iDA
SINGAPORE

SURVEY ON INFOCOMM USAGE IN HOUSEHOLDS 2000

Summary of Main Findings

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1.   INTRODUCTION

1.1   The Survey on Infocomm Usage in Households for the year 2000 is the fifth in a series of household surveys carried out at intervals beginning with the first survey in 1990 to:

- Gauge the level of ownership of Infocomm appliances and subscription of Infocomm services in Singapore Households.

- Assess the scope and extent of Infocomm usage; and

- Identify barriers and motivations for Infocomm adoption and usage.

1.2   The survey covers 1,500 housing units in Singapore and includes the following housing types:

- HDB/JTC flats
- HUDC/private apartments/condominiums
- Bungalows/semi-detached/terrace houses

The sample was selected from the Household Sampling Frame maintained by the Department of Statistics (DOS).

1.3   Data for the Household Questionnaire was collected from face-to-face interviews with a family member at least 15 years and above and who is in the position to answer questions at household level, while the User Questionnaire was answered by all the family members who are computer users aged 15 years and above.

2.   HOME OWNERSHIP OF COMPUTERS

a.   Homes with Computers

2.1   Three out of five homes in Singapore have at least one computer in year 2000 (Figure 2.1). This is more than five times the take-up rate of 1 out of 10 homes in 1987/88 period as revealed in the Household Expenditure Survey conducted by the Department of Statistics. The rapid increase in ownership especially over the last 5 years is due largely to the national effort in promoting Infocomm and Internet usage in the workforce and among the general public as well as the emphasis on Infocomm usage in school curriculum.

Figure 2.1: Ownership of Computers in Singapore Homes

Year	Ownership	
2000	61.0%	
1999	58.9%	
1997	41.0%	(DOS Household Expenditure Survey)
1996	35.8%	
1993	26.6%	
1992	20.2%	(DOS Household Expenditure Survey)
1990	19.1%	
1988	11.0%	(DOS Household Expenditure Survey)

Base: Total homes in 2000 = 1,010,200 (31 Oct 2000)
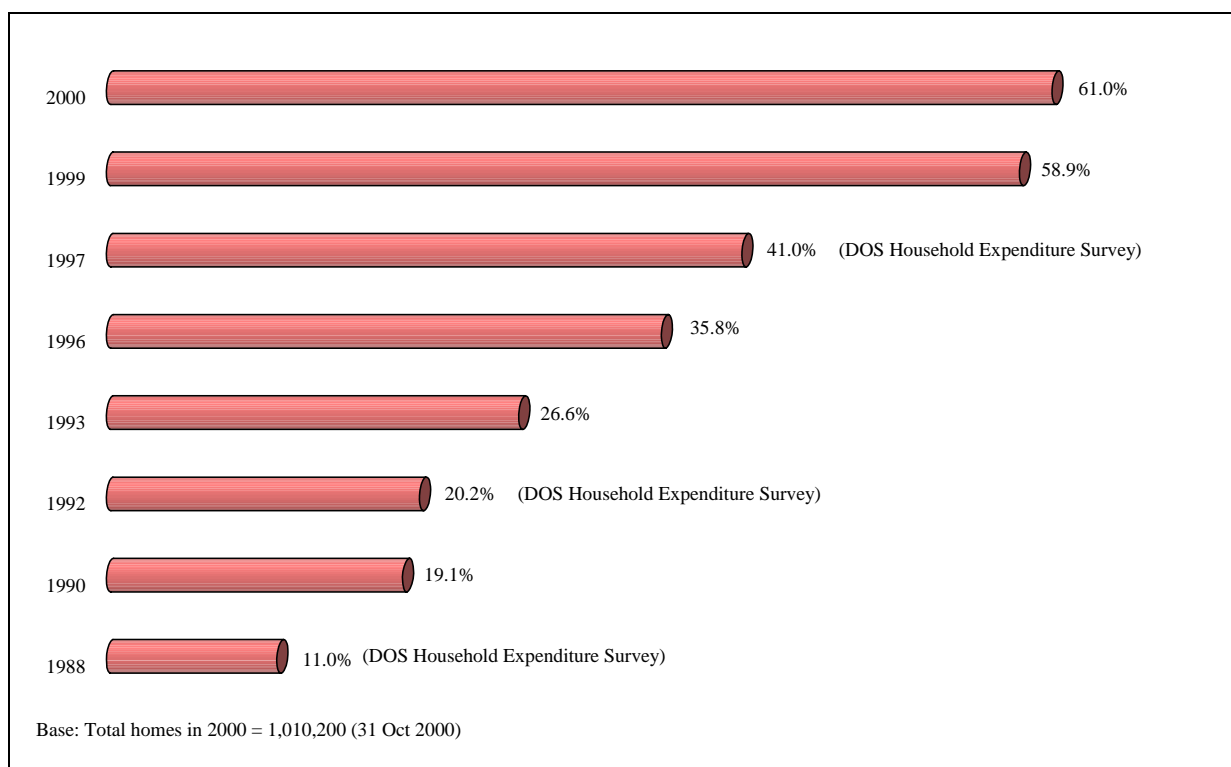
2.2   Comparison with other countries shows that Singapore remains relatively ahead in ownership of home computers, surpassing Australia (56%), US (51%) and Hong Kong (50%).

Table 2.1: Home Computer Ownership in Selected Countries

Country	Percent of Homes	Source
Singapore	61%	IDA's Survey on Infocomm Usage in Households, Dec 00
Australia	56%	Australian Bureau of Statistcis, Nov 00
United States	51%	US Dept of Commerce, Aug 00
Ireland	32%	Central Statistics Office, Nov 00
Hong Kong	50%	Census & Statistics Dept, Mar 00

2.3   Computer ownership continues to be higher in the private housing (78%) than in public housing (58%) but penetration rate for public housing rose by another 3% from 1999 while private housing showed no growth last year. Among public housing, ownership of home computers increased for all housing types except the 1-3 room flats (Figure 2.2).

Figure 2.2: Ownership of Computers in Public Housing

Base: HDB 1-3 rooms including other public flats (309.500), HDB 4-5 rooms (461,500), HDB executive/6-rooms/multi-generation (60,100)
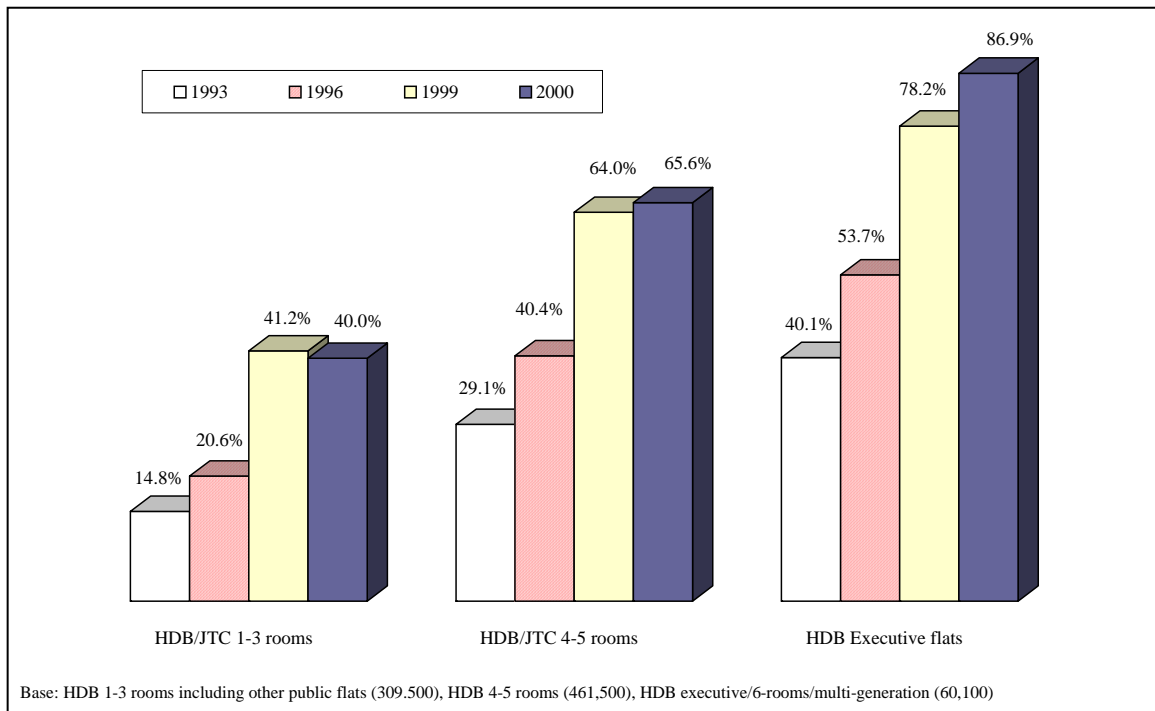
2.4   Home computer ownership rose across the various ethnic groups with the Malay and Indian homes showing the highest growth in the last year. Analysis within each ethnic group shows an 11% increase for Malay homes and 8% increase for Indians. The various IDA promotional programmes with the ethnic community self-help groups such as re-used PCs scheme could have a positive impact. This points to the wider trend that Singapore is steadily moving towards an e-inclusive society where everybody will get to reap the benefits of Infocomm technology, regardless of age, income, ability or language

Figure 2.3: Ownership of Home Computers Across Ethnic Groups

Base: Chinese (770,000), Malay (140,000), Indians (80,000), Others (10,000)
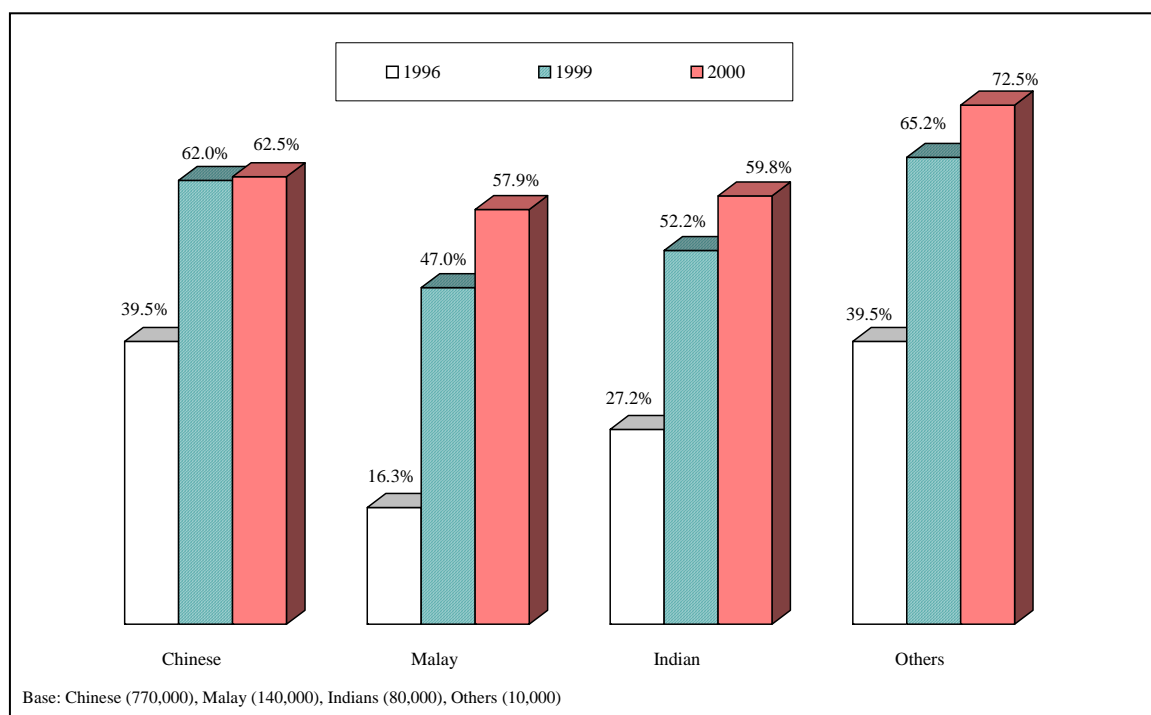
2.5   The trend shows that more homes are now having more than one computer (Figure 2.4). The proportion of homes with more than one computer rose by 7% to reach 23% in 2000. Affordability, lower prices and competing needs and demands among family members have resulted in the purchase of more than one computer. In total, there are about 807,500 computers in the homes, an increase from the estimated 697,300 in 1999.

Figure 2.4: Homes with Two or More Computers

Base: Homes with computers = 616,222
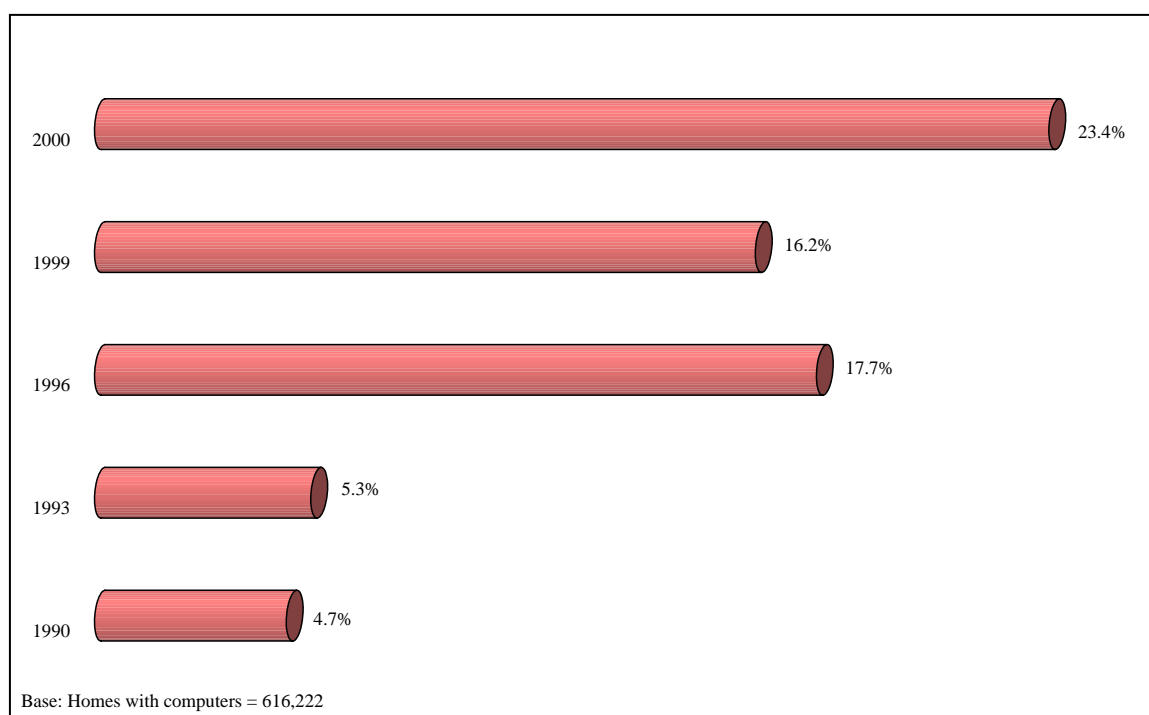
b.   Homes without Computers

2.6   Two out of five homes do not have a computer and the main reason given for not owning one is "No Need to Use" (Figure 2.5). However the proportion of homes citing this as the main reason has declined significantly from 65% in 1999 to 45% in 2000. This was also the main reason given by Australian homes for not having a home computer as reflected in the Australian Bureau of Statistics household survey data for 2000.

An increasing proportion of homes cited the lack of knowledge/skills to use a computer as a reason for non-ownership, from 8% in 1999 to 19% in 2000. Homes citing this reason are mainly from the HDB 1-3 room flats (62%). Moreover homes without computers are also those where a high proportion of family members are either retirees/housewives (32%) or in production and related occupations (26%).

The proportion of homes indicating 'Too Old to Learn' as a reason for non-computer ownership also rose from 2% in 1999 to 6% in 2000. Homes citing this reason are those with a high proportion of family members aged 40 years and above (28% in the age group 40-49 years and 42% aged 50 years and above).

Figure 2.5: Main Reasons for Not Owning Home Computers

Base: Homes without computers (393,978)
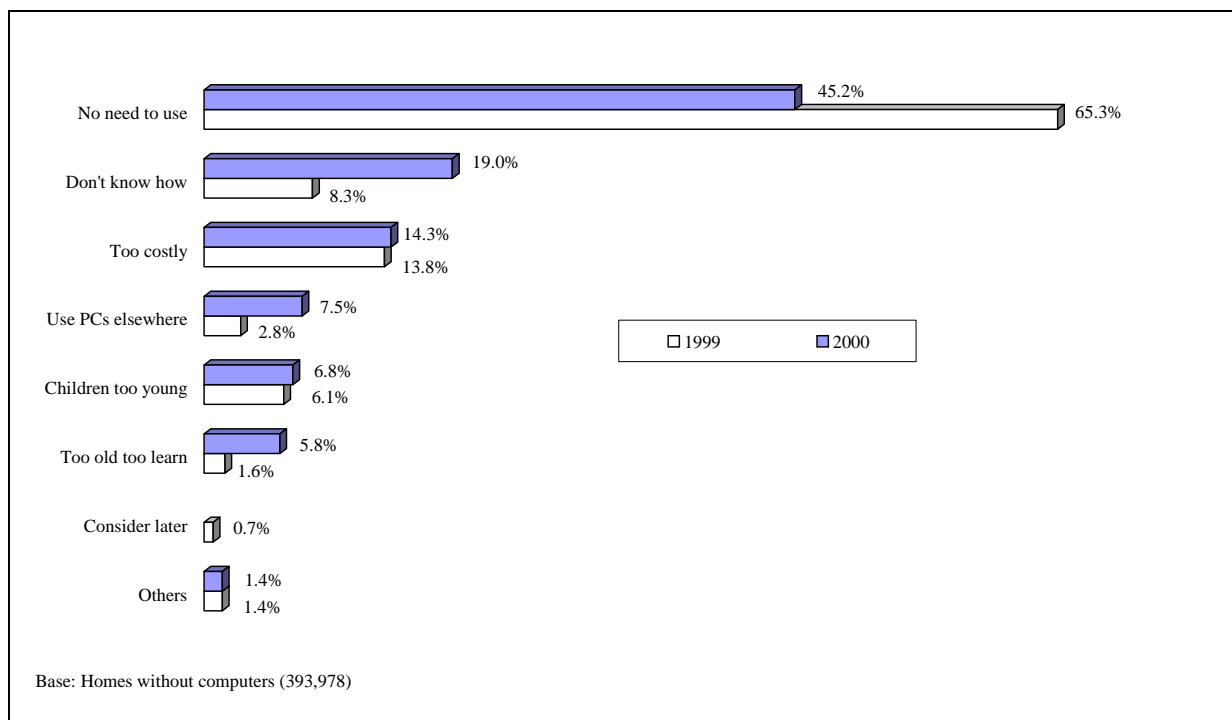
2.7   Only 12% of the homes without a computer have plans to buy one in the next three months (Figure 2.6). The proportion of homes intending to purchase one has not increased significantly since 1990. The majority of the potential home computer buyers (64%) intend to use the computer for education-related purposes such as children's school project work and educational softwares (Figure 2.7). This is also the top preferred usage area for potential buyers in all previous surveys. The second most common planned usage is for Internet access (46%).

Figure 2.6: Intention to Purchase a Computer in the Next Three Months

Base: Homes without computers = 393,978
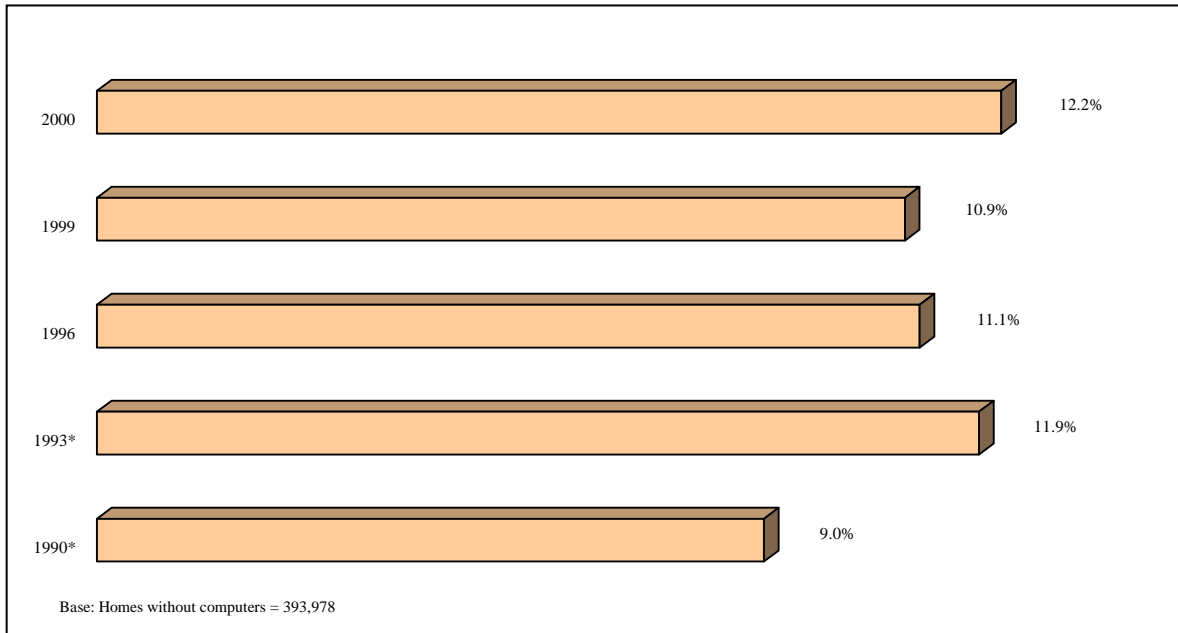
Note: * The length of period for 1990 and 1993 surveys is 12 months.

Figure 2.7: Areas of Planned Usage

Base: Homes intending to buy computers = 48,065
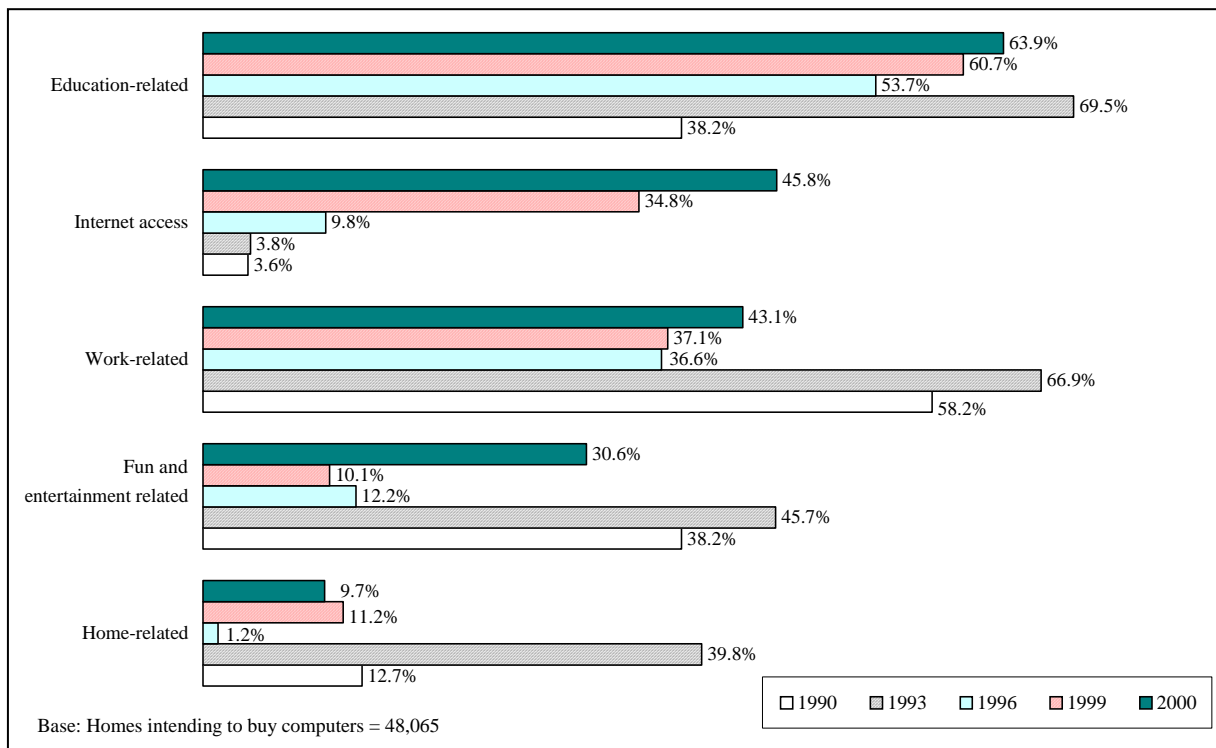
3.   HOME INTERNET ACCESS

a.   Homes with Internet access

3.1   Half of Singapore homes have home Internet access (Figure 3.1). This is 6 times higher than the number in 1996. The high percentage of home Internet penetration can be attributed to the affordable subscription fees provided by the Internet Service Providers, increasing popularity of Internet usage among general public, as well as national programmes which promote Internet usage.

Figure 3.1: Home Internet Access

49.8% (2000)
42.1% (1999)
14.0%   (DOS Household Expenditure Survey) (1997)
8.6% (1996)

Base: Total homes in 2000 = 1,010,200 (31 Oct 2000)
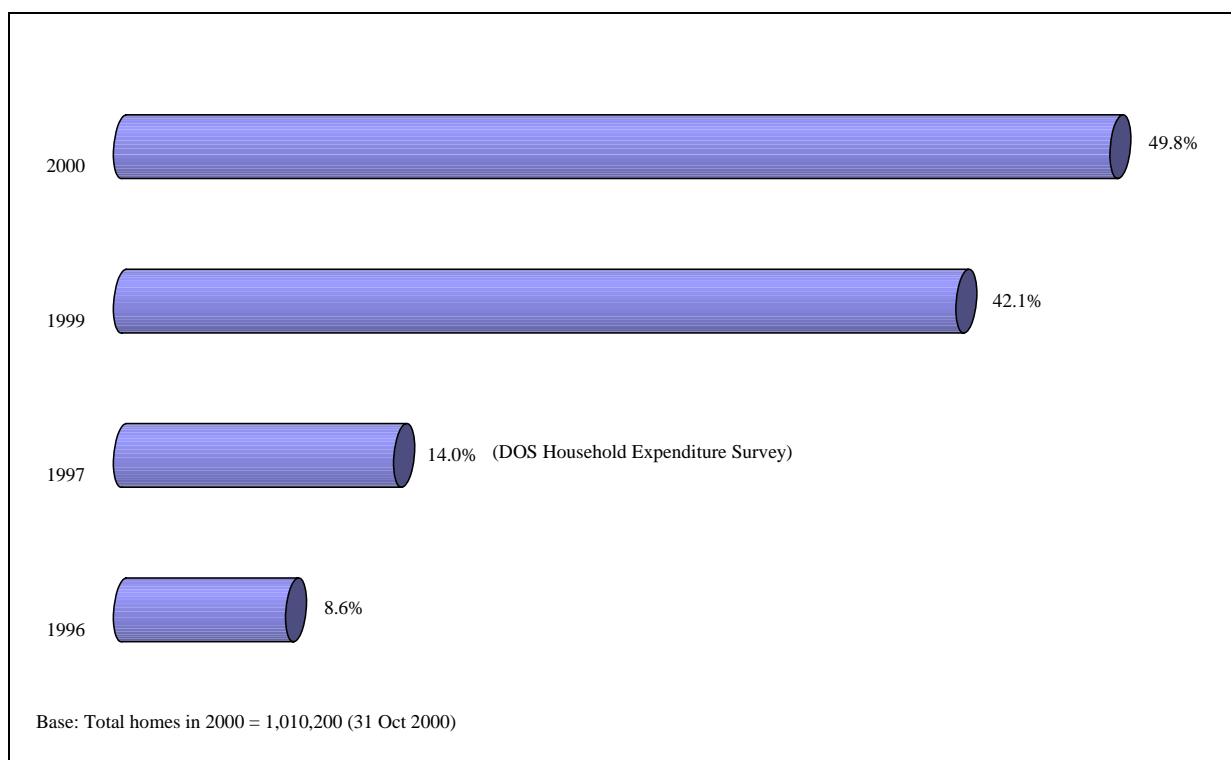
3.2   Comparison with other countries shows that Singapore has a higher home Internet access rate than United States (42%), Australia (37%) and Hong Kong (36%). The high penetration rate reflects that Internet has become a vital resource in the home for instant connectivity to a myriad of information and education possibilities available online.

Table 3.1: Home Internet Access in Selected Countries

Country	Percent of Homes	Source
Singapore	50%	IDA's Survey on Infocomm Usage in Households, Dec 00
Australia	37%	Australian Bureau of Statistics, Nov 00
United States	42%	US Department of Commerce, Aug 00
UK	35%	National Statistics, Dec 00
Ireland	20%	Central Statistics Office, Nov 00
Hong Kong	36%	Census & Statistics Dept, Mar 00

3.3   Home Internet access in public housing has increased to 46% in 2000, compared to 6% in 1996. This positive sign is reflective of the increasing awareness and adoption of Infocomm technology among heart-landers in Singapore although Internet access continues to be higher among private housing (72%).

Figure 3.2: Home Internet Access by Type of Housing

Base: Private housing (179,100), Public housing (831,100); HDB 1-3 rooms including other public flats (309.500),
HDB 4-5 rooms (461,500), HDB executive (60,100) for 2000
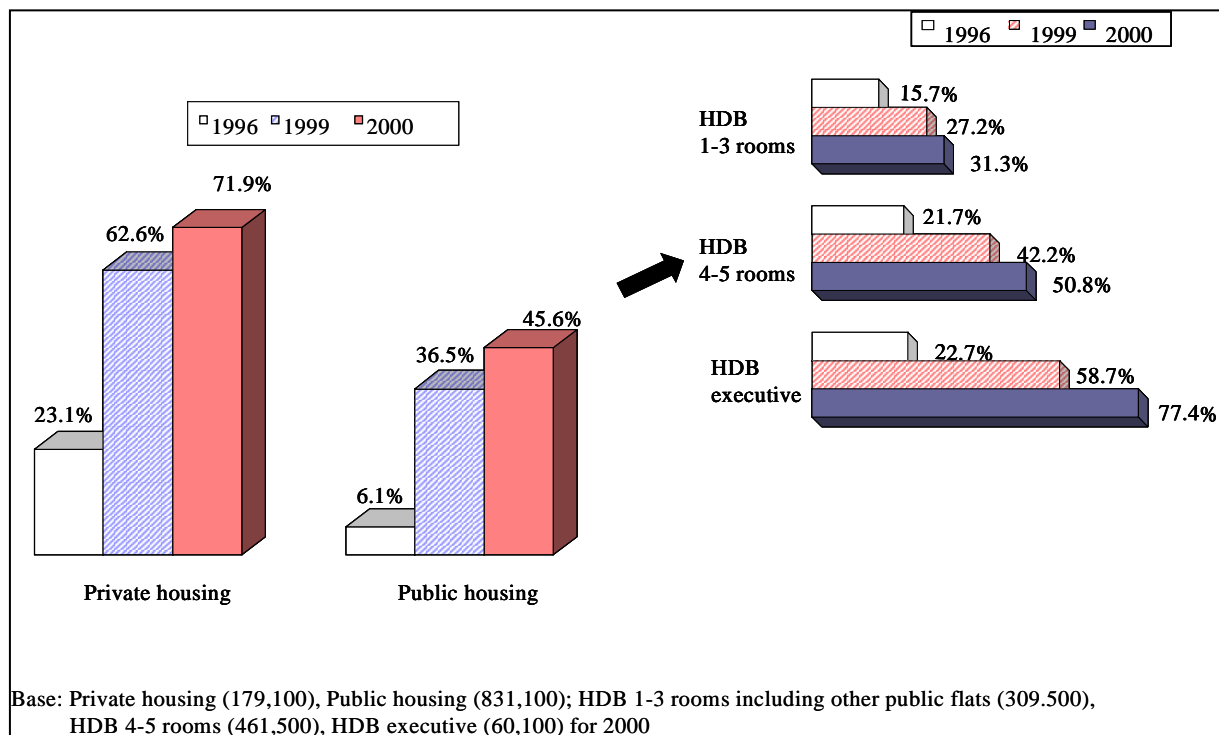
3.4   Within the various ethnic groups, home Internet access has risen significantly, especially for Malay homes. Between 1999 and 2000, the proportion of Malay homes connected to Internet rose by 18% resulting in 40% of Malay homes now having home Internet access. More than half of Chinese homes have Internet access, with a 4% from 1999 to 2000. The Indian homes saw an increase of 7% over the same period to reach 47%. This growth in home Internet access across all ethnic groups shows that Singapore is becoming an e-inclusive society where everybody has access to Infocomm technology.

Figure 3.3: Internet Access within Ethnic Groups

Base: Chinese (770,000), Malay (140,000), Indians (80,000), Others (10,000)
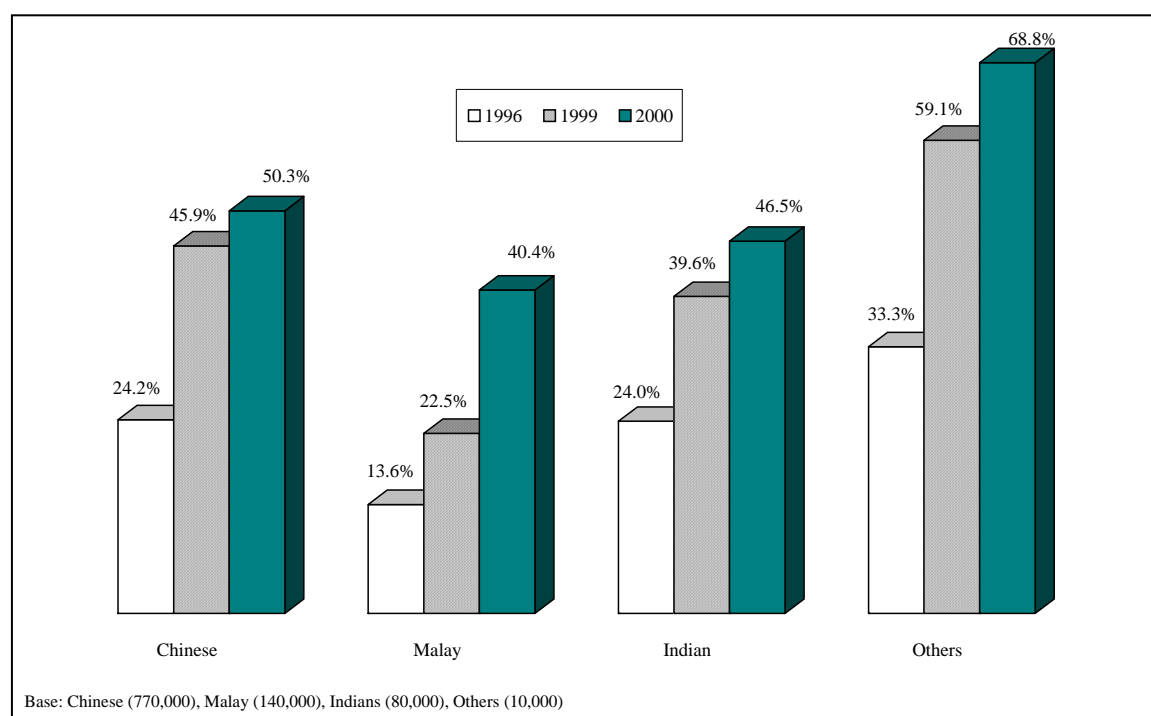
b.   Homes without Internet Access

3.5   Among the homes with computers, only 18% of them do not have Internet access as compared to 28% in 1999. This means more homes owning computers now have Internet access in 2000. The main reason cited by the 18% for not having Internet access is that they do not see the need to have it (41%). However the proportion of homes citing this reason has declined from a high percentage of 78% in 1996. This is also the most common reason cited by 31% of US homes according to a study by the US Dept of Commerce. The convenience of being able to access the Internet elsewhere, for example, at libraries, cyber cafés, schools,

etc could be a reason for those households not wanting to have home access. The percentage of households citing this reason rose from 2% in 1999, to 11% in 2000, in line with the growing number of public access points around the island. Another 10% of the households indicated that the cost of subscription is the hindering factor for having Internet access at home. However, the proportion of homes citing this reason has declined by 6%. High subscription cost is also the main barrier in Australian homes (12%) according to the Australian Bureau of Statistics and the second dominant reason in US homes (17%) according to the US Dept of Commerce.

Figure 3.4: Reasons for Not Having Home Internet Access
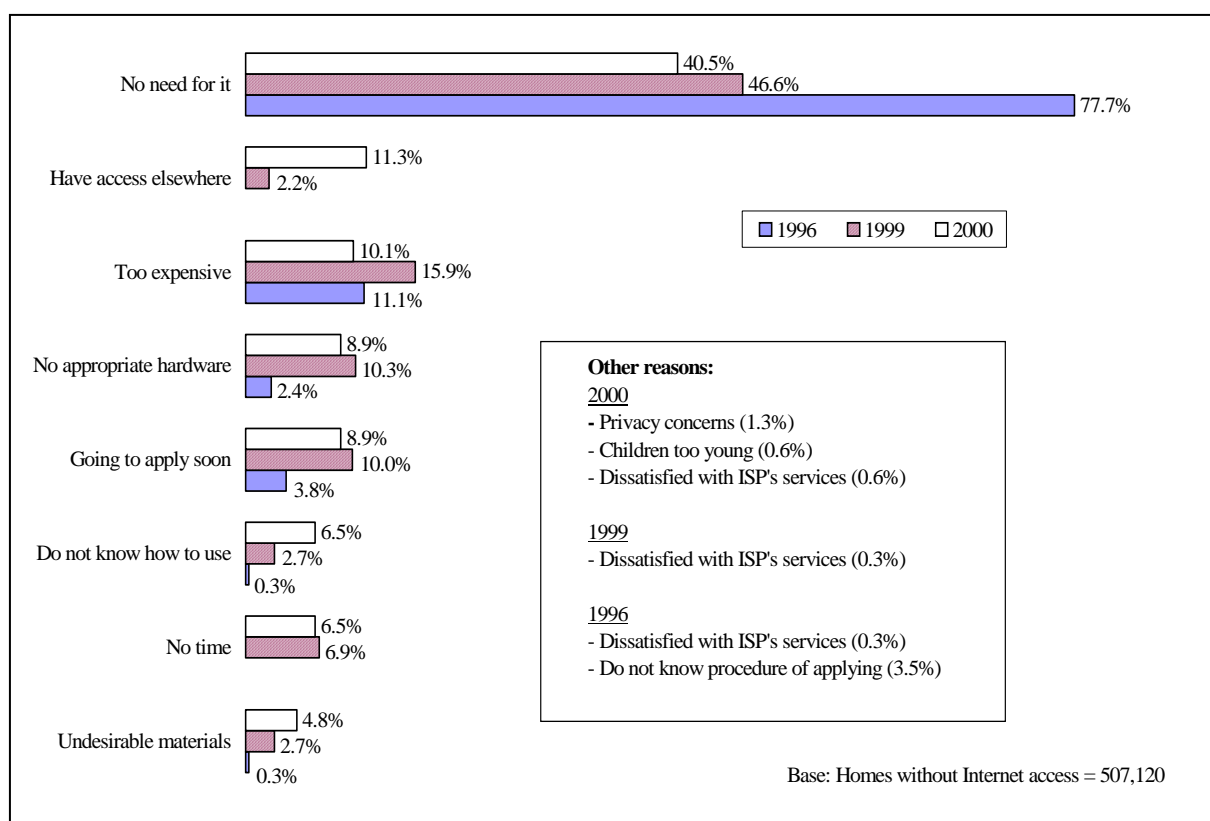
4.   USERS AND USAGE PATTERNS

a.   Number of Computer Users

4.1   There are currently about 1.9 million computer users (47% of total population). The majority of them use the computer both at home and elsewhere (59%); 26% use it at home only and 15% use it elsewhere such as place of work and school. Fifty-five percent of the population aged 15 years and above are computer users.

There are more multiple computer users in the homes now than ten years ago where single users were found in more than half of the homes owning computers. The proportion of homes with 5 or more users has increased from 1% in 1990 to the current 6%.

Figure 4.1: Number of Family Members Using Computers at Home
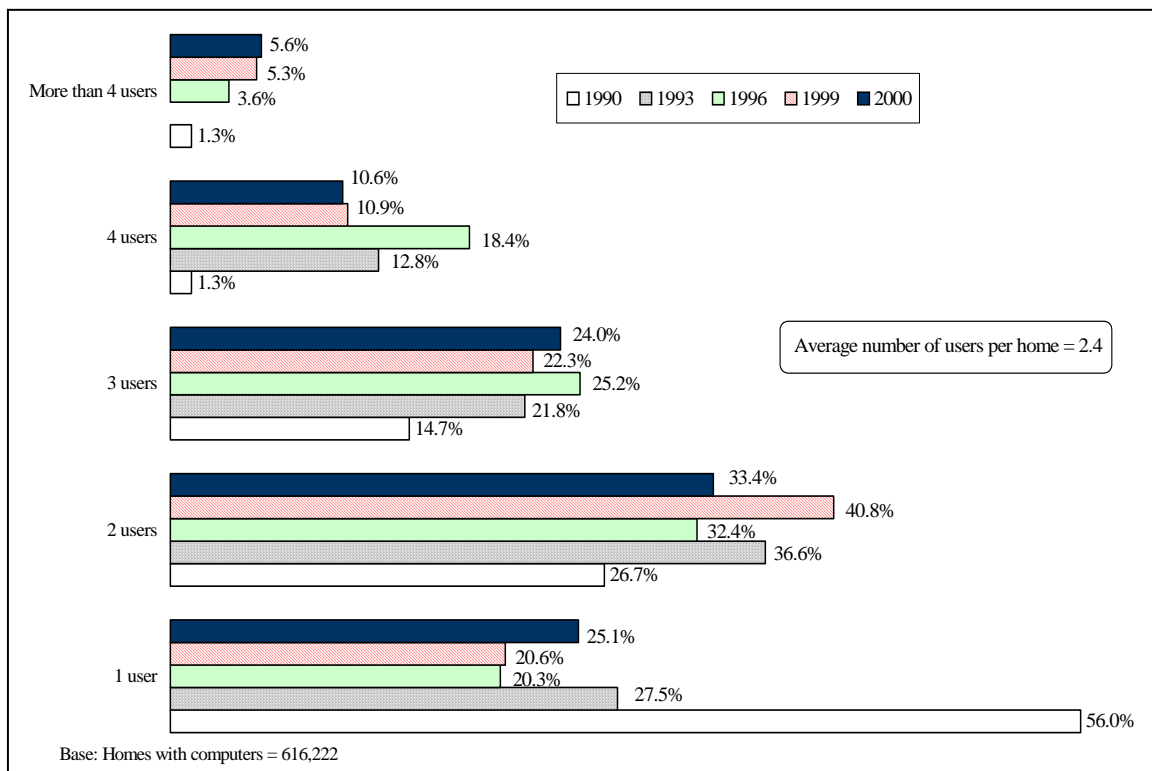
Note: In 1993 and 2000 1.3% of homes have no current users.

4.2   The profile of computer users is shown in Figures 4.2 to 4.4.

Figure 4.2: Gender of Home Computer Users
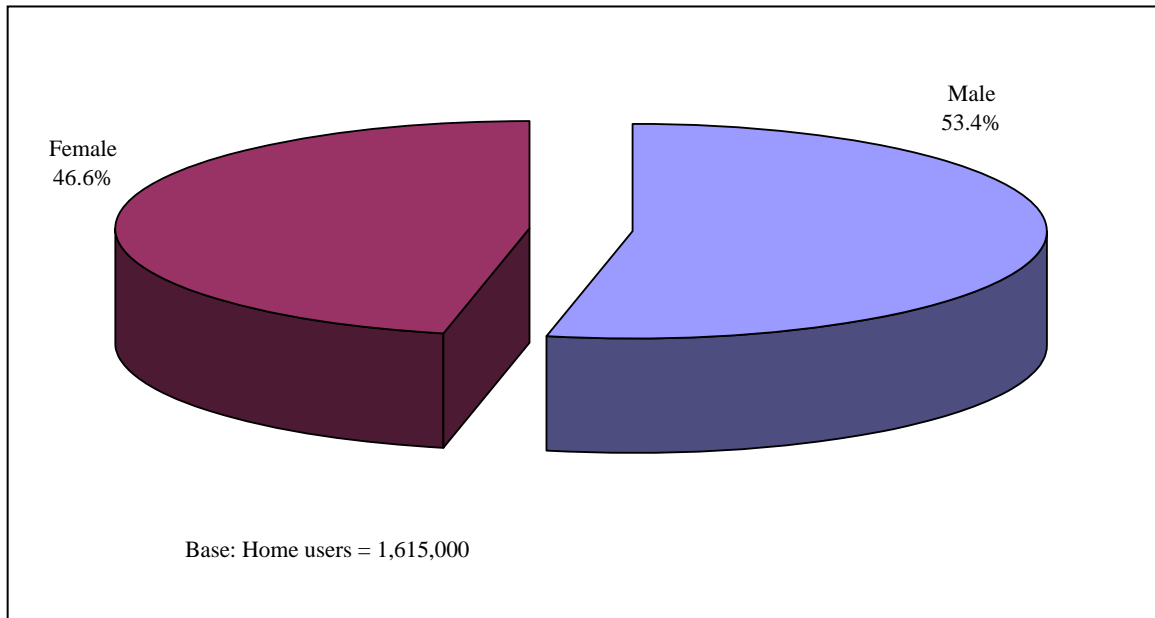
Male
53.4%

Female
46.6%

Base: Home users = 1,615,000

Note: Home users refer to those who use PCs either at home only or both at home and outside home.

Figure 4.3: Age Group of Home Computer Users
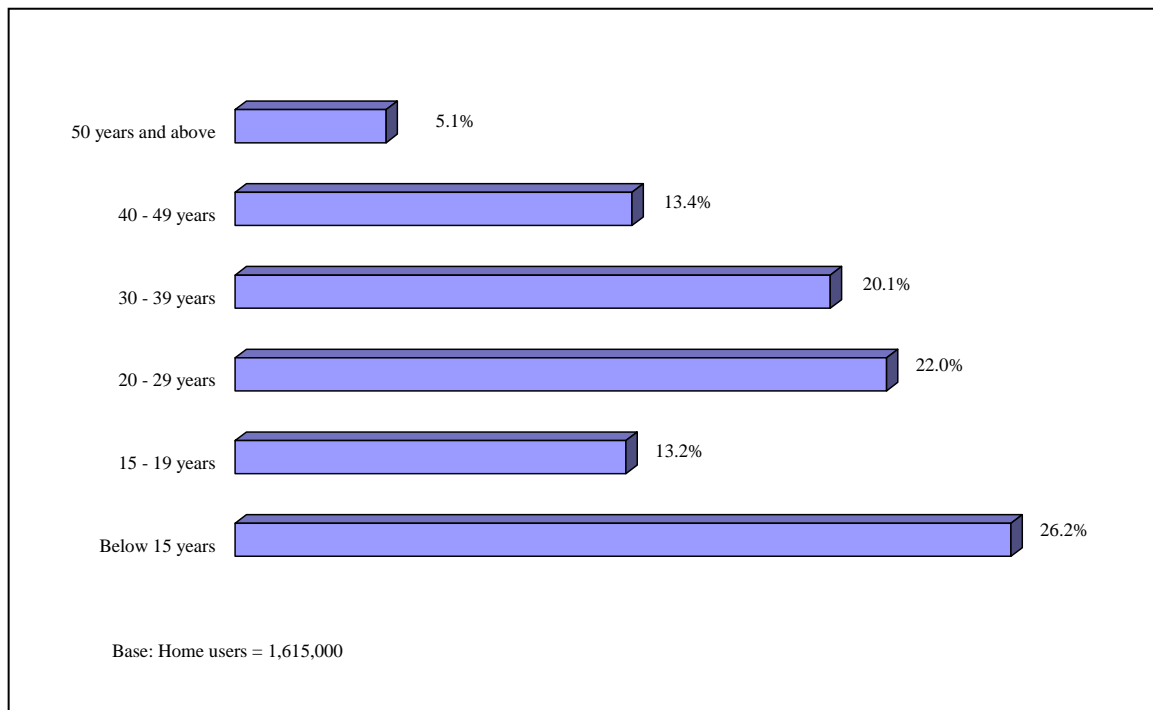
50 years and above 5.1%

40 - 49 years 13.4%

30 - 39 years 20.1%

20 - 29 years 22.0%

15 - 19 years 13.2%

Below 15 years 26.2%

Base: Home users = 1,615,000

Note: Home users refer to those who use PCs either at home only or both at home and outside home.

Figure 4.4: Education Level of Home Computer Users

Note: Home users refer to those who use PCs either at home only or both at home and outside home.

b.   Number of Internet Users

4.3   There are currently about 1.3 million Internet users (33% of total population). Similar to computer users, the majority of the Internet users access Internet both at home as well as outside home (54%). Thirty-seven percent of them access Internet at home only and 9% use it only outside their homes. Forty-two percent of the population aged 15 years and above are Internet users. Seventy-three percent of the homes with Internet access have multiple users.

Figure 4.5: Number of Family Members Accessing Internet at Home

1 family member — 28.9%

2 family members — 39.5%

3 family members — 20.0%

4 or more family members — 11.3%

Average number of users per home = 2.2

Base: Homes with Internet access = 503,079
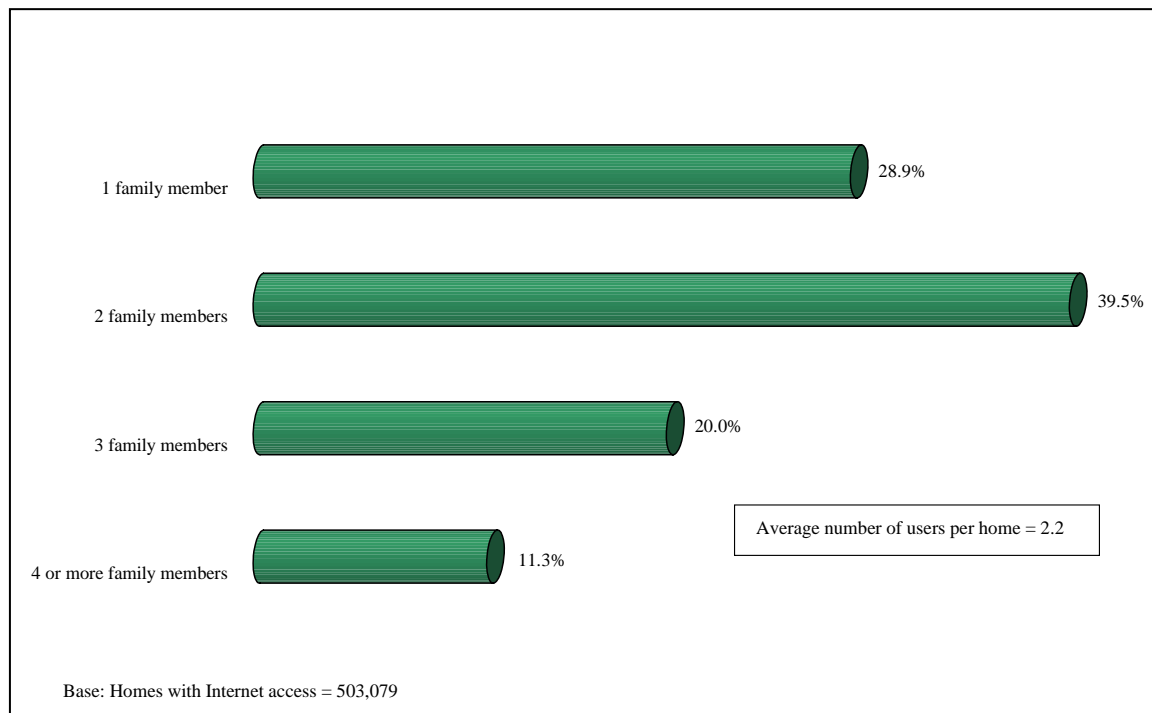
Note: 0.3% of the homes have no current users.

4.4   The profile of Internet Users is shown in Figures 4.6 to 4.8.

Figure 4.6: Gender of Home Internet Users
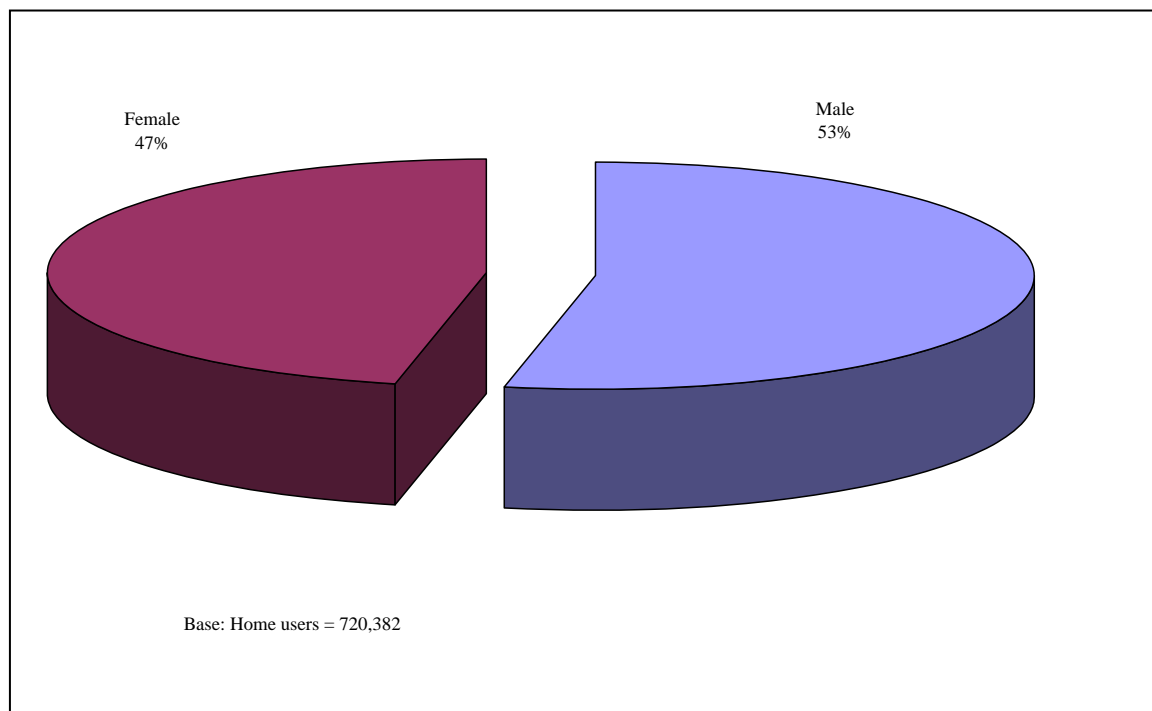
Female
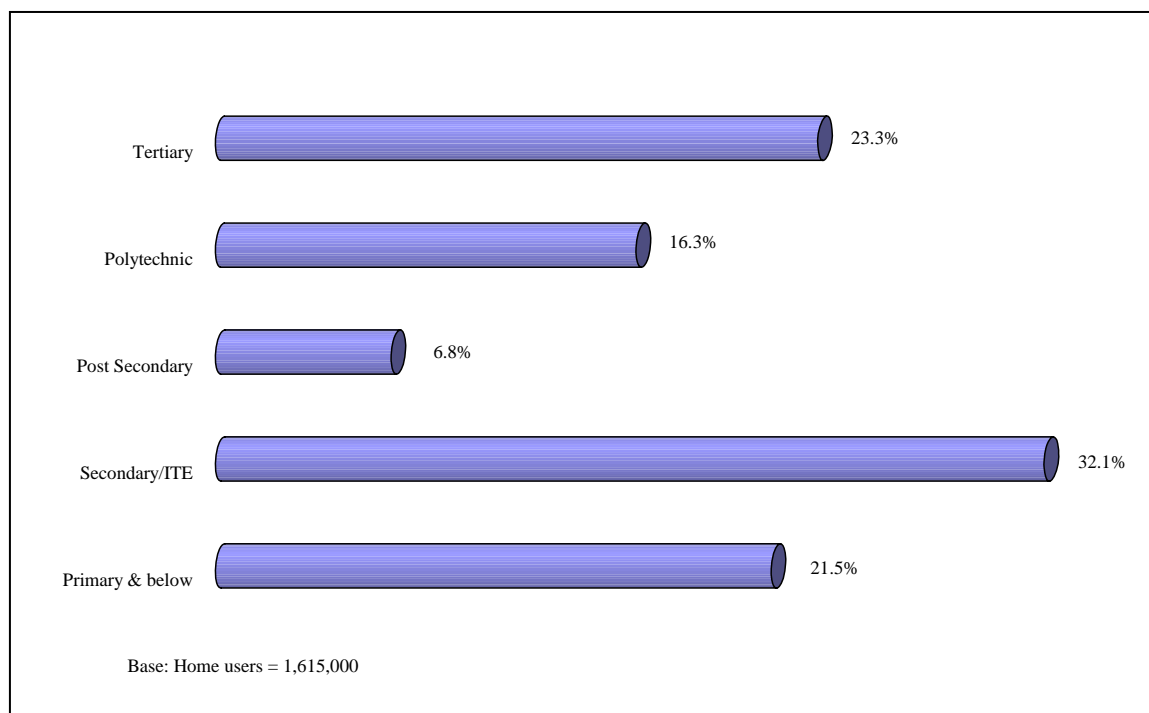47%

Male
53%

Base: Home users = 720,382

Note: Home users refer to those who use Internet either at home only or both at home and outside home.

Figure 4.7: Age Group of Home Internet Users
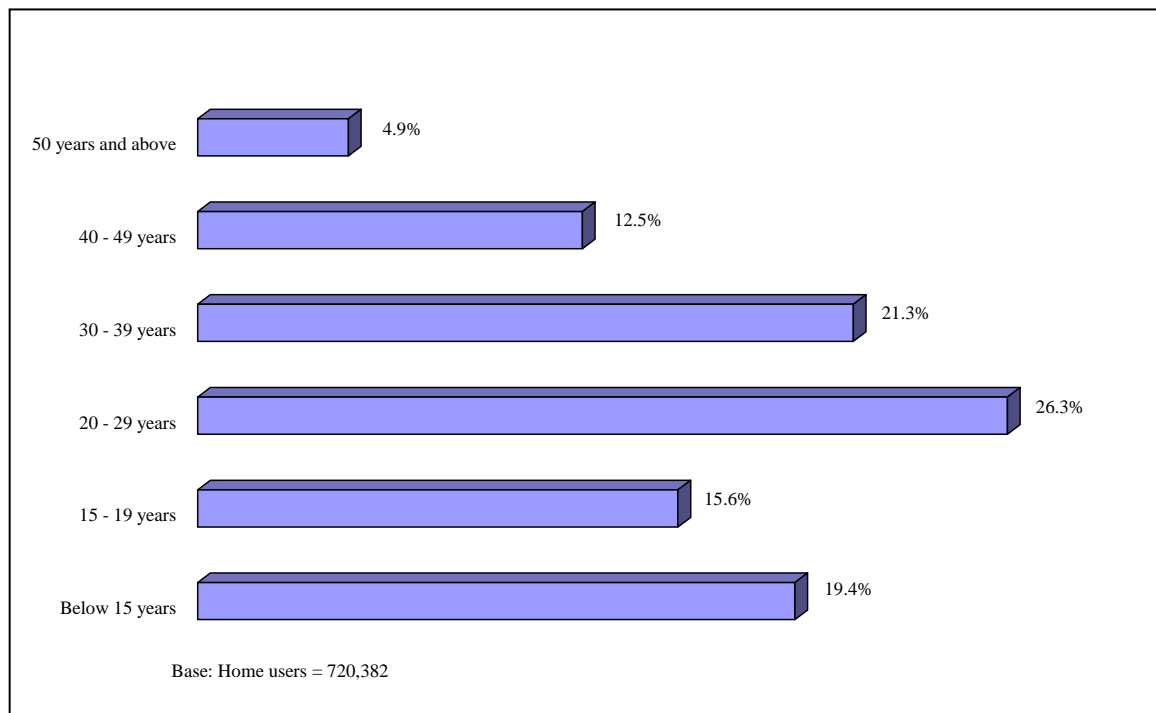
Age Group	Percentage
50 years and above	4.9%
40 - 49 years	12.5%
30 - 39 years	21.3%
20 - 29 years	26.3%
15 - 19 years	15.6%
Below 15 years	19.4%

Base: Home users = 720,382

Note: Home users refer to those who use Internet either at home only or both at home and outside home.

Figure 4.8: Education Level of Home Internet Users
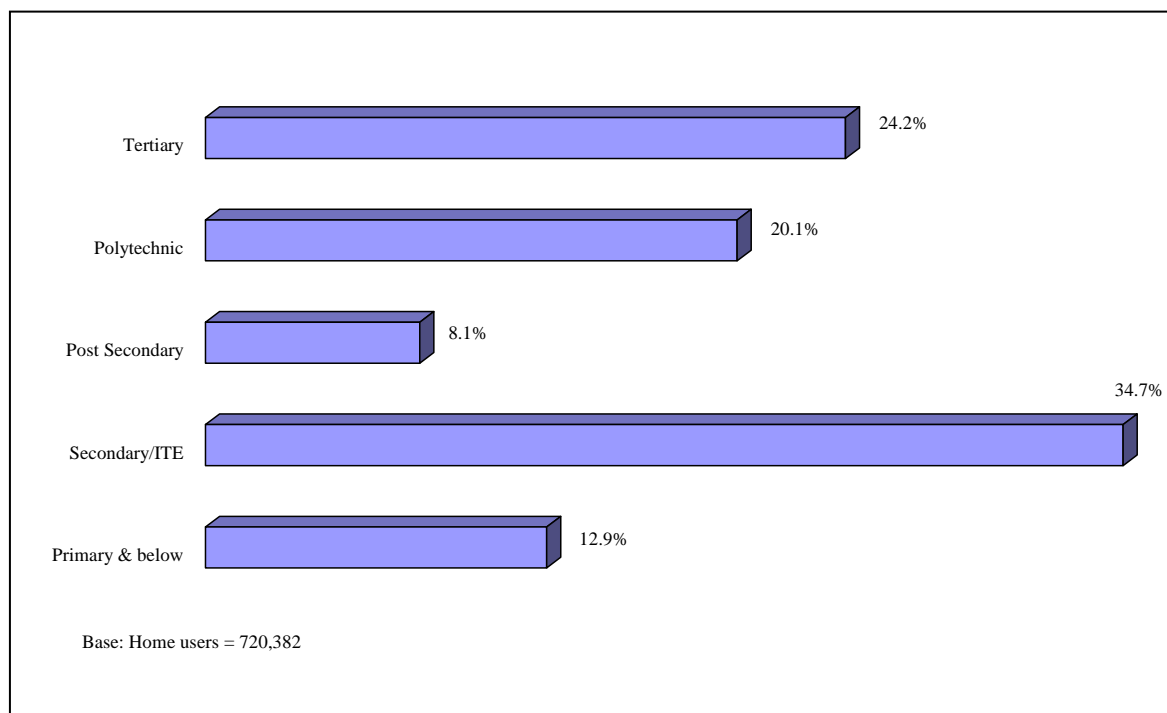
Education Level	Percentage
Tertiary	24.2%
Polytechnic	20.1%
Post Secondary	8.1%
Secondary/ITE	34.7%
Primary & below	12.9%

Base: Home users = 720,382

Note: Home users refer to those who use Internet either at home only or both at home and outside home.

c.   Sophistication of Usage Pattern

i.   Type of Usage

4.5   Among the types of usage surveyed, it was found that Email/Chat and information retrieval rated very high in terms of both awareness and adoption. While many people were aware of the other applications, the usage level was generally not as high. These findings are interesting for IDA because they indicate the type of applications which people find really useful. This will guide us in coming up with programmes to promote greater adoption and facilitate the development of more compelling content and services for the Internet. (Figure 4.9).
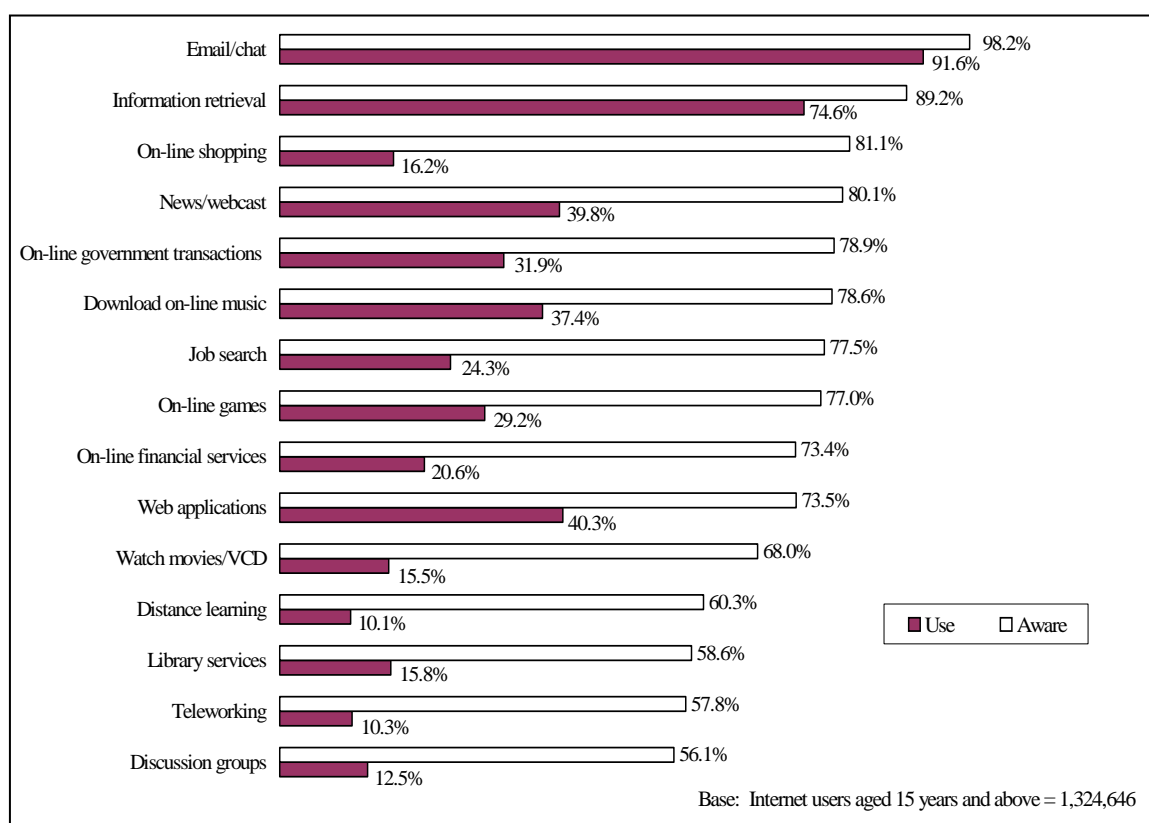
Awareness level

- Email/Chat (98%)

- Information retrieval/search (89%)

- Online shopping (81%)

Uses

- Email/Chat (92%)

- Information retrieval/search (75%)

- Web applications (40%) &

- News/webcast (40%)

Figure 4.9: Awareness and Uses of Internet

Email/chat	98.2% Aware	91.6% Use
Information retrieval	89.2% Aware	74.6% Use
On-line shopping	81.1% Aware	16.2% Use
News/webcast	80.1% Aware	39.8% Use
On-line government transactions	78.9% Aware	31.9% Use
Download on-line music	78.6% Aware	37.4% Use
Job search	77.5% Aware	24.3% Use
On-line games	77.0% Aware	29.2% Use
On-line financial services	73.4% Aware	20.6% Use
Web applications	73.5% Aware	40.3% Use
Watch movies/VCD	68.0% Aware	15.5% Use
Distance learning	60.3% Aware	10.1% Use
Library services	58.6% Aware	15.8% Use
Teleworking	57.8% Aware	10.3% Use
Discussion groups	56.1% Aware	12.5% Use

Base: Internet users aged 15 years and above = 1,324,646

5.   CONCLUSION

5.1   With three out of five homes having at least one computer and one out of two homes having Internet access, Singapore is relatively ahead of many countries including US, Australia, Ireland and Hong Kong in terms of home computer and Internet infrastructure deployment.

5.2   The rapid uptake of technologies across all groups regardless of housing type, race or income suggests that digital inclusion is expanding and that PC ownership and home Internet access are no longer luxury items but common resources used by many individuals. Although the various groups are going online at different rates, the survey findings do indicate that the foundation for an e-inclusive society is in place.

5.3   Internet is becoming an increasingly vital tool in our information society given that there are about 1.3 million Internet users and 42% of the population aged 15 years and above are Internet users. However, high IT deployment and relatively high number of Internet users

is not matched with higher sophistication of IT usage. Usage pattern has not changed significantly over the years. Email/Chat remains as the Internet's 'killer application' since 92% of the users reported using email/chat and 71% of the users ranked it as the most frequently accessed application.

5.4   Overall, the survey findings show that the foundation for an Information Society is in place. We are approaching the point where not having access to technology tools is likely to put an individual or home at a social disadvantage for being unable to participate fully in the digital economy. Hence for those who are yet to be digitally connected, there will be continued efforts to encourage adoption of Infocomm technology to improve their quality of life and enhance employability.. For those who are digitally connected, the challenge is to raise the level of sophistication in using Infocomm technology, to include other useful and interesting applications and services available on the Internet.