):

Table 6.35 The e-Government Services that Users Used

Search Information	95%
Inquiries (E-mail, message board etc.)	19%
Download Information	16%

Download Application Form	15%
Complain (E-mail, message board etc.)	3%
Others	6%

In terms of the usage of the government websites, 30% of the users claimed that they rarely or never use the services provided by the government websites. While only 7% browse them everyday, 24% come to visit the websites several times a month. Of those using the government websites, 95% go for searching information and less than 20% making inquiries as well as downloading information and forms. Those who make complaints through the websites account for only 3%.

c. Internet Non-Users in Macao

***1. Reasons for Not Using the Internet (multiple selections permitted):**

Table 6.36 Reasons for Not Using the Internet

Don't know how to use/lack of skills	37%
Too busy to have time	20%
Feel the Internet useless/no such need	19%
No interest	17%
No computers/ facilities	15%
Too expensive	6%
Worry about bad influences on children	4%
Parents don't allow	3%
Computer not good enough	2%
Insufficient Chinese information//Don't know English	1%
Concerns about online security	0.6%
Too scarce of useful websites/information	0.5%
Transmission speed too slow	0.5%
Concerns about breach of privacy	0.4%
Too many viruses	0.3%
Can't find what they need	0.3%
Don't know/no reason	5%
Others	7%

The 2005 survey found that 47.3% of the Macao residents are non-users (including disconnected users). Table 6.36 shows that 37% of the non-users do not use the Internet because of lack of relevant skills, 20% of having no time, 19% of no such need, 17% of no interest, 15% of no facilities, and some other less important reasons.

***2. Date Planned to Use the Internet:**

Table 6.37 Date Planned to Use the Internet

Within 1 month	3%
Within 2-3 months	3%
Within 4-6 months	4%
Within 7-12 months	2%
1 year or later	3%
Don't know/hard to say	9%
Don't plan to use the Internet at all	76%

Of the non-users, 76% do not have any plans to use the Internet. While about

10% of the non-users claimed that they probably go online within six months, 9% replied that it is hard to say or don't know when.

***3. Situations Encountered by Non-users as a Result of Not Using the Internet:**

Table 6.38 Experience by Non-Users due to Not Using the Internet

	Never	Seldom	Sometimes	Frequently
1. Feeling of becoming old-fashioned	54%	9%	23%	14%
2. Encouraged by others to use the Internet	72%	7%	15%	5%
3. Excluded from the communication network among friends	95%	3%	1%	1%
4. Disadvantaged in hiring, promotion, or applying for schools	86%	5%	6%	3%
5. Told by friends that they have trouble contacting you	95%	2%	2%	1%
6. Feeling of knowing less news than others	66%	8%	18%	7%
7. Feeling of having less fun in life	77%	6%	12%	5%

d. Perceptions of the Internet by Both User and Non-Users

***1. Do you trust the Internet?**

Table 6.39 Trust on the Internet between Users and Non-Users

	Users	Non-users	Total
Fully distrust	3%	3%	3%
Somewhat distrust	18%	19%	19%
Partly trust, partly distrust	51%	22%	36%
Somewhat trust	22%	13%	17%
Full trust	1%	2%	1%
Don't know/hard to say	5%	42%	24%

2. Necessity for Control and Regulation of Internet Content:

Table 6.40

Necessity for Control and Regulation of Internet Content

	Users	Non-users	Total
Very unnecessary	5%	3%	4%
Somewhat unnecessary	15%	9%	12%
Somewhat necessary	49%	40%	45%
Very necessary	28%	26%	27%
Hard to say	3%	23%	12%

***3. Perceptions of the Functions and Impact of the Internet:**

Table 6.41

Perceptions of Internet Use

	Highly disagree	Somewhat disagree	Partly agree, partly disagree	Somewhat agree	Highly agree	Don't know/Hard to say
Internet use can help enhance the efficiency of life	2%	13%	10%	53%	15%	8%
Internet use can make bad friends	5%	24%	12%	38%	9%	12%
Internet use can expose privacy	6%	33%	11%	32%	5%	15%
Internet use can make one vulnerable to bad information influence	4%	24%	10%	42%	10%	10%
Internet use can easily make one addicted	4%	21%	8%	46%	11%	10%

4. Is information on the Internet accurate?

Table 6.42 Evaluation of the Accuracy of Online Information

	Users	Non-users	Total
Not at all	0.4%	1%	1%
Somewhat not accurate	34%	29%	32%
Somewhat accurate	53%	26%	41%
Very accurate	2%	2%	2%
Don't know/hard to say	11%	42%	25%

5. Are you willing to provide your personal information on the Internet?

Table 6.43 Willingness to provide personal information

	Users	Non-users	Total
Completely no	46%	55%	50%
Somewhat no	40%	22%	32%
Somewhat yes	9%	7%	8%
Strongly yes	1%	2%	1%
Don't know/hard to say	4%	15%	9%

6. Are you willing to provide your credit card information on the Internet?

Table 6.44 Willingness to provide credit card information

	Users	Non-users	Total
Completely no	59%	63%	61%
Somewhat no	28%	15%	22%
Somewhat yes	5%	2%	3%
Strongly yes	1%	0.3%	0.4%
Don't know/hard to say	7%	20%	13%

7. Are you willing to express your personal feeling on the Internet (e.g. Blog)?

Table 6.45 Willingness to express personal feeling

	Users	Non-users	Total
Completely not	23%	37%	29%
Somewhat not	25%	20%	23%
Somewhat yes	43%	21%	33%
Strongly yes	6%	3%	5%
Don't know/hard to say	3%	20%	10%

e. Concluding Remarks

The 2055 survey results can be summarized in the following aspects.

Firstly, from a macro point of view, there was a continuous increase in terms of the number of online computers and Internet penetration rate. The growth rate of the disconnected was found to decrease gradually.

Secondly, it is clear that there was a shift from dialup connection to broadband connection. Broadband connection has become the dominant connection method.

Thirdly, the same penetration rate has been found in both male and female population for the first time since the first survey was carried out. Of the users, there are more female than male, which is consistent with the composition of the total population of Macao. In terms of the composition of the users, the proportion of the married, the elderly, and the well-educated increased considerably while the proportion of students decreased slightly.

Fourthly, users go online mainly at home during the night time, suggesting that the Internet has become one of the important media used in family activities.

Fifthly, although broadband connection has become the dominant connection method, the increase of the connection speed does not necessarily lead to the increase of the users' online time. This can be shown by the fact that the users' online time remains as around 13 hours per week in the past three years.

Sixthly, the Internet has been used as a functional tool (e.g. information searching, communication, and news reading) more than as an entertainment tool (e.g. online games and audio/video downloads).

Seventhly, information acquisition remains as the major online activity. However, there is an apparent increase of the online time on the instant chatting activity such as MSN, which may imply a change of the online communication pattern.

Eighthly, Macao Internet users usually visit the Chinese websites, of which Hong Kong websites receive the most clicks, followed by the local websites. Such viewing pattern is similar to that of the traditional media. For example, Macao residents mainly consume the TV programs from Hong Kong TV stations in their daily life, which suggests the residents' dependency on the Hong Kong media and the similar media consumption pattern in Macao and Hong Kong.

Ninthly, in terms of online purchase, it is still at a low level comparing to that in the western countries though there was some degree of increase in the past two years. The major purchase items include books, traveling products, and electronic products.

Tenthly, the major reasons for non-users not using the Internet are lacking relevant skills, no time, and no need.

Finally, generally speaking, nearly 60% of the Macao residents have somewhat doubts about or distrust of the Internet, and almost two-third of them claimed that the information on the Internet should be controlled and regulated. It was found that more non-users than users hold such views, suggesting the conservative attitudes towards the Internet by the Macao residents.

PART III. Survey Methodology of Macao Internet Project

A. Study Population

The 2005 survey was carried out between December 9 and December 29, 2005. It was conducted by using a computer-assisted telephone interviewing (CATI) system, targeting to those regular residents between 6 and 84 years old who speaking Chinese (including Cantonese, Mandarin and other dialects) and live in Macao with a residential telephone line. There are two target populations in the survey: the first is the above-mentioned population while the second is the 18-74 segment of the first population. The former makes it possible to compare with the CNNIC surveys while the latter enables comparisons with the WIP surveys.

B. Sampling Method

Sample Size: 1,851 residents were successfully interviewed in the survey. The sample size gives a sampling error of $\pm 2.3\%$ at the 95% confidence level.

Sampling Procedure: as in the three previous surveys, all Macao residential telephone numbers were used as the sampling frame. First, 6,187 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 household person aged between 6 and 84, speaking Chinese, with the last birthday among other qualified members, to be interviewed. In cases of no answer from the dialed number, the chosen individual was not at home or unavailable for interview, interviewers made call backs up to ten times at different times of different days. Eventually, 5,982 numbers were used during the whole survey period.

Survey Response Rate: calculated by Response Rate Formulae 3 (RR3) of the American Association for Public Opinion Research (AAPOR) (for details for http://www.aapor.org/default.asp?page=survey_methods/standards_and_best_practice/s/standard_definitions#response), the response rate of the current survey is 36.2%, which is lower than those in the previous surveys in 2003 and 2004 (40.4% and 45.3% respectively).

C. Weighting Method

Before analyzed, the data were weighted against the latest Macao Population Census Estimates, in terms of cross-distribution of age and sex. Consequently, the distribution of sex and age of the current sample resembles that of the population.

D. Data Cleaning

A series of average figures have been reported above, such as average online time per user, average number of E-mail accounts, and average number of E-mail messages received and sent. As widely known, average figures 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 2-32% smaller than the averages of the original data, which is closer to the parameters of the population.