ANNUAL SURVEY ON INFOCOMM USAGE IN HOUSEHOLDS AND BY INDIVIDUALS FOR 2018

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PART I:
SURVEY OBJECTIVE AND METHODOLOGY

1. Survey Objective

The Annual Survey on Infocomm Usage in Households ("Survey") has been conducted by IMDA since the 1990s. The objective of the Survey is to assess the extent of infocomm adoption in Singapore resident households[1] and residents.

2. Methodology

Data was collected from about 3,000 households and about 3,000 residents via face-to-face interviews. The sample of addresses for household 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. The sample of individuals was provided by Ministry of Home Affairs based on stratified random sampling design by age and ethnicity group. Fieldwork for the survey was conducted between July to October 2018.

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.

[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
Public housing	Public housing refers to HDB flats.
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.
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

Some noteworthy findings from the survey:

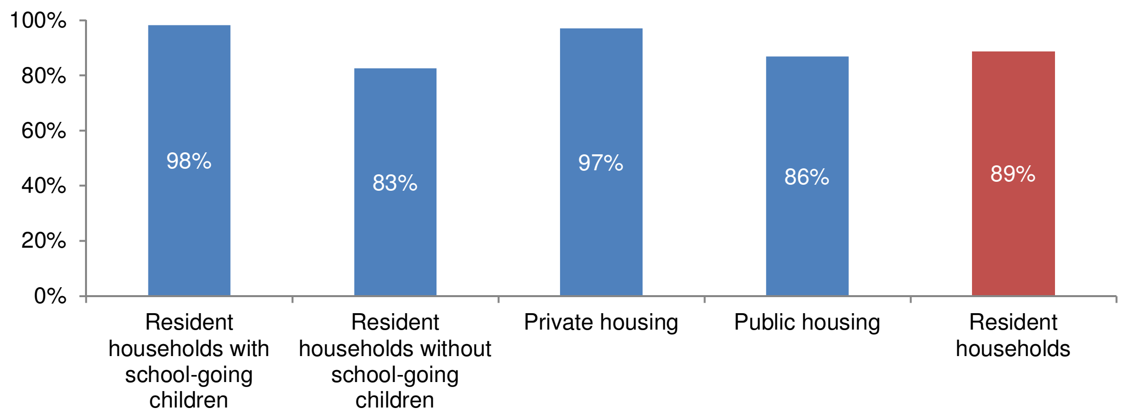
- There is continued growth of household Internet and broadband access over the years; Internet-enabled phones replaced computers as the top equipment of choice for accessing Internet at home;
- Fibre broadband remained the top Internet connection choice with 92% of resident households using it, a marked 13 percentage-point increase from 2017;
- Internet usage rates rose significantly from 2016, especially among young children and senior citizens;
- Top three primary internet activities among Singapore residents were related to communication, leisure and getting information; the same as in the last three years;
- Online shopping continued to be on the rise and online shoppers were mainly aged 15-49.

A. Computer, Internet and Broadband Access within Households

About 89% of resident households had computer access, and about 98% of households with school-going children had computer access at home.

Computer access in resident households was 89% in 2018. A higher proportion of households with school-going children had computer access at home as compared to households without school-going children (Chart A1).

Chart A1: Computer Access at Home by Various Housing Types, 2018



Base: Resident households in Singapore

"Lack of skills" and "no need to use" were the top two reasons for households not having access to a computer in the last three years.

Table A1: Main Reason for not Having Access to a Computer at Home, 2016 – 2018

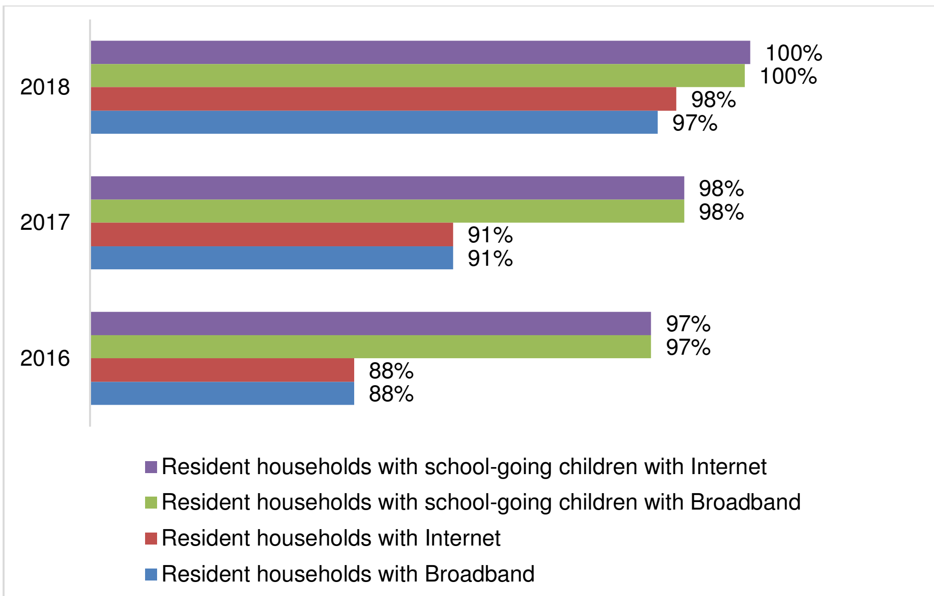
No.	Main Reason	2016	2017	2018
1	Lack of skills	45%	23%	41%
2	No need to use	26%	33%	29%
3	Old age is a barrier to learn computer skills	11%	17%	9%
4	Usually use mobile phone to access Internet	6%	10%	11%
5	Too costly to purchase a computer	8%	9%	7%

Base: Resident households that did not have access to a computer at home

Growing household internet and broadband access over the years

Home internet and Broadband access rates were 97.7% and 97.2% respectively in 2018, about 6 percentage-points higher than in 2017. For households with school-going children, Internet and broadband access rates were both near 100% in 2018, about 2 percentage-points higher than in 2017. (Chart A2)

Chart A2: Internet and Broadband Access at Home, 2016 – 2018

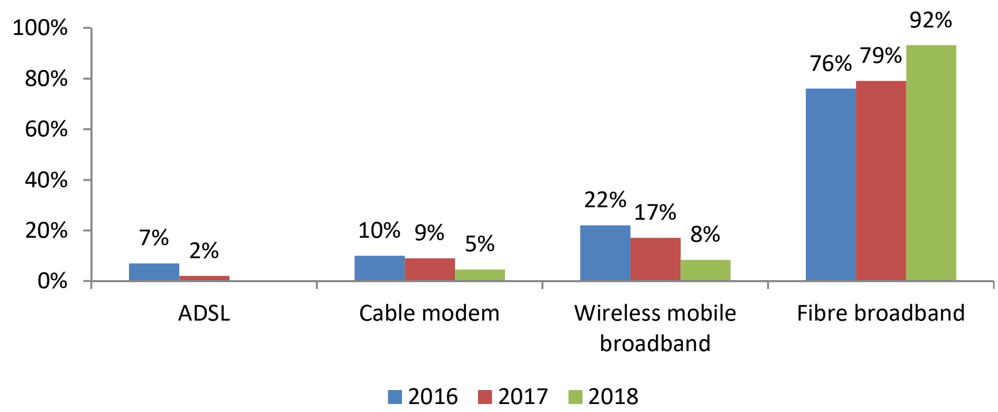


Base: Resident households in Singapore

About 9 in 10 resident households had fibre broadband internet connection at home

Fibre broadband continued to be the top Internet connection of choice used by 93% of resident households, about 14 percentage-points jump from 2017. The proportion of households using wireless mobile broadband decreased by 9 percentage-points from 2017 to 8%, and this decrease could be due to the switch to fibre broadband (Chart A3).

Chart A3: Type of Internet Connection within Households[2], 2016 – 2018

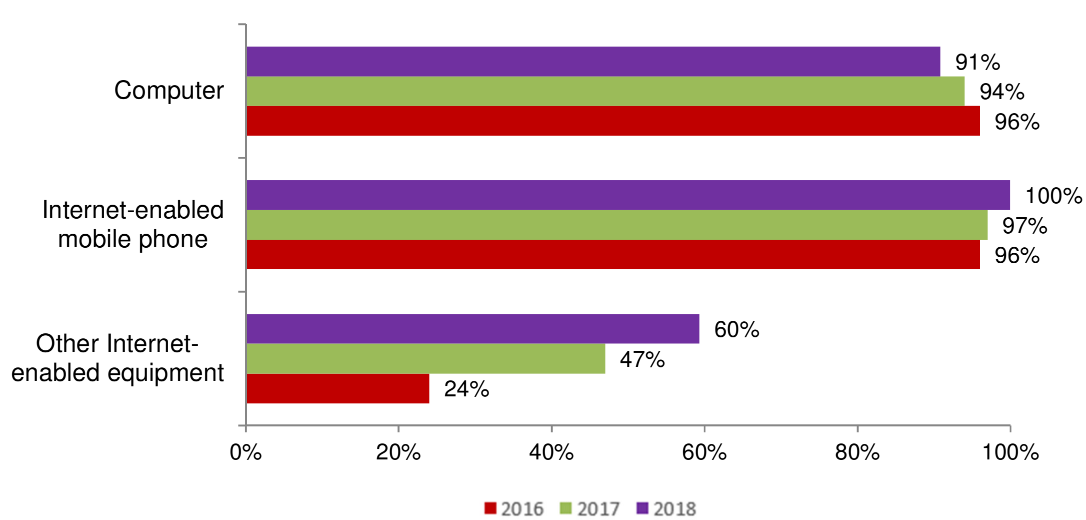


Base: Resident households with Internet access at home
(via cable modem, wireless broadband and fibre broadband)

Internet enabled phones replaced computers for the second consecutive year as the top equipment of choice for accessing internet at home

In 2018, about 100% and 60% resident households reported using an Internet-enabled mobile phone and other internet-enabled equipment (e.g. Game console with internet connection, Smart TV, internet-enabled MP3/MP4 and Network Attached Storage) to access the Internet at home respectively (Chart A4). The increasing usage of internet-enabled mobile phones over the years has resulted in the replacement of computers as the top choice of equipment for assessing internet at home.

Chart A4: Equipment Used to Access to the Internet at Home, 2016 – 2018



Base: Resident households with Internet access at home

[2] Please note that some households may have more than one type of broadband connection at home.

"Lack of interest/no need to use" and "lack of knowledge/skills/confidence" remained the top two reasons for households without internet access over the last three years

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 2018. Similarly, they were the most commonly cited reasons by non-Internet users in 2016 and 2017. (Table A2).

Table A2: Main Reason for not Having Internet Access at Home, 2016 – 2018

No.	Main Reason	2016	2017	2018
1	Lack of interest/No need to use	65%	64%	62%
2	Lack of knowledge/skills/confidence	12%	16%	27%
3	Costly equipment costs	6%	5%	5%
4	Have access to Internet elsewhere	5%	9%	1%
5	Subscription to the Internet is too costly	1%	3%	1%

Base: Resident households that did not have access to internet at home

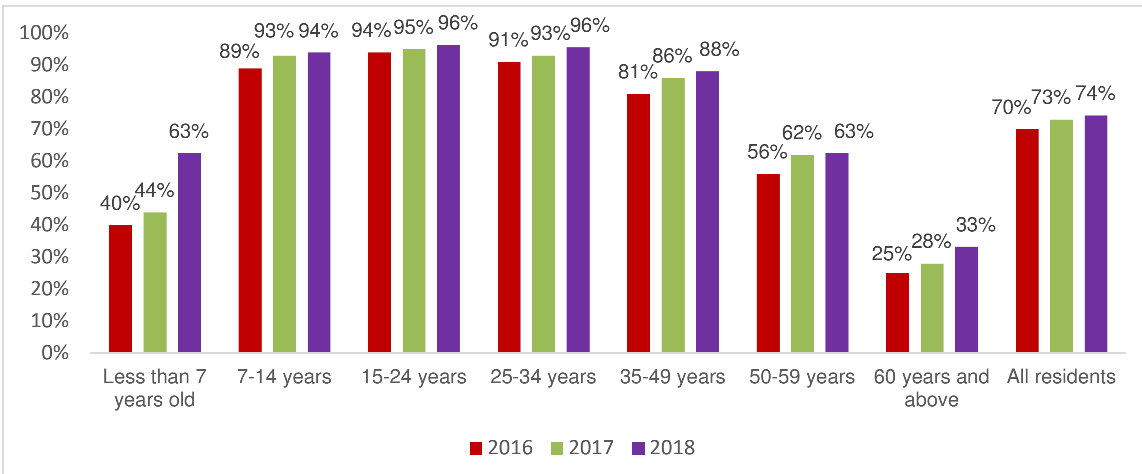
B. Recent Computer and Internet Usage by Individuals

Slight increase in computer usage rates by residents from 2017

In 2018, about 74% of residents used the computer in the last three months (defined as computer users) with higher proportion of usage reported by younger residents aged 7-34 years old. (Chart B1).

Between 2017 and 2018, there were slight increases of 1-2 percentage-points in computer usage by individuals aged 7-59 years old. Larger jumps of 19 and 5 percentage-points in computer usage were seen among individuals aged less than 7 years old and 60 years and above respectively.

Chart B1: Proportion of Computer Users by Age Group, 2016 – 2018



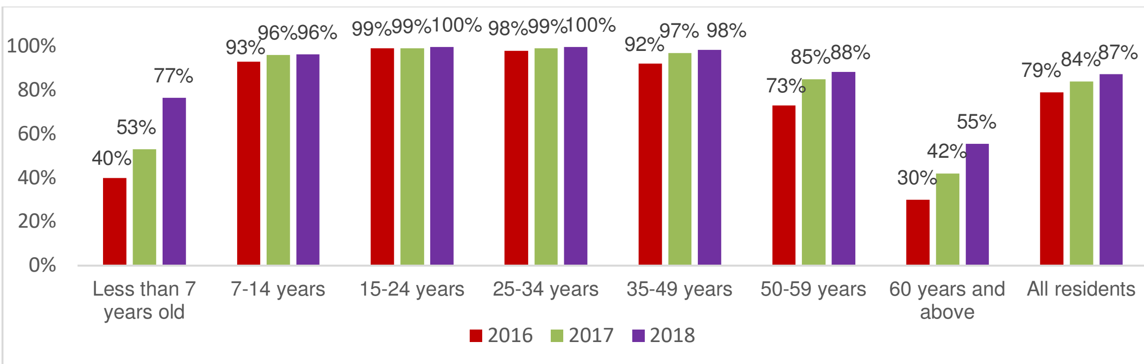
Base: Residents who used the Computer in the last three months.

Internet usage rates rose significantly from 2016, especially among young children and senior citizens

In 2018, about 87% of residents used the Internet in the last three months (defined as Internet users) and almost all residents aged 7-49 years old were internet users. The proportion of internet users across age groups in 2018 increased when compared to 2017.

Between 2017 and 2018, the greatest increases of 24 and 13 percentage-point in Internet usage were reported for the youngest and oldest groups, aged less than 7 years old and 60 years and above, to 77% and 55% respectively (Chart B2).

Chart B2: Proportion of Internet Users by Age Group, 2016 – 2018

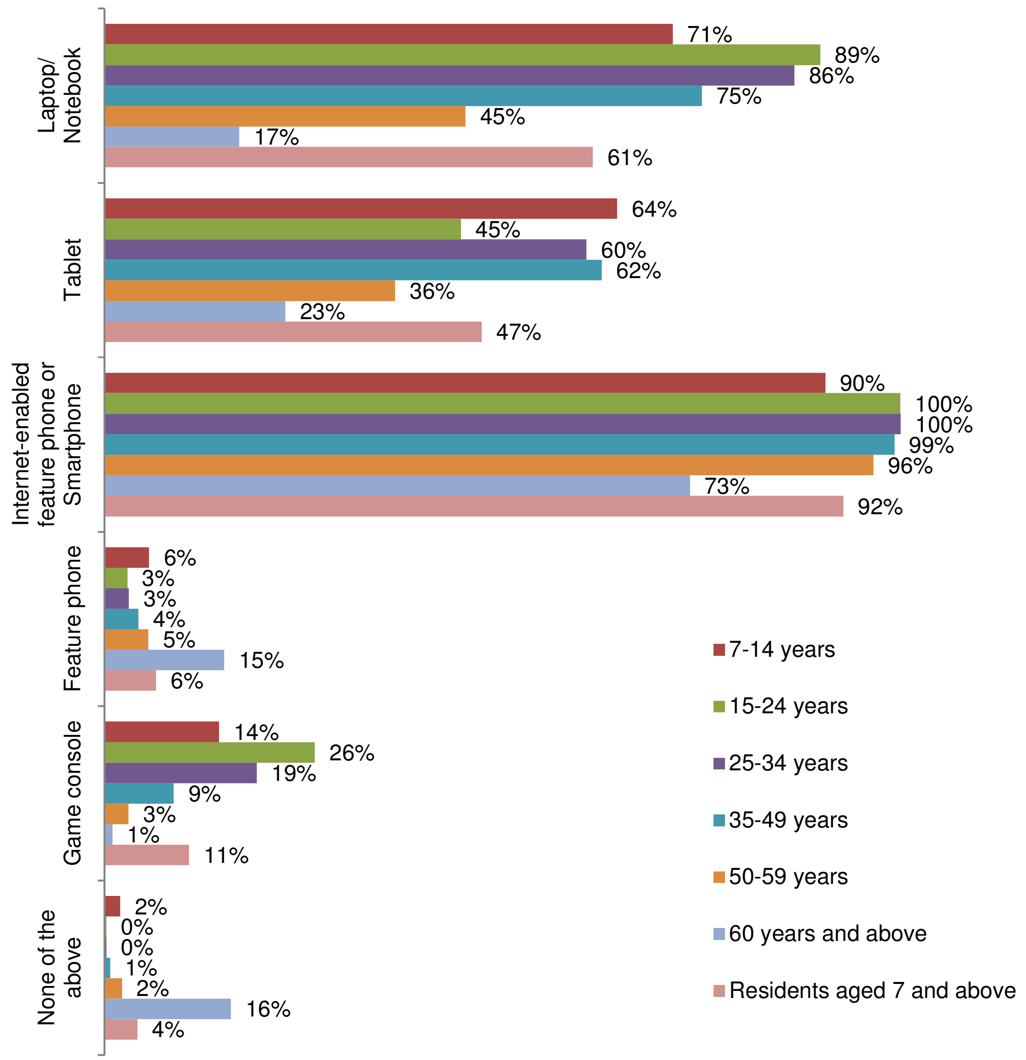


Base: Residents who used the Internet in the last 3 months.

Significant growth in senior citizens using smartphone to access the Internet

In 2018, 96% and 73% of senior citizens aged 50 to 59 years, and 60 years and above respectively used an Internet-enabled feature phone or smartphone in the past three months. This represented an increase of 8 and 17 percentage-points for the two age groups respectively from 2017 (Chart B4). The highest smartphone usage was among residents aged 15 to 49 years old (99-100%).

Chart B3: Portable Equipment Used by Age Group, 2018

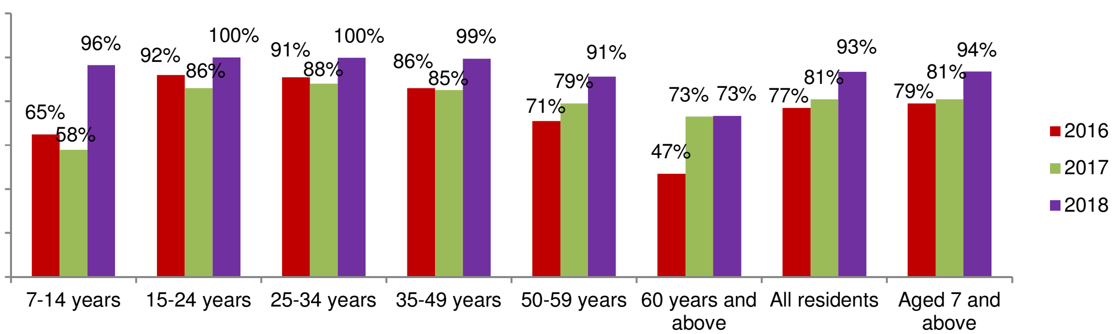


Base: Residents aged 7 and above

Significant growth in senior citizens using portable infocomm equipment to connect to the Internet wirelessly in 2018, when compared to 2016

In 2018, among residents who had used portable infocomm equipment in the past three months, 91% and 73% of those aged 50 to 59 years, and 60 years and above, respectively, connected to the Internet wirelessly (Chart B4). This was an increase of 20 and 26 percentage-points increases compared to 2016 where the proportions were 71% and 47% respectively. Another group that witnessed significant growth was the 7-14 years old, with a 31 percentage-points increase to 96% in 2018.

Chart B4: Portable Equipment Used to Connect to the Internet wirelessly by Age Group, 2016-2018



Base: Residents of aged 7 and above who had used a portable equipment in the past 3 months.

Lack of knowledge, skills or confidence was still the top reason cited by non-internet users in 2018 (Table B1)

Table B1: Main Reason for not using Internet, 2016 – 2018

No.	Main Reason	2016	2017	2018
1	Lack of knowledge /skills / confidence	**71%**	**77%**	**60%**
	Do not know how to use computer, internet-enabled feature phone	39%	47%	53%
	Do not know how to use the internet	26%	23%	-
	Lack of confidence	2%	2%	3%
	Language skills are inadequate	4%	5%	3%
2	Too old to learn	**14%**	**14%**	**8%**
3	Not interested / No need to use	**16%**	**9%**	**27%**
4	Concerns about costs and risks of use	**-**	**-**	**5%**

Note: "*Do not know how to use the internet*" was removed in 2018; "*Concerns about costs and risks of use*" was newly added in 2018

Base: Residents who had never used the internet before

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

The top three primary Internet activities[3] of Internet users, consistently over the last three years, were related to communication, leisure activities and getting information (Table B2). The range of increase in the proportion using Internet for the top 10 activities was 1-7 percentage-points.

Table B2: Primary Internet Activity Groups of Internet Users, 2016 – 2018

Primary Internet Activity Group	Residents aged 7 and above		
	2016	**2017**	**2018**
Communication	91%	94%	95%
Leisure Activities	84%	90%	91%
Getting Information	79%	84%	85%
Online Banking	51%	59%	60%
Purchasing or ordering goods or services	37%	55%	60%
Dealing with government organisations / public authorities	34%	44%	45%
Education or learning activities	21%	24%	26%
Creating Content	23%	26%	26%

Base: Internet users aged 7 and above who had used the internet in the past 3 months

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

Using instant messaging was the top mobile online activity for 2018.

In 2018, among online activities on mobile equipment, communication uses (using instant messaging, and using social networks) remained the top two activities (Table B3). Getting information or general web browsing was the third most conducted online activity,

Table B3: Top Ten Internet Activities on Mobile Equipment by Age Group, 2018

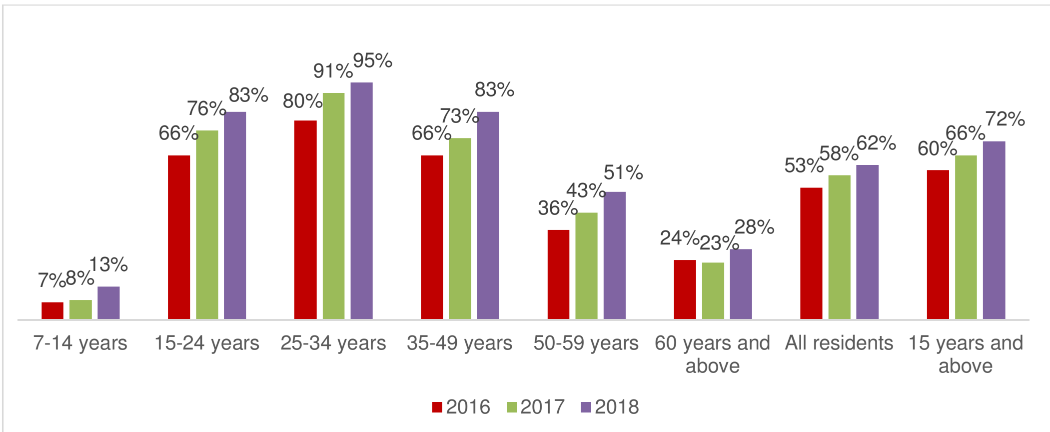
Activity	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	All age groups
Instant messaging	57%	92%	99%	97%	88%	78%	88%
Social networks	52%	91%	90%	82%	64%	50%	75%
Other information or general Web browsing	44%	84%	86%	85%	65%	46%	72%
Sending or receiving emails	29%	81%	85%	81%	55%	37%	66%
Downloading or watching movies, short films or images	64%	79%	70%	65%	52%	45%	63%
For purchasing or ordering goods or services or making transactions	8%	76%	92%	77%	45%	25%	60%
Telephoning over the Internet (VoIP) - Voice (e.g. Skype, Viber, Whatsapp)	38%	70%	66%	66%	46%	42%	57%
Checking account information	2%	59%	82%	74%	49%	28%	56%
Reading online news	17%	57%	70%	65%	49%	39%	54%
Looking for directions	16%	63%	70%	67%	47%	29%	53%

Base: Residents aged 7 and above who had used mobile equipment in the past 3 months

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

In 2018, seven in ten Internet users aged 15 and above who used the Internet in the past three months had made an online purchase before (defined as online shoppers). In the last three years, the highest proportions of online shoppers came from Internet users in the age groups 25-34 years, followed by 15-24 years and 35-49 years (Chart B5).

Chart B5: Online Shoppers by Age Group, 2016 – 2018

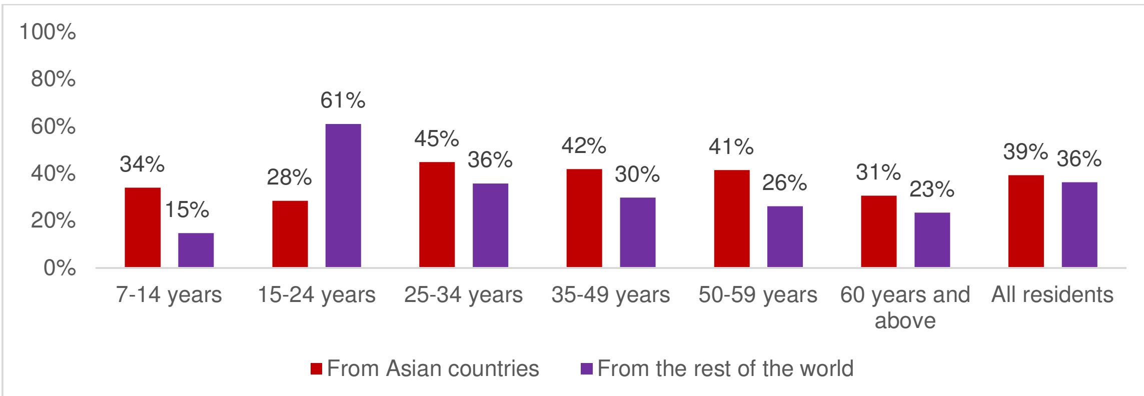


Base: Internet users aged 7 and above who used the Internet in the last 3 months

Most online shoppers purchased goods or services from sellers not located in Singapore - 39% from other Asian countries, and 36% from the rest of the world.

In 2018, 39% of individuals who ordered goods or services over the internet chose sellers located in other Asian countries, against 36% from those located in the rest of the world. However, this was reversed in those aged 15 to 24 years, where they preferred to buy from sellers from rest of the world. (Chart B6).

Chart B6: Cross-border online purchases by Individuals, 2018



Base: Online shoppers aged 7 and above who had made at least one online purchase in the past 3 months

Apparel, travel products and tickets for entertainment events were the three most popular items purchased online consistently in the last three years

The three most popular items bought online for private purposes in the past three months were clothing, footwear, sporting goods or accessories (68%) followed by travel products (39%), food and groceries (33%) and tickets for entertainment events (33%) (Table B4).

Table B4: Top Ten Goods or Services Purchased Online by Age Group, 2018

Items	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	78%	76%	71%	66%	63%	49%	68%	68%
Travel product(s) (e.g. air ticket, accommodation, vehicle hire)	0%	21%	41%	44%	45%	47%	39%	39%
Food or groceries	35%	22%	37%	36%	35%	30%	33%	33%
Ticket(s) for entertainment event(s) (e.g. cinema, theatre, concert, sports game)	22%	27%	38%	42%	17%	5%	33%	33%
Household or electronic items (e.g. air cleaner, vacuum cleaner, speakers)	8%	12%	24%	28%	25%	26%	24%	23%
Computer equipment or parts (including peripheral equipment, such as harddrive, mouse, screen/monitor)	15%	13%	15%	13%	11%	7%	13%	13%
Computer or video games (in digital form)	15%	19%	14%	6%	8%	8%	11%	11%
Booking(s) for sports facility	22%	13%	13%	9%	7%	4%	10%	10%
IT and telecommunication services (excluding software)	0%	8%	13%	12%	5%	4%	10%	10%
Books, magazines, newspaper (in physical form)	15%	11%	11%	8%	8%	7%	10%	10%

Base: Online shoppers aged 7 and above who had made at least one online purchase in the past 3 months

Eight in ten online shoppers paid for online purchases using credit cards

Credit card payment was the preferred choice of payment for goods or services purchased online, accounting for 78% of the overall online shoppers in 2018 (Table B5). This was followed by payment via Direct debit and mobile wallet, accounting for 25% and 16% of the overall shoppers respectively.

Table B5: Payment Methods for Goods or Services Purchased Online by Age Group,2018

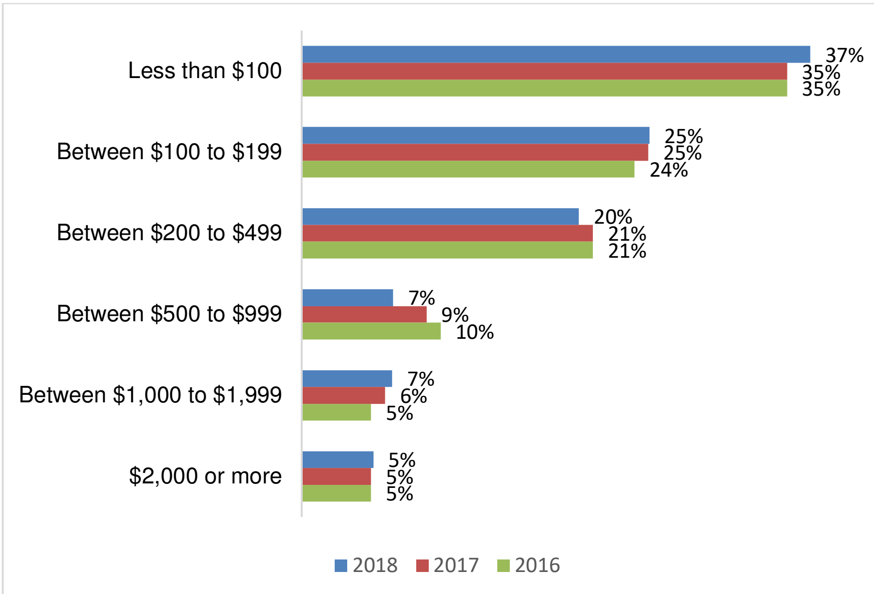
Payment Method	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	15 years & above	All age groups
Credit cards	50%	55%	82%	86%	84%	83%	79%	78%
Direct debit / Pay using bank account	7%	45%	28%	18%	14%	18%	26%	25%
Mobile Wallet (e.g., PayPal, Starhub's SmartWallet, DBS' Paylah)	30%	15%	20%	15%	17%	9%	16%	16%
Cash on delivery	35%	24%	15%	14%	11%	7%	16%	16%
Internet fund transfer	7%	14%	15%	20%	12%	6%	15%	15%
Peer-to-peer fund transfer (e.g., PayNow, DBS' Paylah, OCBC Pay Anyone, Singtel/Standard Chartered's Dash)	7%	16%	15%	10%	10%	3%	12%	12%
eNETS virtual account	0%	4%	12%	6%	3%	1%	7%	7%
Payment using mobile phone or through the telecommunication bills	7%	2%	5%	3%	2%	3%	3%	3%
Gift-cards	7%	2%	1%	0%	0%	0%	1%	1%

Base: Online shoppers aged 7 and above who had made at least one online purchase in the past 3 months

Around 6 in 10 of online shoppers spent at least $100 in the past three months on online purchases

In 2018, around 64% of the online shoppers spent at least $100 in the past three months on their online purchases (Chart B7). This was similar to the finding in 2017.

Chart B7: Value of Online Purchases, 2016 – 2018

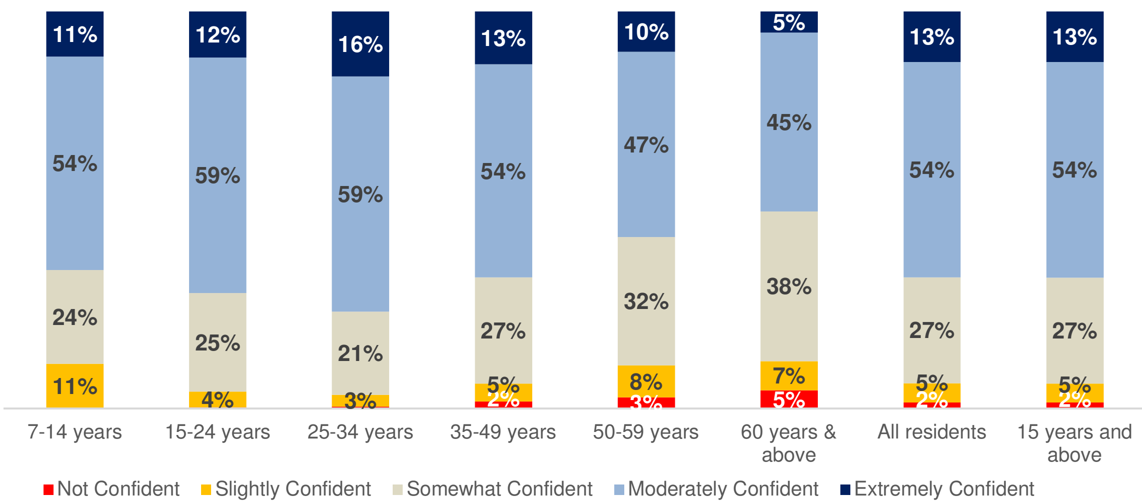


Base: Online shoppers aged 15 years and above who had made at least one online purchase in the past 3 months.

Higher confidence seen among younger residents in making online transaction

In 2018, around two-thirds (67%) of residents were extremely and moderately confident when making online transactions. The highest confidence was seen among the 25-34 years old (75%) while for the 60 and above, it was the lowest (50%).

Chart B8: Level of Confidence in Online Transactions, 2018

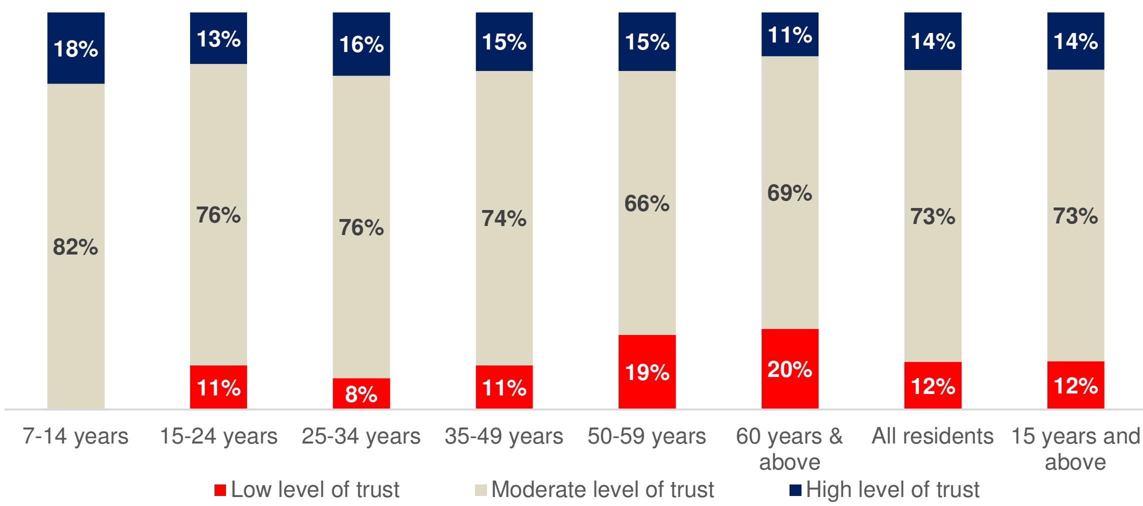


Base: Residents aged 7 and above who had made at least one online transaction in the past 3 months

Around 9 in 10 trusted that their privacy will be respected when performing online transactions

In terms of the level of trust that their privacy will be respected when performing any online transactions over the Internet, 88% of residents indicated moderate and high levels of trust. Particularly, all of those aged 7 to 14 years old indicated moderate and high levels of trust. In contrast, residents aged 50 and above indicated low level of trust that their privacy will be respected.

Chart B9: Level of Trust that Privacy will be respected when Performing Online Transactions, 2018



Base: Residents aged 7 and above who had made at least one online transaction in the past 3 months

Although card payment through terminals such as NETS and CEPAS terminals were the most common e-payment modes, use of other modes like mobile wallets and funds transfer is gaining popularity

In 2018, around 67% of the residents used NETS payment. Around 9 in 10 of those aged 25 to 49 years old used NETS payment. The next most common e-payment mode was CEPAS (66%) – around 8 in 10 of those aged 15-24 years old used it.

Table B6: E-Payment Adoption Rate, 2018

E-payment	Less than 7 years old	7-14 years	15-24 years	25-34 years	35-49 years	50-59 years	60 years & above	15 years & above	All age groups
NETS (E.g. ATM card)	0%	6%	79%	90%	89%	82%	53%	78%	67%
CEPAS (E.g. EZ-Link, NETS Flashpay, concession card)	13%	53%	83%	72%	69%	72%	64%	71%	66%
Credit/Debit Card (E.g. VISA, MasterCard, American Express) via online/Internet payment	0%	7%	63%	88%	80%	47%	19%	59%	51%
Credit Card(E.g Visa, MasterCard, American Express) via card payment on terminal	0%	2%	43%	84%	81%	52%	28%	59%	50%
Other card payment on terminal (E.g. Kopitiam, Food Junction)	0%	17%	44%	48%	50%	47%	38%	45%	40%
Bank account transfer (E.g. FAST, PayNow) via online/Internet payment	0%	1%	57%	75%	62%	30%	10%	46%	39%
Bank account transfer (E.g FAST, PayNow) via mobile app	0%	1%	58%	72%	53%	26%	9%	42%	36%
Bank Debit (E.g. eNETS)	0%	1%	47%	63%	49%	21%	9%	37%	31%
Online Payment Service (E.g Alipay, WeChat Pay, Paypal)	0%	1%	18%	36%	31%	11%	3%	20%	17%
QR Code (E.g. NETS QR, LiquidPay, FAVEPay, GrabPay, DBS PayLah, Singtel Dash, OCBC Pay Anyone	0%	1%	32%	33%	25%	8%	4%	19%	17%
NFC - Near Field Communication (E.g. Samsung Pay, Android Pay, Google Pay, Apple Pay)	0%	1%	20%	23%	13%	5%	2%	12%	10%

Base: All residents (excluded those who don't know)