

INFORMATION INFRASTRUCTURE ADVISORY COMMITTEE

**2003 Surveys on IT Usage and Penetration
in the Household and Business Sectors**

Purpose

This paper briefs Members on the results of the two surveys on IT usage and penetration in the household and business sectors in Hong Kong respectively conducted during May to August 2003.

Background

2. The Government has committed to conduct annual surveys since 2000 to assess the usage and penetration of IT in the community and business sector. The statistics collected will serve as useful reference in the formulation of strategy and initiatives in promoting IT development and adoption in Hong Kong.

3. In early 2003, the Census and Statistics Department conducted two surveys on IT usage and penetration in the household and business sectors in Hong Kong respectively. Fieldwork of the surveys was conducted during May to August 2003. Results of the two surveys were released in December 2003. Background information about the conduct of the two surveys is at Annex A. Summaries of the results of the two surveys are at Annexes B and C respectively and the results are set out in more detail in the ensuing paragraphs.

Household Survey

4. The Household Survey revealed that personal computers (PC) and Internet connection were getting more and more common amongst households. Some 1 479 100 households, or 67.5% of all households in Hong Kong, had PC at home in 2003. Among those households with PC at home, some 1 312 800 (88.8%) had their PC connected to the Internet, representing 60.0% of all households in Hong Kong. This represents a significant increase compared to the situation in 2002 when 62.1% of all households in Hong Kong had PC at home and 52.5% of all households had their PC at home connected to the Internet.

5. With the increased penetration of PC and Internet amongst households, more persons aged 10 and over had used PC and Internet service. As revealed from the 2003 survey, some 3 464 400 persons aged 10 and over, or 56.2% of all persons in that age group, had used PC at least once in the twelve months before the survey. The corresponding figures were 3 270 300 persons and 54.0% for the 2002 survey. As expected, the 2003 survey showed that the rates of using PC were higher amongst younger persons, better-educated persons and students.

6. In 2003, some 3 212 800 persons aged 10 and over, or 52.2% of all persons in that age group, had used Internet service in the twelve months before the survey via various media including PC, WAP phones and personal digital assistants (PDA). The corresponding figures were 2 918 800 persons and 48.2% for the 2002 survey.

7. Utilisation of electronic business services was also high in Hong Kong. About 93.6% of all persons aged 15 and over had used electronic business services of one form or another for personal matters in the twelve months before the survey, as against 92.6% recorded in 2002. The electronic business services covered in the Household Survey included the use of Octopus card, Automatic Teller Machine (ATM), Easy Pay System (EPS), Payment by Phone Service (PPS), online searching for financial information/information on goods and services/information on job vacancies, etc.

8. Regarding the usage of online purchasing services, the 2003 survey estimated that around 401 600 persons aged 15 and over, or 7.0% of all persons in that age group, had used one or more types of online purchasing services for personal matters in the twelve months before the survey. The corresponding figures in 2002 were 274 500 persons and 4.9% respectively.

9. Usage of online Government services was also getting more and more common. The 2003 survey estimated that some 1 388 700 persons aged 15 and over, or 24.3% of all persons in that age group, had used online Government services for personal matters in the twelve months before the survey. The corresponding figures in 2002 were 1 015 100 persons and 18.1% respectively.

10. The survey showed that 3.4 % of the persons aged 15 and over having knowledge of using PC had digital certificates at the time of enumeration, compared with 3.3% in 2002. The survey also showed that, of the households with PC installed at home, 70.4% had installed anti-virus software, 31.0% had set password for access to the PC, while 18.3% responded that their PC at home had been infected by virus in the 12 months before enumeration. The corresponding figures in 2002 were 66.3%, 26.5% and 18.2%.

11. Of all persons aged 10 and over, 84.8% and 79.3% had heard of computer virus and hacking respectively, compared with 84.5% and 78.1% in 2002. Of the persons aged 10 and over who had used PC in the 12 months before enumeration, 25.7% had set password for access to their computer files related to personal matters and 7.4% had encrypted their computer files related to personal matters. The corresponding figures in 2002 were 22.1% and 6.1%.

12. The Household Survey revealed that there had been a significant growth in PC penetration and Internet usage in households. Through continual government support and promotion, it is encouraging to see Hong Kong making progress in becoming a digitally inclusive society. The Government will continue to work together with IT bodies and non-government organisations to encourage different sectors of the community to embrace and use IT.

Establishment Survey

13. According to results of the Establishment Survey, the percentages of establishments using personal computers (PCs) and having Internet connection remained stable in 2003, being 54.8% and 47.5% respectively. The corresponding percentages in 2002 were 54.5% and 44.2% respectively.

14. Analysed by size of establishments, 94.2% of large establishments, 87.7% of medium establishments and 50.0% of small establishments were using PCs. The corresponding figures for 2002 were 94.6%, 76.6% and 50.7% respectively. On the other hand, 85.1% of large establishments, 78.2% of medium establishments and 43.0% of small establishments had Internet connection in 2003, representing an across-the-board increase over 2002. The corresponding figures for 2002 were 82.6%, 66.1% and 40.5% respectively.

15. Among the major sectors, PC usage was highest in the financing, insurance, real estate and business services sector (76.6%), followed by the construction sector (55.6%). The percentage of establishments with Internet connection was also highest in the financing, insurance, real estate and business services sector (68.9%), followed by the wholesale, retail and import/export trades, restaurants and hotels sector (49.4%).

16. In 2003, about 13.5% of the establishments had a Web page or Web site, a slight increase over the figure (11.8%) in 2002. The percentage continued to be much higher for large establishments (62.4%) as compared with medium establishments (31.7%) and small establishments (10.2%). All establishments having Web pages/Web sites provided information about the establishments and the products and services offered in their Web pages/Web sites. Only 8.9% of the establishments having Web pages/Web sites used their Web pages/Web sites as channel for online ordering of their products and services.

17. In the 12 months before enumeration, 9.6% of the establishments had ordered or purchased goods, services or information through electronic means, representing an increase of 2.5 percentage points over 2002. Electronic means included Internet, Interactive

Response System through telephone lines/mobile telecommunications network and designated private network.

18. About 51.0% of the establishments had received goods, services or information through electronic means, representing an increase of 5.8 percentage points over 2002. In the Establishment Survey, goods received through electronic means were restricted to those products that could be transmitted through electronic media, such as software packages and songs. Browsing information on the Internet was also regarded as receiving information through electronic means.

19. The percentage of establishments having sold goods, services or information through electronic means decreased slightly from 1.5% to 1.1%. In the survey, an establishment was regarded to have sold its goods, services or information through electronic means if it offered them and accepted orders or purchases that were placed completely through electronic means.

20. About 13.6% of the establishments had delivered their goods, services or information through electronic means, 1.5 percentage points higher than that in 2002.

21. The total amount of business receipts received from selling goods, services or information through electronic means in 2002 was estimated at \$15.6 billion, or 0.29% of the total business receipts of establishments in all selected sectors, 0.14 percentage point lower than that in 2001. Of the total amount received from selling goods, services or information through electronic means, the percentage share in respect of selling through the Internet also decreased from 74.4% in 2001 to 65.5% in 2002.

22. The survey showed that, in the 12 months before enumeration, 29.5% (35.0% in 2002) of establishments had suffered from computer attacks. Analysed by type of computer attacks, 96% (97.9% in 2002) of those establishments had suffered from virus infection. After the attacks, 94.7% (91.2% in 2002) of the establishments attacked took various types of actions, e.g. applied patches, used more security technologies, and reported to senior management, the Hong Kong Computer Emergency Response Team Coordination Centre and Police, etc.

23. Among establishments with PCs, 85% (80.5% in 2002) had adopted security technologies to protect their computer systems and information. Anti-virus software ranked top on the list of security technologies adopted, cited by 93.9% (95.0% in 2002) of establishments that had adopted security technologies. 14.0% (1.9% in 2002) of the establishments were found to have digital certificates¹.

24. The Establishment Survey revealed that PC and Internet usage in the business sector had remained stable in the past year. On the other hand, there had been a drop in the volume of business receipts from selling goods, services or information through electronic means. It is probable that the former has been caused by the economic downturn in recent years which may have deferred the purchase of PCs and hence PC and Internet usage by businesses. The drop in the business receipts from selling goods, services or information through electronic means may be attributable to the general contraction in economic activities accompanied by the decline in GDP in recent years. This notwithstanding, some other e-commerce activities such as ordering/purchase and receipt of goods, services or information through electronic means in the business sector had maintained a steady growth despite the economic downturn in recent years.

25. The Government will continue with its efforts, including close collaboration with the trade associations and industry support bodies, and strive to help businesses, especially small and medium enterprises, to exploit the full potential and benefits of IT in advancing their business interests. The Government is also actively pursuing its e-government programme by providing e-option (i.e. the option to obtain services through electronic means) for 90% of the public services amenable to the electronic mode of service delivery, which will help drive the adoption of e-commerce in the business sector.

¹ The questions on digital certificate in the 2003 survey have been improved by spelling out the coverage of digital certificate, i.e. digital certificates issued by any certification authorities (CA), including local CAs, be they recognized under the Electronic Transactions Ordinance or not, and CAs outside Hong Kong. As such, the results of the 2003 survey are not strictly comparable to those of the 2002 survey. Care should be taken in comparing the digital certificate statistics collected from the 2003 survey with those from the 2002 survey.

Comparison With Other Economies

26. Comparisons of IT penetration in Hong Kong with other economies are set out in Annex D for Members' reference. As other economies may not carry out IT surveys as frequently as Hong Kong, we have used the most up-to-date statistics of these economies available for comparison. The statistics obtained from different sources generally show that Hong Kong compares well in household IT penetration with other advanced economies.

27. The International Telecommunication Union (ITU) released its first global index to rank information and communication technology (ICT) access, the Digital Access Index (DAI), in November 2003. The DAI measures the overall ability of individuals in different economies to access and use ICT. It combines eight variables² organised into five categories (infrastructure, affordability, knowledge, quality and usage). A list of the top 20 economies is at Annex E. Hong Kong ranked 7th out of 178 economies, and 2nd in the Asia Pacific. We are pleased that Hong Kong's achievements in providing quality and affordable access to ICT for the community have been recognized in ITU's rankings.

**Communications and Technology Branch
Commerce, Industry and Technology Bureau
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² The eight variables are fixed telephone subscribers, mobile cellular subscribers, 20 hours per month of Internet access, literacy, school enrolment, international Internet bandwidth, broadband subscribers and Internet users.

**Background Information
on the Household and Establishment IT Surveys**

The Household Survey was based on a sample of households selected in accordance with a scientifically designed sampling scheme to represent the population of Hong Kong. Some 10 000 households had been successfully enumerated in the survey. Within those households, some 28 000 persons aged 10 and over were interviewed.

2. The Establishment Survey was based on a sample of some 4 700 establishments covering all industry sectors except the agriculture and fishing sector and the mining and quarrying sector. Specifically, the following industry sectors were covered: manufacturing; electricity and gas; construction; wholesale, retail and import/export trades, restaurants and hotels; transport, storage and communications; financing, insurance, real estate and business services; and community, social and personal services.

3. The establishments were classified according to their employment size as at end-March 2003 as large, medium and small establishments. Large establishments referred to establishments with 100 or more persons engaged for the manufacturing sector, and 50 or more persons engaged for other sectors. Small establishments referred to those with less than 10 persons engaged regardless of sector. The others were regarded as medium establishments.

4. Since results of the surveys are subject to both sampling and non-sampling errors, care should be taken in comparing the 2002 and 2003 figures, as a minor difference might not be statistically significant.

5. More detailed results of the Household Survey and the Establishment Survey are set out in the “Thematic Household Survey Report No. 15: Information Technology Usage and Penetration” and the “Report on 2003 Annual Survey on Information Technology Usage and Penetration in the Business Sector” respectively. The reports are in bilingual form and have already been put on sale. Copies have been sent to Members of the Legislative Council Panel on Information Technology and Broadcasting.

Summary of Survey Results**Household Survey on Information Technology Usage and Penetration**

<u>Data Item</u>	<u>2002</u>	<u>2003</u>
Information technology penetration amongst households		
◆ Percentage of households with personal computer (PC) at home amongst all households in Hong Kong	62.1%	67.5%
◆ Percentage of households with PC at home connected to Internet amongst all households with PC at home in Hong Kong	84.6%	88.8%
◆ Percentage of households with PC at home connected to Internet amongst all households in Hong Kong	52.5%	60.0%
Information technology usage amongst household members		
◆ Percentage of persons aged 10 and over who had used PC in the twelve months before the survey amongst all persons aged 10 and over	54.0%	56.2%
◆ Percentage of persons aged 10 and over who had used Internet service in the twelve months before the survey amongst all persons aged 10 and over	48.2%	52.2%
Usage of electronic business services		
◆ Percentage of persons aged 15 and over who had used one or more types of electronic business services for personal matters in the twelve months before the survey amongst all persons aged 15 and over	92.6%	93.6%
Usage of online purchasing services		
◆ Percentage of persons aged 15 and over who had used one or more types of online purchasing services for personal matters in the twelve months before the survey amongst all persons aged 15 and over	4.9%	7.0%
Usage of online Government services		
◆ Percentage of persons aged 15 and over who had used online Government services for personal matters in the twelve months before the survey amongst all persons aged 15 and over	18.1%	24.3%

Summary of Survey Results

Survey on Information Technology Usage and Penetration in the Business Sector

<u>Data Item</u>	<u>2002</u>	<u>2003</u>
	<i>(As a % of all establishments)</i>	
Personal Computer Usage		
Establishments using personal computer	54.5%	54.8%
Internet Usage		
Establishments having Internet connection	44.2%	47.5%
Web Site Usage		
Establishments having Web page/Web site	11.8%	13.5%
Electronic Business		
Establishments having <i>ordered or purchased</i> goods, services or information through electronic means	7.1%	9.6%
Establishments having <i>received</i> goods, services or information through electronic means	45.2%	51.0%
Establishments having <i>sold</i> goods, services or information through electronic means	1.5%	1.1%
Establishments having <i>delivered</i> goods, services or information through electronic means	12.1%	13.6%
	<u>2001</u>	<u>2002</u>
Business receipts from selling goods, services or information through electronic means	\$22.1 billion	\$15.6 billion
Above business receipts as a % of total business receipts received	0.43%	0.29%

Comparison of IT Penetration with Other Economies**A. Household PC and Internet Penetration**

Economy	Period during which survey was conducted	Percentage of households with PC	Percentage of households with PC connected to the Internet
1. Hong Kong	May – Aug 2003	68%	60%
2. Republic of Korea	Jul 2002	79%	58%
3. Singapore	Nov 2002 – Jan 2003	68%	59%
4. Australia	Mar – Jul 2002	61%	46%
5. Japan	Jan – Mar 2002	58%	35%
6. USA	Sep 2001	57%	51%

B. PC and Internet Penetration in Business Sector

Economy	Period during which survey was conducted	Percentage of firms with PC	Percentage of firms with internet connection
1. Hong Kong	May – Aug 2003	55%	48%
2. Australia	2001/02	84%	72%
3. Canada	2002	82% (1999)	76%
4. United Kingdom	2001	64%	50%

Source : from government web sites of different economies

International Telecommunication Union's Digital Access Index

Ranking	Economy
1	Sweden
2	Denmark
3	Iceland
4	Republic of Korea
5	Norway
6	Netherlands
7	Hong Kong (2 nd in Asia Pacific)
8	Finland
9	Taiwan
10	Canada
11	United States
12	United Kingdom
13	Switzerland
14	Singapore
15	Japan
16	Luxembourg
17	Austria
18	Germany
19	Australia
20	Belgium