

ANNUAL SURVEY ON INFOCOMM USAGE IN HOUSEHOLDS AND BY INDIVIDUALS FOR 2014



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CONTENTS

PART I: SURVEY OBJECTIVE AND METHODOLOGY.....	2
1. Survey Objective.....	3
2. Methodology.....	3
3. Concepts and Definitions	3
4. Notes on Data	4
PART II: SURVEY FINDINGS – INFOCOMM ACCESS IN HOUSEHOLDS, AND INFOCOMM ADOPTION AND USAGE BY INDIVIDUALS.....	5
Summary.....	6
A. Internet and Broadband Access within Households.....	9
B. Recent Computer and Internet Usage by Individuals	11

TABLES

Table A1: Main Reason for Not Using the Internet, 2012 – 2014.....	10
Table B1: Primary Internet Activity Groups of Internet Users, 2012 – 2014	15
Table B2: Top Ten Internet Activities on Mobile Equipment by Age Group, 2014.....	16
Table B3: Top Ten Goods or Services Purchased Online by Age Group, 2014	17
Table B4: Payment Methods for Goods or Services Purchased Online by Age Group, 2014	18
Table B5: Reasons for Not Using Internet Security at Home, 2014.....	19
Table B6: Reasons for Not Using Anti-virus Software for Smartphone, 2014	20

CHARTS

Chart A1: Internet and Broadband Access at Home, 2012-2014	9
Chart A2: Type of Internet Connection within Households, 2012 – 2014.....	9
Chart A3: Equipment Used to Access to the Internet at Home, 2010 – 2014	10
Chart B1: Proportion of Computer Users by Age Group, 2012-2014.....	11
Chart B2: Proportion of Internet Users by Age Group, 2012-2014.....	12
Chart B3: Where senior citizens learnt their computer/Internet skills, 2014	12
Chart B4: Portable Equipment Used by Age Group, 2014	13
Chart B5: Portable Equipment to Connect to the Internet Wirelessly by Age Group, 2010-2014	14
Chart B6: Wireless Connection Type by Age Group, 2014	15
Chart B7: Online Shoppers by Age Group, 2012-2014.....	17
Chart B8: Value of Online Purchases, 2012-2014.....	18
Chart B9: Usage of Internet Security Software at Home, 2014	19
Chart B10: Usage of Internet Security Software for Smartphone, 2014.....	20

PART I:
SURVEY OBJECTIVE AND METHODOLOGY

1. Survey Objective

The 2014 Annual Survey on Infocomm Usage in Households (“Survey”) has been conducted by IDA since the 1990s. The objective of the Survey is to assess the extent of infocomm adoption in Singapore resident households¹ and residents.

2. Methodology

Data was collected from about 3,500 households and about 3,500 residents via face-to-face interviews. The sample of addresses was provided by the Singapore Department of Statistics based on a random selection using a two-stage stratified design by geographical location and housing type.

3. Concepts and Definitions

The definitions of the key terms used in this report are as follows:

Term	Definition
Household	Household refers to a group of two or more persons living together in the same house and sharing common food or other arrangements for essential living. It also includes a person living alone or a person living with others but having his own food arrangements. Although persons may be living in the same house, they may not be members of the same household.
Resident	Singapore Citizen or Permanent Resident.
Resident Household	Resident households are households with at least one resident (Singapore Citizen or Permanent Resident).
School-going children	School-going children refer to current students who are enrolled between primary education and pre-university / junior college education level.
Computer	Computer includes desktops, laptops, notebooks and tablets.
Computer access at home	Refers to having access to functional computers at home regardless of ownership (i.e. they may be owned by the household or employers and used at home).
Computer ownership	Computer ownership refers to computer owned by household.
Private housing	Private housing refers to landed properties, private condominiums and apartments.
Public housing	Public housing refers to HDB flats.

¹ Only households with at least one resident (Singapore Citizen or Permanent Resident) were interviewed; households comprising wholly of foreigners were not interviewed.

Term	Definition
Broadband	Internet connection speeds equal to, or greater than, 256 kbit/s, in one or both directions and includes connections using ADSL, cable modem, 3G, 3.5G/HSDPA and fibre broadband.
ADSL	Asymmetric Digital Subscriber Line (ADSL), a form of DSL is a data communications technology that enables data transmission over copper telephone lines.
Cable modem	A modem designed to operate over cable TV lines and enables Internet access.

4. Notes on Data

Past years' data are included for comparison purposes where available. Due to the rounding of figures to the nearest whole number, the sum of individual figures may not add up to the total or 100%.

PART II:

**SURVEY FINDINGS – INFOCOMM ACCESS IN
HOUSEHOLDS, AND INFOCOMM ADOPTION
AND USAGE BY INDIVIDUALS**

Summary

(A) Household

Household Internet and broadband access continued to increase in 2014 and households are increasingly using Internet-enabled mobile phones for Internet access

- Home Internet and broadband access rates were 88% and 87.5% respectively in 2014, about 3 to 4 percentage-points higher than that of 2012 respectively.
- For households with school-going children, Internet and broadband access rates were 98% and 97% respectively in 2014, an increase of about 1 to 2 percentage-points from 2012.
- Fibre and wireless broadband continued to replace ADSL and cable modem as the Internet connection choice by households with 62% of resident households using fibre broadband in 2014 (up from 25% in 2012), and 56% using wireless broadband in 2014 (up from 38% in 2012).
- Households showed trends of switching to using Internet-enabled mobile phones to access the Internet with 96% of resident households doing so, a 62 percentage-point increase since 2010.

(B) Individual

Computer, smartphone and Internet usage by senior citizens saw significant growth since 2012

- Computer usage rate by senior citizens aged 50-59 and 60 & above rose significantly to 63% and 27% respectively in 2014, an increase of 14 and 11 percentage-points from 2012 respectively.
- Internet usage rate by senior citizens aged 50-59 and 60 & above rose significantly to 75% and 31% respectively in 2014, an increase of 24 and 15 percentage-points from 2012 respectively.

- In 2014, more than three-quarter and one-third of senior citizens aged 50 to 59 years, and 60 years & above respectively used a smartphone² to access the Internet in the past 3 months. This represented an increase of 30 and 19 percentage-points for the two age groups respectively from 2012.
- In 2014, 67% and 31% of senior citizens aged 50 to 59 years, and 60 years & above, respectively, connected to the Internet wirelessly among residents who had used portable infocomm equipment in the past 3 months. This is about more than 4-fold and 6-fold increases compared to 2010 where the proportions were 15% and 5% respectively.
- More than half of the senior citizens learnt their computer/Internet skills from family members, the most common source of knowledge.

Top 3 primary internet activities among Singapore residents were communication, leisure and getting information; Singapore residents preferred accessing the Internet wirelessly via mobile network

- The top 3 primary Internet activities³ of Internet users remained the same over the last 3 years, and were related to communication, leisure activities and getting information. The most commonly cited reason for not using the Internet remained as “*Lack of knowledge, skills or confidence*”.
- Residents preferred accessing the Internet wirelessly via mobile network as compared to public WiFi hotspots.
- Staying connected on social networks was the top mobile online activity in the last 3 years.

² A smartphone has more sophisticated functions than a feature phone. Examples of such functions are: i) able to open and read documents (e.g. pdf, office document) and ii) able to add / install applications on phone. These two categories are mutually exclusive, i.e. a mobile phone can only be a feature phone or a smartphone.

³ A primary Internet activity refers to an activity that is engaged in during all or most of the Internet sessions.

Online shopping is on the rise and online shoppers were mainly aged 15-49, and most popular items purchased were apparels, travel products and tickets for entertainment events

- Number of Singapore residents shopping online in 2014 was about 1.44 millions, increased by a compound annual growth rate of about 14% from 2012.
- Consistently over the last 3 years, online shoppers were mainly from the 15-49 age group, credit card payment was the most common among those aged 25 and above.
- Three most popular items purchased online were apparels, travel products and tickets for entertainment events.
- Majority of the online shoppers (about 7 in 10) spent at least \$100 on their online purchases.
- The most commonly cited reasons for not shopping online were “*Prefer to shop in person or deal personally with a service provider*” followed by “*Not interested*”.

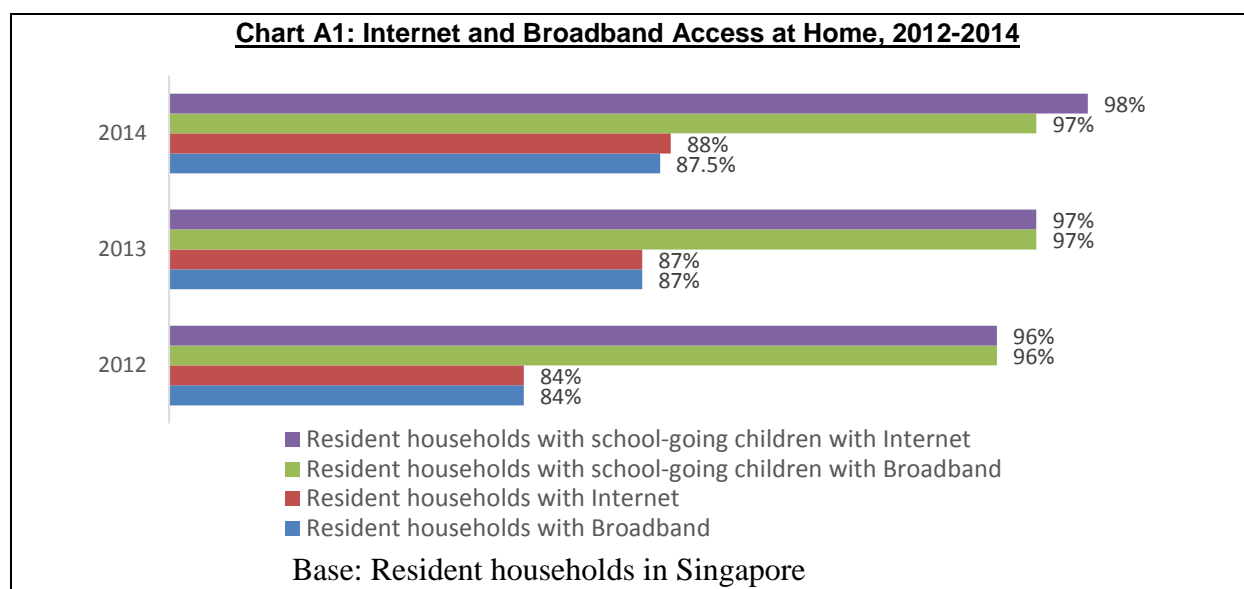
More than 8 in 10 Singapore Residents installed anti-virus software and security updates on computer used to access the Internet at home but adoption rates of anti-virus software installation on smartphones were comparatively lower

- More than 80% of Singapore residents adopt Internet security measures such as anti-virus software and security updates on computer used to access the Internet at home. However, adoption rates of anti-virus software installation on smartphones (30%) were comparatively lower in 2014.
- The main reason cited by non-adopters was “*Don't think that the protection is necessary*”, regardless of whether they accessed internet via computers or smartphones.

A. Internet and Broadband Access within Households

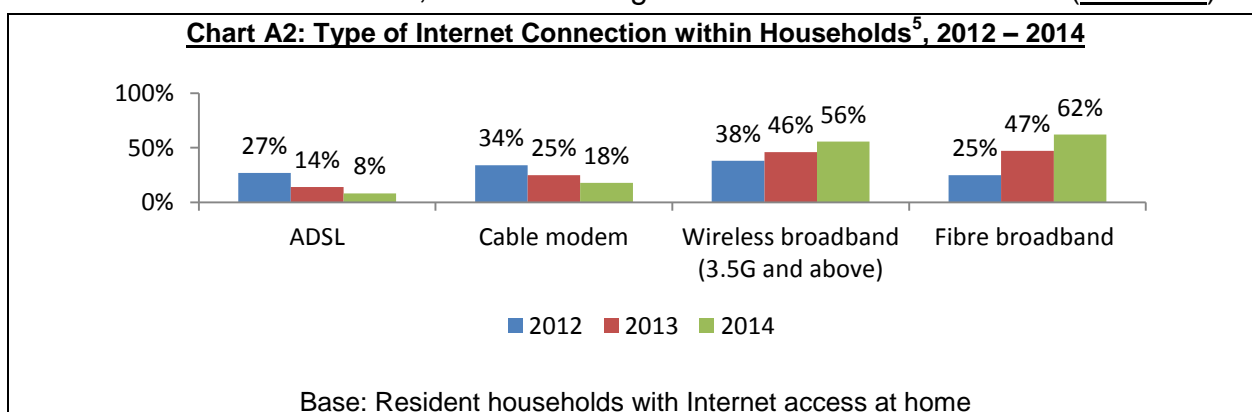
Growing household Internet and broadband access over the years

Home Internet and Broadband access rates were 88% and 87.5% respectively in 2014, about 3 to 4 percentage-points higher than that of 2012. For households with school-going children, Internet and Broadband access rates were 98% and 97% respectively in 2014, about 1 to 2 percentage-points growth from 2012 (Chart A1).



Fibre and wireless broadband continue to replace ADSL and cable modem as the Internet connection choice by households

Fibre broadband has grown to be the Internet connection of choice used by 62% of resident households, and 56% using wireless broadband⁴ in 2014 (Chart A2).

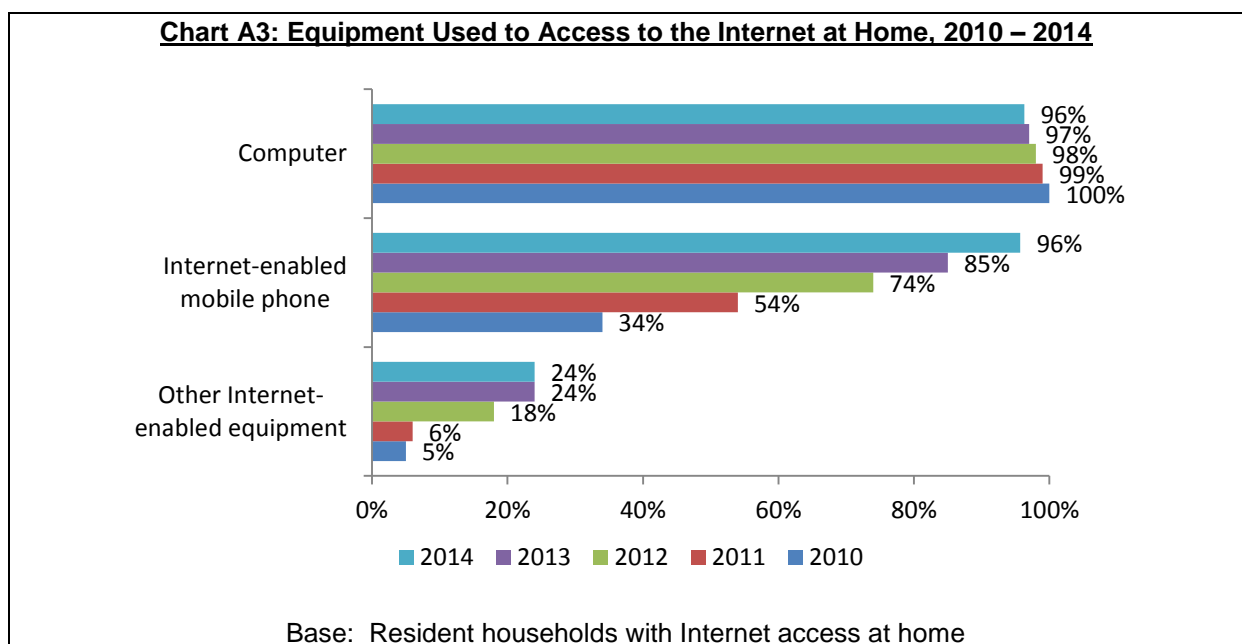


⁴ Wireless broadband comprises 3G, 3.5G/HSDPA; fixed broadband comprises ADSL, cable modem and fibre broadband.

⁵ Households with access to the Internet via both broadband and narrowband had been categorised as those with broadband Internet access. Please note that some households may have more than one type of broadband connection at home.

Households are increasingly using Internet-enabled mobile phones for Internet access

In 2014, about 96% resident households reported using an Internet-enabled mobile phone to access the Internet at home ([Chart A3](#)), a 62 percentage-point increase from 2010. Although the computer continued to be the dominant equipment of choice used for accessing the Internet at home, the slight decrease in the past two years might be due to the switch to using Internet-enabled mobile phones.



Households without home Internet access continued to cite “*Lack of interest/no need to use*” and “*Lack of knowledge/skills/confidence*” as the top two reasons for not using the Internet in 2014. Similarly, the latter was the most commonly cited reason by non-Internet users in 2012 and 2013. “*Too old to learn*”, cited by 12% of non-Internet users, emerged as one of the top reasons ([Table A1](#)).

Table A1: Main Reason for Not Using the Internet, 2012 – 2014

No.	Main reason for not using the Internet	2012	2013	2014
1.	Lack of knowledge, skills or confidence	63%	60%	76%
	Do not know how to use computer, Internet-enabled feature phone	-	-	26%
	Do not know how to use the internet	-	-	24%
	Lack of confidence	-	-	19%
	Language skills are inadequate	-	-	7%
2.	Too old to learn	-	-	12%
3.	Not interested / No need to use	36%	36%	10%

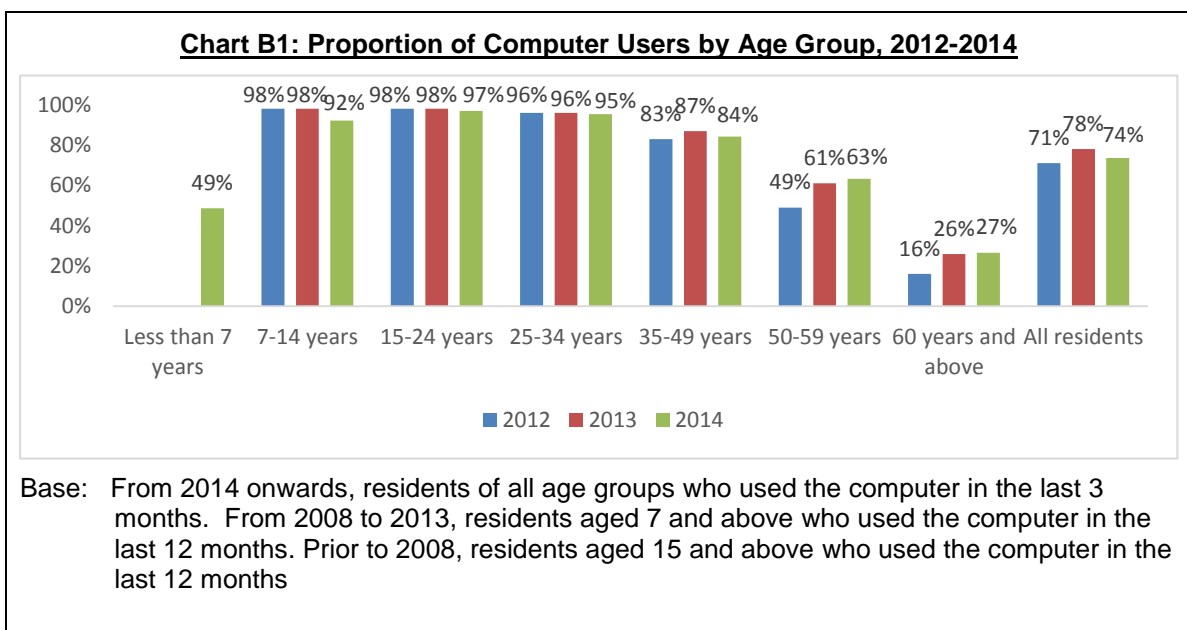
Base: Residents who had never used the Internet before

B. Recent Computer and Internet Usage by Individuals

Computer usage rates by senior citizens increased significantly in the last 3 years

In 2014, about 74% of residents used the computer in the last 3 months (defined as computer users) with highest increase in the last 3 years reported for senior citizens aged 50 years and above despite changes in reference period and age group.⁶ (Chart B1).

Between 2012 and 2014, 14 and 11 percentage-points increases in computer usage were reported for those aged 50-59 and 60 & above respectively.



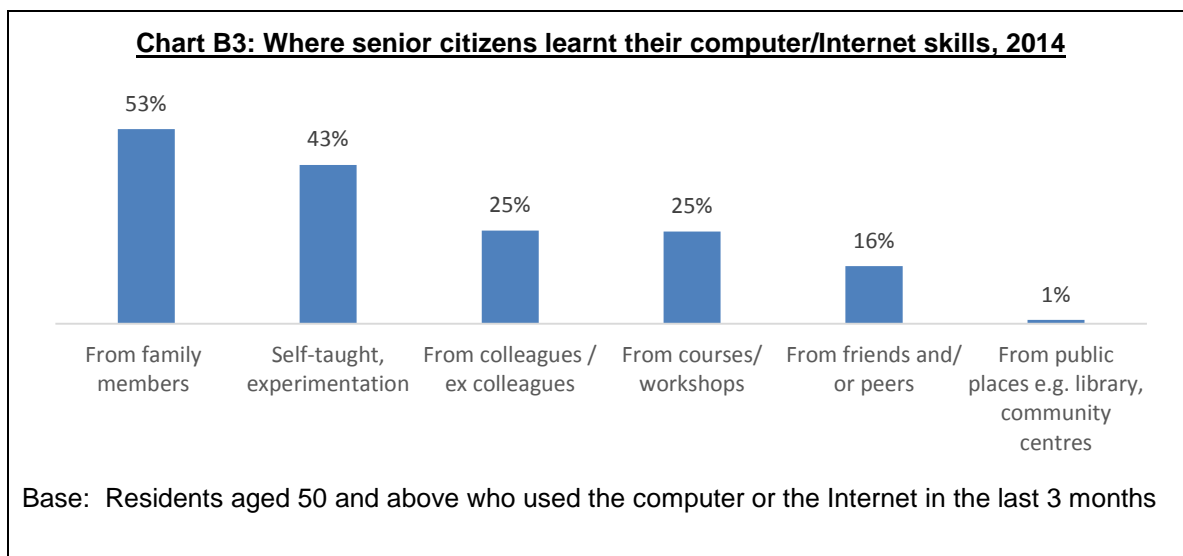
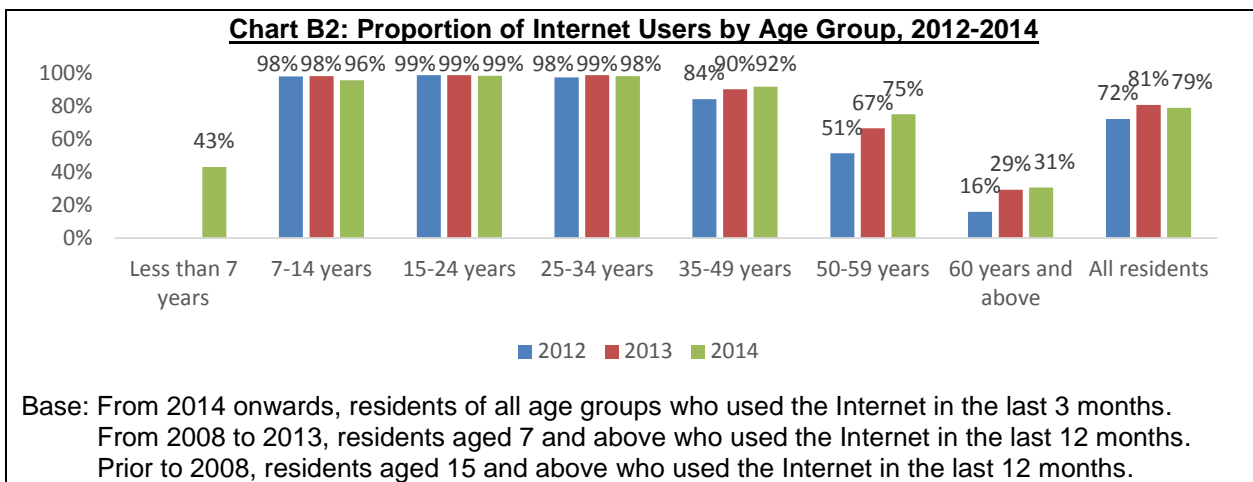
Internet usage rates by senior citizens also rose significantly in the last 3 years and more than half of senior citizens learnt their computer/Internet skills from family members

In 2014, about 79% of residents used the Internet in the last 3 months (defined as Internet users) with highest increase in the last 3 years reported for senior citizens aged 50 years and above despite changes in reference period and target group⁷. Between 2012 and 2014, 24 and 11 percentage-points increases in Internet usage were reported for those aged 50-59 and 60 & above respectively (Charts B2). More

⁶ The reference period in 2013 was the past 12 months instead of the past 3 months in 2014, and the reference age group was aged 7 & above in 2013 instead of all age groups in 2014.

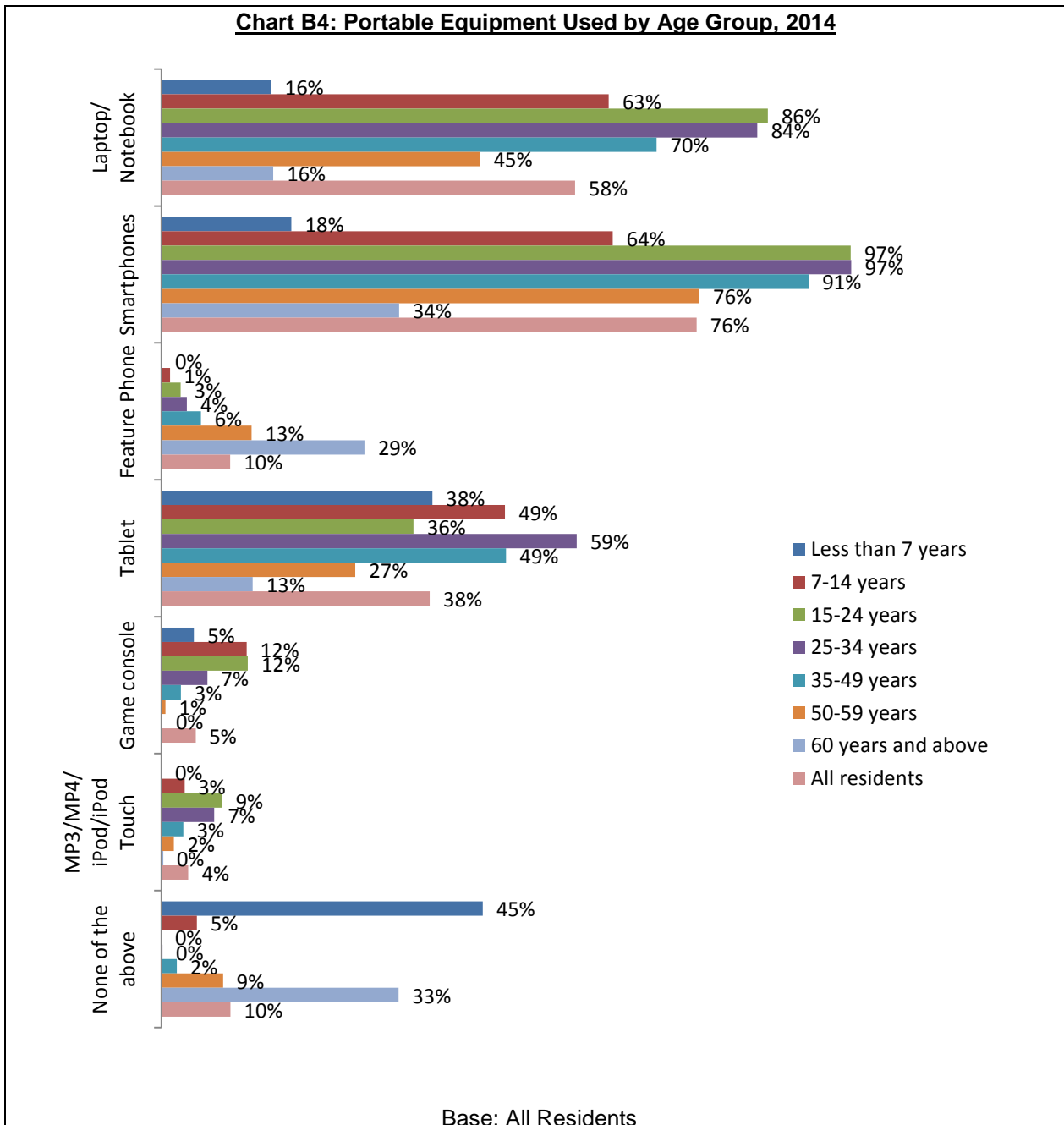
⁷ The reference period in 2012 and 2013 was “the past 12 months” instead of “the past 3 months” in 2014, and the reference age group was aged 7 & above in 2012 and 2013 instead of all age groups in 2014.

than half of the senior citizens learnt their computer/Internet skills from family members, the most common source of knowledge (Chart B3)



Significant growth in senior citizens using smartphone to access the Internet since 2012

In 2014, more than three-quarter and one-third of senior citizens aged 50 to 59 years, and 60 years and above respectively used a smartphone⁸ in the past 3 months. This represented an increase of 30 and 19 percentage-points for the 2 age groups respectively from 2012⁹ (Chart B4).



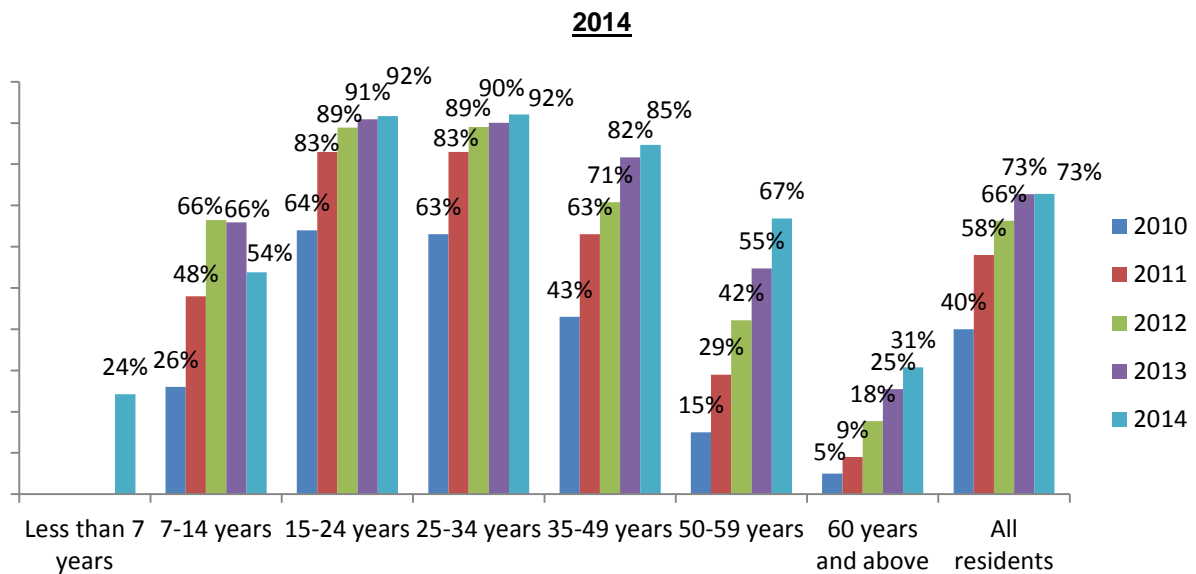
⁸ A smartphone has more sophisticated functions than a feature phone. Examples of such functions are: i) able to open and read documents (e.g. pdf, office document) and ii) able to add / install applications on phone. These two categories are mutually exclusive, i.e. a mobile phone can only be a feature phone or a smartphone.

⁹ Used in the past 12 months

Significant growth in senior citizens using portable infocomm equipment to connect to the Internet wirelessly since 2010

In 2014, among residents who had used portable infocomm equipment in the past 3 months, 67% and 31% of those aged 50 to 59 years, and 60 years and above, respectively, connected to the Internet wirelessly (Chart B5). This is about more than 4-fold and 6-fold increases compared to 2010 where the proportions were 15% and 5% respectively.

Chart B5: Portable Equipment Used to Connect to the Internet wirelessly by Age Group¹⁰, 2010-



Base: For 2014, residents of all age groups who had used a portable equipment in the past 3 months;
From 2010 to 2013, residents aged 7 and above who had used a portable equipment in the past 12 months.

¹⁰ Wireless connection excludes connection through a wireless router. It includes connection via public WiFi hotspots, 3G, GSM/GPRS and wireless broadband (e.g.3.5G/HSDPA, 4G/LTE).

Top 3 primary internet activities among Singapore residents were communication, leisure and getting information

The top 3 primary Internet activities¹¹ of Internet users, consistently over the last 3 years, were related to communication, leisure activities and getting information (Table B1)

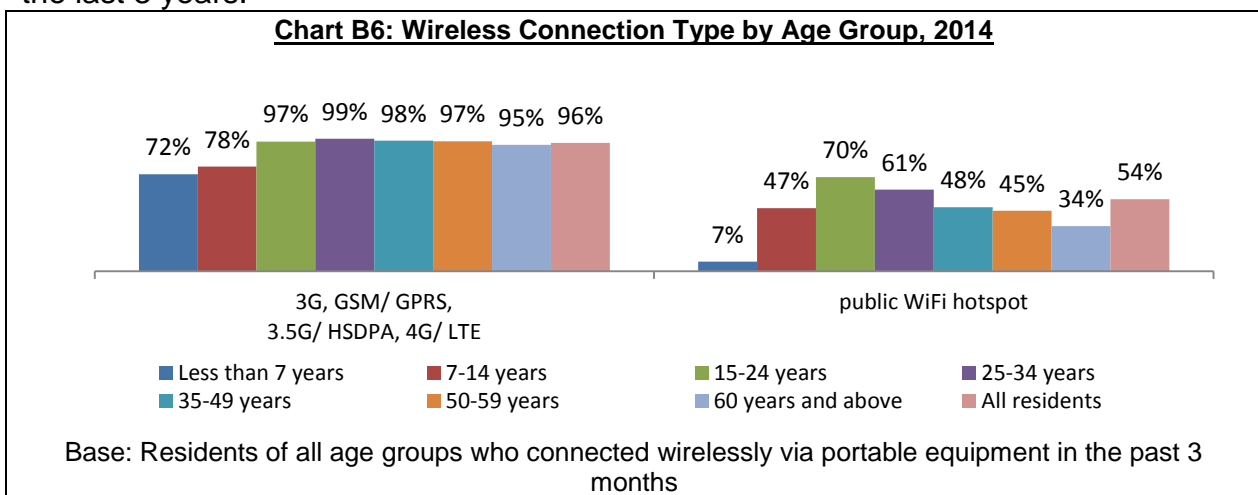
Table B1: Primary Internet Activity Groups of Internet Users, 2012 – 2014

Primary Internet activity group	All residents		
	2012	2013	2014
Communication	71%	83%	82%
Leisure activities	61%	72%	77%
Getting information	49%	65%	62%
Online banking	17%	34%	31%
Purchasing or ordering goods or services	17%	40%	26%
Education or learning activities	14%	22%	17%
Dealing with government organisations / public authorities	7%	16%	15%
Creating content	13%	7%	8%

Base: For 2014, Internet users of all age groups who used the Internet in the last 3 months; for 2012 & 2013, Internet users aged 7 years and above who used the Internet in the last 12 months

Singapore residents preferred accessing the Internet wirelessly via mobile network

Overall, users preferred to use their mobile network as compared to public WiFi hotspots when connecting to the Internet wirelessly (Chart B6), similarly observed in the last 3 years.



¹¹ A primary Internet activity refers to an activity that is engaged in during all or most of the Internet sessions.

Staying connected on social networks was the top mobile online activity in the last 3 years

In 2014, among online activities on mobile equipment¹², communication (using social networks, and using instant messaging and sending or receiving email) made up the top 3 activities (Table B2), similar to 2013. Downloading or watching movies, short films or images, and playing or downloading computer or video games are top activities for those aged 14 years and below.

Table B2: Top Ten Internet Activities on Mobile Equipment by Age Group, 2014

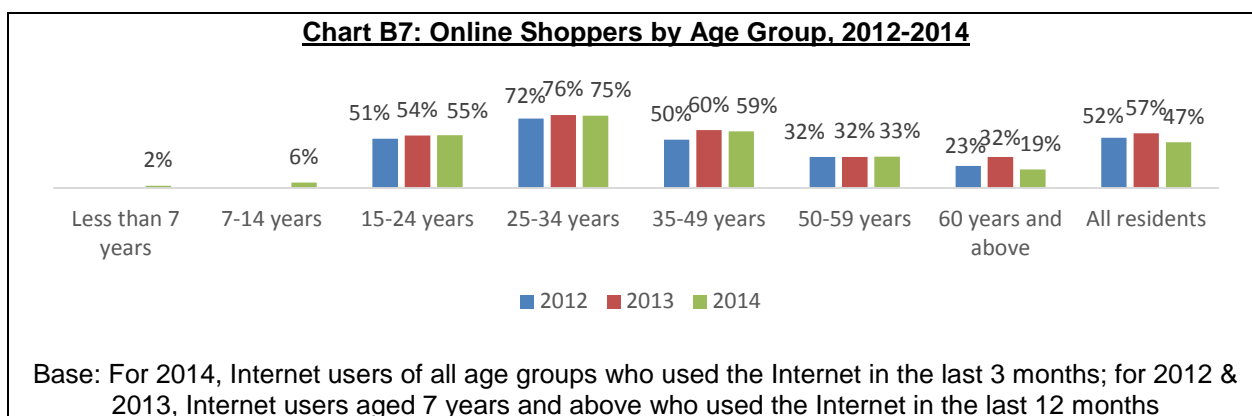
Activity	Less than 7 years	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	All residents
Using social networks	0%	39%	78%	78%	68%	51%	36%	63%
Using instant messaging	2%	46%	61%	58%	57%	54%	45%	55%
Sending or receiving emails	0%	18%	58%	64%	62%	52%	45%	54%
Getting information or general Web browsing	0%	28%	56%	62%	57%	48%	43%	52%
Downloading or watching movies, short films or images	68%	43%	53%	46%	37%	35%	24%	41%
Reading online news	0%	8%	32%	40%	42%	34%	36%	34%
Getting information about goods or services	0%	6%	29%	44%	36%	31%	19%	31%
Checking account information	0%	0%	19%	42%	37%	29%	12%	27%
For purchasing or ordering goods or services or making transactions (e.g. making reservations)	0%	3%	29%	43%	33%	19%	13%	27%
Playing or downloading computer or video games	49%	42%	35%	23%	17%	18%	19%	25%

Base: Residents who had used mobile equipment in the past 3 months

¹² Mobile equipment is defined as portable equipment excluding laptop/notebook.

Online shopping is on the rise and online shoppers were mainly from the 15-49 age group

In 2014, about half of the Internet users who used the Internet in the past 3 months had made an online purchase before (defined as online shoppers). Number of online shoppers in 2014 was about 1.44 millions, increased by a compound annual growth rate of about 14% from 2012. In the last 3 years, the highest proportions of online shoppers came from Internet users in the age groups 25-34 years, followed by 35-49 years, and 15-24 years (Chart B7).



Apparels, travel products and tickets for entertainment events were the 3 most popular items purchased online in the last 3 years

The 3 most popular items bought online for private purposes in the past 3 months were clothing, footwear, sporting goods or accessories (63%) followed by travel products (34%) and tickets for entertainment events (29%) (Table B3). These 3 items were also ranked the top 3 for the last 3 years. Household or electronic items (19%) had emerged as a popular item in 2014.

Table B3: Top Ten Goods or Services Purchased Online by Age Group, 2014

Items	Less than 7 years	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	15 years & above	All age groups
Clothing, footwear, sporting goods or accessories	0%	31%	76%	71%	56%	47%	34%	63%	63%
Travel product(s) (e.g. air ticket, accommodation, vehicle hire)	0%	0%	16%	41%	34%	49%	41%	34%	34%
Ticket(s) for entertainment event(s) (e.g. cinema, theatre, concert, sports game)	0%	10%	23%	40%	26%	24%	7%	29%	29%
Household or electronic items (e.g. air cleaner, vacuum cleaner, speakers)	0%	0%	11%	18%	24%	26%	14%	19%	19%
Food or groceries	0%	0%	6%	16%	20%	15%	14%	15%	15%
Computer equipment or parts (including peripheral equipment, such as hard drive, mouse, screen/monitor)	0%	0%	8%	13%	12%	14%	10%	11%	11%
Books, magazines, newspaper (in physical form)	0%	49%	7%	6%	12%	0%	27%	8%	9%
IT and telecommunication services (excluding software) (e.g. subscription of Internet access service, mobile phone services and pay TV)	0%	0%	2%	12%	10%	5%	3%	8%	8%
Books, magazines, newspaper (in digital form)	0%	0%	5%	5%	9%	10%	7%	7%	7%
Music products (in digital form)	0%	10%	9%	7%	5%	0%	0%	6%	6%

Base: Online shoppers who had made at least one online purchase in the past 3 months

Online purchases mostly paid using credit cards

Credit card payment remained as the most common mode of payment for goods or services purchased online, consistently over the last few years ([Table B4](#)).

Table B4: Payment Methods for Goods or Services Purchased Online by Age Group, 2014

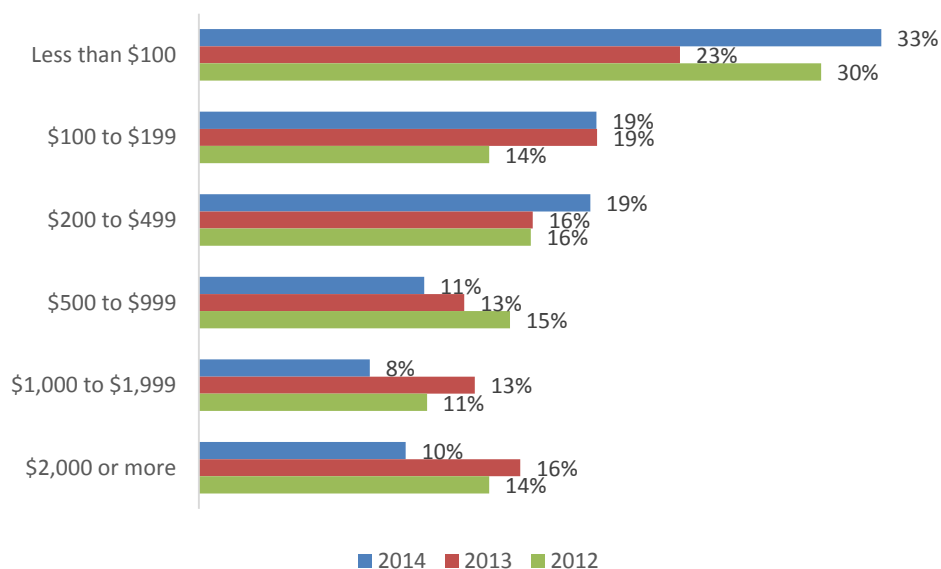
Payment Method	Less than 7 years	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	15 years & above	All age groups
Credit cards	0%	10%	49%	80%	86%	82%	86%	76%	75%
Direct debit / Pay using bank account	0%	59%	53%	32%	13%	14%	7%	27%	27%
Mobile Wallet (e.g., PayPal, Starhub's SmartWallet, DBS' PayLah)	0%	10%	9%	16%	12%	7%	0%	12%	12%
Cash on delivery	0%	0%	12%	12%	8%	2%	3%	9%	9%
eNETS virtual account	0%	10%	10%	10%	10%	2%	3%	9%	9%

Base: Online shoppers who had made at least one online purchase in the past 3 months

Majority of online shoppers spent at least \$100 on online purchases over the last 3 years

About 7 in 10 online shoppers spent at least \$100 on their online purchases over the last 3 years ([Chart B8](#)).

Chart B8: Value of Online Purchases, 2012 – 2014

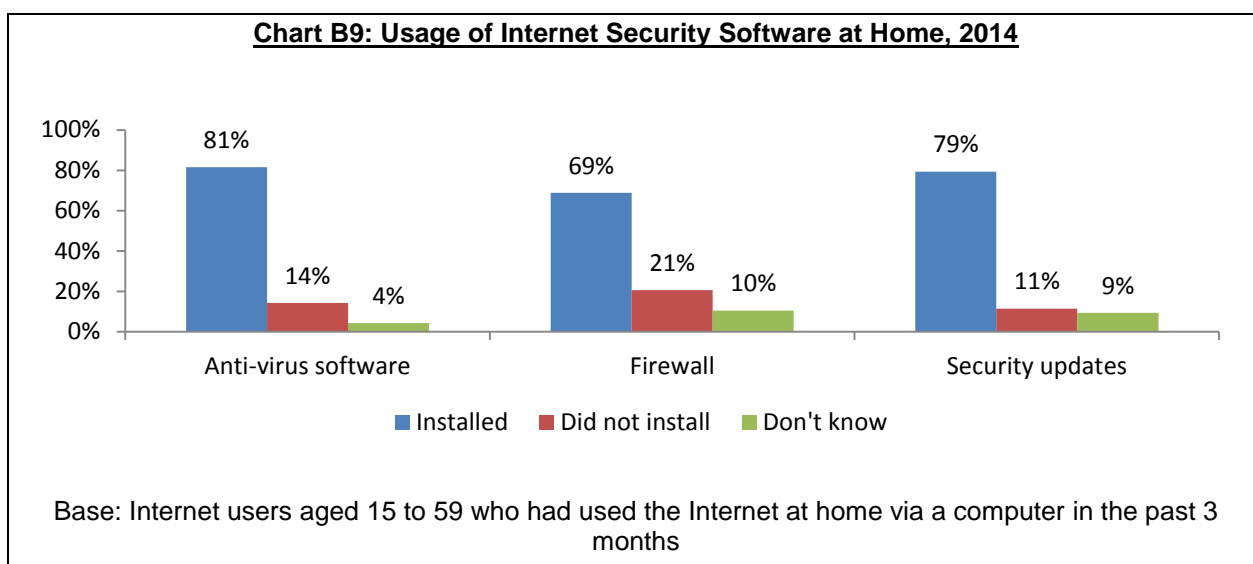


Base: For 2014, online shoppers aged 15 years and above who had made at least one online purchase in the past 3 months; reference period was past 12 months for 2012 and 2013

Among Internet users who have never shopped online over the last 3 years, the most commonly cited reasons for not doing so was consistently “*Prefer to shop in person or deal personally with a service provider*” followed by “*Not interested*”.

Adoption rates of Internet security measures on home computer similar to 2013, with about 8 in 10 installed anti-virus software and security updates on computer used to access the Internet at home

In 2014, anti-virus software and security updates were the top 2 Internet security measures adopted on computer used to access the Internet at home by about 80% of Internet users connected to the Internet at home via a computer in the past 3 months. (Chart B9).



‘Don't think that the protection is necessary’ was still the main reason for not using Internet security software in 2014, when compared to 2013

Among users who accessed the Internet at home via a computer and did not install any one of the Internet security software (anti-virus, firewall, security updates), 40% cited that they did not think that there was a necessity to install anti-virus software, 47% cited the same for firewall, and 51% for security updates. About 9%-21% did not know that the protection was necessary (Table B5).

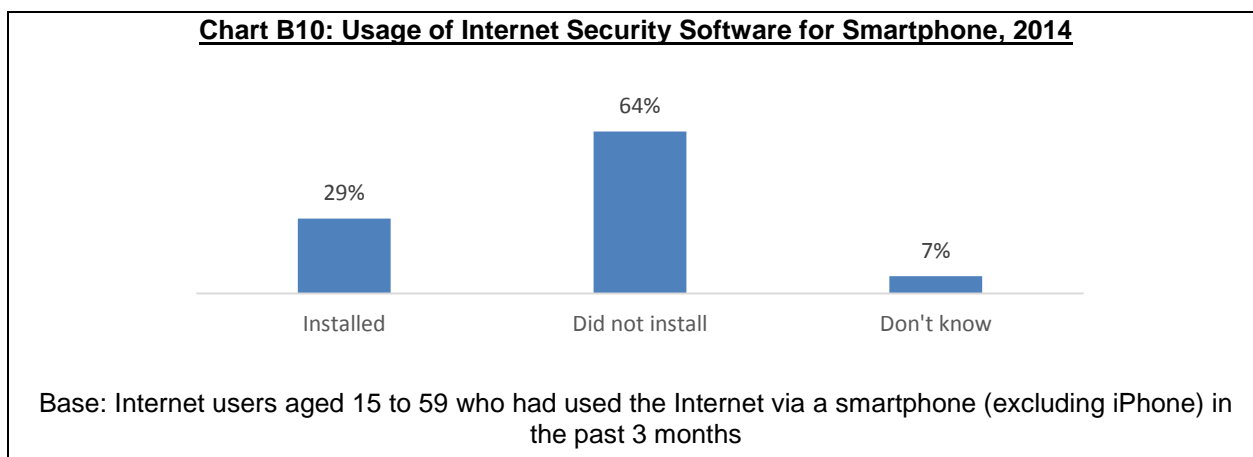
Table B5: Reasons for Not Using Internet Security at Home, 2014

No.	Reason for not using anti-virus, firewall or security updates at home	Anti-virus software	Firewall	Security updates
1	Don't think the protection is necessary	40%	47%	51%
2	Don't know that the protection is necessary	9%	18%	21%
3	Costly software or subscription	15%	10%	14%
4	Lack of knowledge, skills or confidence	7%	10%	14%

Base: Internet users aged 15 to 59 who had used the Internet at home via a computer (excluding iPad) in the past 3 months that was not protected by any one of the Internet security software (anti-virus, firewall, security updates).

About 3 in 10 installed anti-virus software for smartphones

Comparatively, anti-virus software installation on smartphones was slower in 2014, adopted by about 30% of smartphone users who had connected to the Internet in the past 3 months¹³. (Chart B10).



‘Don’t think that the protection is necessary’ was also the main reason for not using anti-virus software for smartphone in 2014

Among users who accessed the Internet via a smartphone and did not install anti-virus software in 2014, about half cited that they did not think that there was a necessity to install anti-virus software, with 19% and 16% did not know that protection is necessary, and available, respectively (Table B6).

Table B6: Reasons for Not Using Anti-virus Software for Smartphone, 2014

No.	Reason for not using anti-virus software for smartphone	2014
1	Don't THINK that protection is necessary (i.e., think that the phones will have a small chance of getting virus)	53%
2	Don't KNOW that protection is necessary (i.e., don't know that phones can have viruses)	19%
3	Don't know that protection is available	16%
4	Cost of software/subscription is too high	6%
5	Lack of knowledge, skills or confidence	4%
6	Not enough space on mobile phone	1%

Base: Internet users aged 15 to 59 who had used the Internet via a smartphone (excluding iPhone) in the past 3 months that was not protected by anti-virus software.

¹³ In 2014, a question on installation of anti-virus software was separately posed to smartphone users.