Senior Surfers

Diverse levels of digital literacy among older Australians

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National Seniors AUSTRALIA

Executive Summary

Background and purpose

Digital literacy was a prime focus for the 2018 National Seniors Social Survey for two reasons: firstly, as a follow-up to previous findings in the 2017 report *Bridging the Digital Divide*, and secondly, as an integral part of a broader investigation of aged care literacy, given that aged care access increasingly requires interaction with technology.

Participants' responses revealed diversity in terms of ability, comfort and attitudes engaging in an online world. As a contrast to negative stereotypes of digitally disengaged older Australians, this study contributes to a more comprehensive understanding of senior engagement with digital technology in its representation of the considerable heterogeneity among older Australians in their digital interactions.

Data and Methods

The National Seniors study reported here was an online survey that collected data from Phase 2 of the National Seniors Social Survey (NSSS) (Wave 7) conducted between 14 February 2018 and 29 April 2018.

A total of 47,280 National Seniors members residing in all states and territories of Australia with an email address were invited to complete the survey, with the survey link being accessible to anyone from the general public who was willing to participate. The survey was also made available to members wishing to complete it on paper. A total of 5447 surveys were completed, with 29 completed on paper and included in the sample. Total responses from non-members was 142 or 2.6 per cent.

Key Findings

The study analysed results of an online survey and found that, within a digitally literate cohort, diversity exists in terms of participants' use of, and attitudes towards, technology in their daily lives. This diversity is often overlooked when blanket statements are made about seniors (as a homogeneous group) getting left behind in a digital divide.

To reflect the diversity in how participants engaged with digital technologies, participants who responded similarly to the digital literacy questions were grouped into Senior Surfer categories. These categories were based on:

- Number of years using the internet;
- Averaged ability score across 5 questions;
- Averaged comfort score across 4 questions;
- Averaged frequency of use score across 5 questions;
- Quartiles of number of apps used.

Scores for the above were added and then cut-offs were applied to obtain the following categories, reported along with their frequencies:

Super Surfers	Surfers who are very comfortable using digital technology in their everyday lives.	**31.4%**
Savvy Surfers	Surfers who are also very comfortable using digital services but perhaps might not use them as often or have some areas with which they are not so comfortable.	**41.6%**
Sometimes Surfers	Surfers who use digital technology as necessary but are not always comfortable or proficient.	**21.8 %**
Seldom Surfers	Surfers who can use the internet and digital technology but rarely do and likely prefer other methods of interaction.	**5.2%**

Our main findings, represented in the report as headings with supporting data below, were that:

1. Many older Australians are using digital technology in their everyday lives
2. There are varying levels of proficiency among older Australians who are already online
3. Comfort levels vary depending on the technology
4. Senior Surfers are not all the same
5. Attitudes to digital services vary among Senior Surfer groups
6. Senior Surfers are developing resilience to scams
7. Digital disengagement does not necessarily mean digital illiteracy.

Conclusion

This study provides evidence of a digitally literate cohort comfortable using a range of digital technologies on a regular basis. While the issue of a digital divide remains relevant to this population, it is also important to acknowledge that reductionist stereotypes of all older Australians being left behind by technology are not only harmful but also unfounded. In the words of one of our participants:

> *"Many of us are beyond good and would rate ourselves as excellent. The inference that seniors can only be 'good' in handling digital technology is an insult to your target audience."*

Moving forward, governments and other organisations providing services to older people need to recognise and allow for the fact that there is a wide variety of both skill and comfort levels, as well as willingness to engage, when it comes to online technology. Consulting older Australians in the planning, design and development of online services is recommended to encourage engagement among this demographic.

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INTRODUCTION

Background

This report builds on 2017 research by National Seniors Australia, *Bridging the Digital Divide*. Our prior study found that the National Seniors membership consisted of:

- A digitally literate cohort, who have email addresses, can complete an online survey, and who signalled daily computer use; and
- Another group who struggle with at least some aspects of digital change, have a great desire for computer training, and have cost issues with internet access and buying digital devices (McCallum, Rees, & Maccora, 2017).

Bridging the Digital Divide advocated for co-design of products and services with the senior Australians they are intended for, and for alternatives to the digital delivery of information and services to remain available. Other recent National Seniors studies have reported on the difficulties senior Australians experience when accessing digital services, including applying for the Age Pension (National Seniors & Retirement Essentials, 2018) and understanding aged care services (Rees, Maccora, & McCallum, 2018).

While there tends to be a certain level of negativity and an abundance of unflattering stereotypes regarding the relationship between older Australians and technology, some of which are grounded in very real and troubling circumstances of exclusion, there are also positive signs. One encouraging statistic is that the number of Australians aged over 65 using the internet has been steadily increasing in recent Census years, with 46% of over-65s reported as internet users in 2012-13; 51% in 2014-15; and 55% in 2016-17 (Australian Bureau of Statistics, 2018). These figures are usually presented with a focus on the fact that older Australians have the lowest proportion of internet users among all age groups, however the positive fact is that there is growth.

There is evidence that a proportion of older Australians are digitally literate and managing very well in online environments. A 2018 report for the Office of the eSafety Commissioner, *Understanding Behaviours of Older Australians*, found that less than one-in-ten were digitally disengaged (non-internet users without access to any digital devices at home), three-in-ten were highly literate, three-in-ten were moderately literate and over one-quarter had low digital literacy (Office of the eSafety Commissioner, 2018). The digitally disengaged tended to be over age 70, and on low incomes. Those with low literacy were more willing to learn and improve their skills than the digitally disengaged, but both these groups worried about their security online, rarely took part in social media, and had a preference for face-to-face interaction.

Purpose

The aim of this current study was to contribute to a more comprehensive picture of senior engagement with digital technology and to represent the considerable heterogeneity among older Australians who are interacting with the online world. Acknowledging that there are digitally literate seniors who are very proficient using a range of technologies is an important step towards challenging negative stereotypes of older people in Australian society.

METHODOLOGY

Participants

The 5446 participants included in this study were respondents to the National Seniors Social Survey Wave 7. All participants were aged 50 or over; all states and territories of Australia were represented among participants; and 57% of participants were female. For more detail of the demographic characteristics of survey participants, with both a comparison to census data and survey participation in previous years, see Appendix A.

Sample

An email invitation to the survey was sent to approximately 47,280 National Seniors members Australia-wide. Members were invited to complete the survey themselves or to share the link with any family or friends aged over 50. A total of 5446 responses were received, of which 142 (2.6 per cent) were from non-members.

Survey instrument

The survey was administered online using the survey tool SurveyMonkey. Participants received a general, non-personalised link to the survey via email, which meant that it could be shared or re-used. Multiple responses from the same IP address were permitted, but duplicate responses from the same IP address with identical data were excluded from analyses.

Survey responses were collected between 14 February and 29 April 2018.

Variables of interest

The Social Survey itself included demographic questions as well as sections on aged care at home, aged care literacy, digital literacy and finances in retirement. The data for this survey came from demographic questions and the responses to the digital literacy component. Of particular interest were questions relating to:

1. Years using the internet
2. Devices used to access the internet
3. Frequency using technology
4. Comfort using technology
5. Ability using technology
6. Attitudes towards using technology

Analysis

The software package Stata v15.1 was used for all analysis. Cross-tabulation of responses was used to generate descriptive statistics for all variables and chi-squared and t-tests were used to measure the strength of evidence for any associations between variables. Latent class analysis was also performed to inform the Senior Surfer categories, using Stata's *gsem* function and chi-squared tests and logistic regression were then used to measure associations between demographic variables and Super Surfer categories.

Development of the Senior Surfer categories

Patterns in responses were analysed in order to group participants in terms of their digital literacy and each participant was given a Senior Surfer categorisation. Senior Surfer categorisations were unweighted, based on a simple addition of responses to questions relating to frequency, comfort, and ability using various digital technologies.

Latent class analysis

To inform appropriate cut-offs for categorisation, a statistical technique known as latent class analysis was used to categorise participants according to their responses. This technique uses patterns of responses to particular questions in order to group participants into mutually exclusive classes.

Models were tested with two to five groups, to see which provided the best fit to the data. A four-group model offered the best fit with the most sensible allocation of participants to classes (a five-group model had only 2 percent of participants in one of the classes so was considered impractical. For information on model fit, refer to Appendix B.)

Senior Surfer Scoring

The Senior Surfer categorisations were based on five components, all scored 0-3:

1. Number of years using the internet, scored as:
   0=0 years; 1=1-9 years; 2=10-19 years; 3=20+ years

2. Averaged ability score across 5 questions (using word, online info, email, banking, smartphones), scored as:
   0=can't do this; 1=poor; 2=acceptable; 3=good

3. Averaged comfort score across 4 questions (self-service checkout, ATM, problem-solving tech issues, online shopping), scored as:
   0=not applicable; 1=not comfortable; 2=somewhat comfortable; 3=very comfortable

   Note that online dating was not included due to the high proportion who answered "Not Applicable" for this option (>85%).

4. Averaged frequency of use score across 5 questions (internet use, online banking, government services, texting, Facebook), scored as:
   0=rarely or never; 1=at least once a month; 2=at least once a week; 3=at least every day

   Note that frequency using LinkedIn was not included due to the high proportion who said "Rarely or Never" for this option (>85%)

5. Quartiles of numbers of apps used, which equated to the following scores:
   0=0 apps used; 1=1-4 apps used; 2=5-6 apps used; 3=7+apps used.

Scores for all five components were added together to create an overall Senior Surfer score.

Senior Surfer cut-offs

Cut-offs for Senior Surfer groups were applied to the overall Senior Surfer score to make group sizes as similar to the latent class model as possible. Senior Surfer scores were divided into four categories to represent four different levels of digital literacy:

- Super Surfers scoring above 12 and up to 15
- Savvy Surfers scoring above 9 and up to 12
- Sometimes Surfers scoring above 6 and up to 9
- Seldom Surfers scoring 0 to 6.

A total of 4574 participants were categorised into a Senior Surfer group. Not all NSSS 2018 participants could be categorised, as eligibility depended on answering all of the digital literacy questions.

Ethics

The study was approved by the Bellberry Human Research Ethics Committee of South Australia on 31 January 2018, application number 2017-12-981.

Findings

1. Many older Australians are using digital technology in their everyday lives

A total of 5446 surveys were completed online for the NSSS, a response rate of approximately 11.5 per cent based on the number of members emailed a link to the survey, although this is difficult to measure given that the survey was open to anyone.

Completing the survey itself displays a considerable degree of digital literacy on the part of an individual, as it involved logging on to a computer, following an email link, responding to numerous questions in different formats (requiring checkbox or radio button selection and entering of free text), and navigating through multiple pages in a browser window. At 87 questions and an average time of 21 minutes to complete, it can be confidently said that survey respondents demonstrated a certain amount of digital resilience.

Frequency of use

Given that respondents were already digitally literate in that they were able to complete an online survey, they reported high usage of digital technology in their everyday lives.

- 70% of respondents use an internet search engine at least every day;
- Over 50% of respondents do online banking at least once a week;
- Almost 60% of participants text at least every day; and
- 40% of participants use facebook at least every day.

Accessing government services was less likely to be a part of participants' everyday lives, although more than half reported using government services online at least once a month. While almost 40 per cent use Facebook every day, another large portion of respondents, more than one-third, never use it. Few respondents used LinkedIn.

It is interesting to note the high activity of respondents aged 80+, who are usually described as left behind by these technologies. Over half of those 80+ who responded to this survey used an internet search engine every day and more than 50 per cent of these respondents did online banking at least once a week, if not daily. Over 30 per cent of the 80+ group text every day and nearly 20 per cent are on Facebook every day.

Figure 1: Frequency of engagement with digital technology (%) (NSSS Wave 7, 2018; N~=4950)

Frequency using an internet search engine
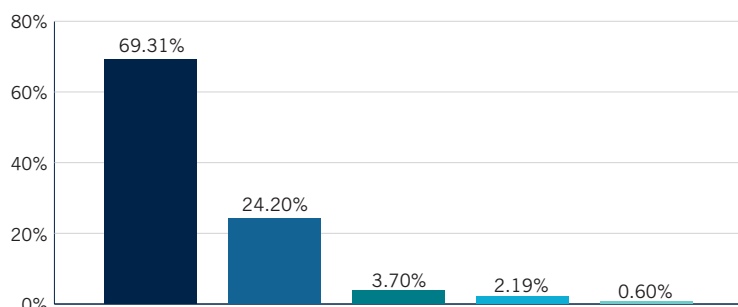
Who is using an internet search engine everyday?
50 – 59 years old **83.4%**
60 – 69 years old **75.5%**
70 – 79 years old **61.9%**
80+ years old **54.1%**

Frequency using Facebook

At least everyday	39.62%
At least once a week	13.24%
At least once a month	3.94%
Rarely	8.53%
Never	34.67%
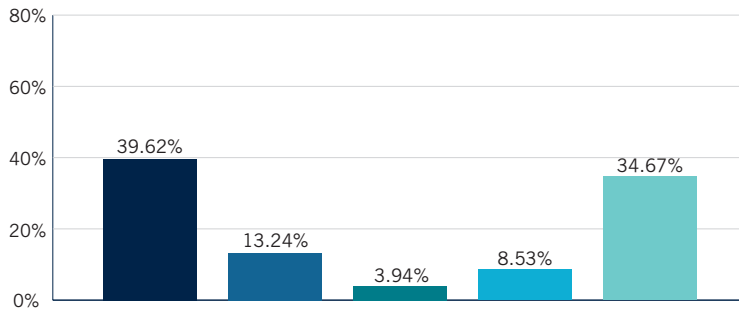
Who is using Facebook everyday?

50 – 59 years old **59.8%**
60 – 69 years old **47.1%**
70 – 79 years old **29.9%**
80+ years old **19.4%**

Frequency using LinkedIn

At least everyday	3.20%
At least once a week	6.04%
At least once a month	4.96%
Rarely	16.13%
Never	69.67%
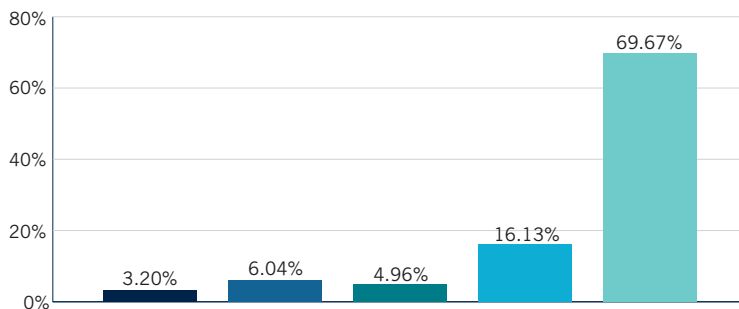
Who is using LinkedIn everyday or once a week?

50 – 59 years old **18.2%**
60 – 69 years old **10.7%**
70 – 79 years old **5.9%**
80+ years old **4.2%**

Frequency doing banking online

At least everyday	13.11%
At least once a week	52.25%
At least once a month	14.50%
Rarely	4.73%
Never	15.41%
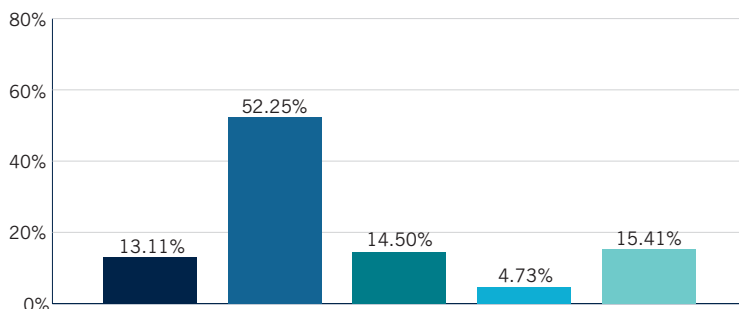
Who is doing online banking everyday or once a week?

50 – 59 years old **75.9%**
60 – 69 years old **70.5%**
70 – 79 years old **59.9%**
80+ years old **51.8%**

Frequency accessing government services online

At least everyday	1.96%
At least once a week	9.25%
At least once a month	29.46%
Rarely	46.88%
Never	12.46%
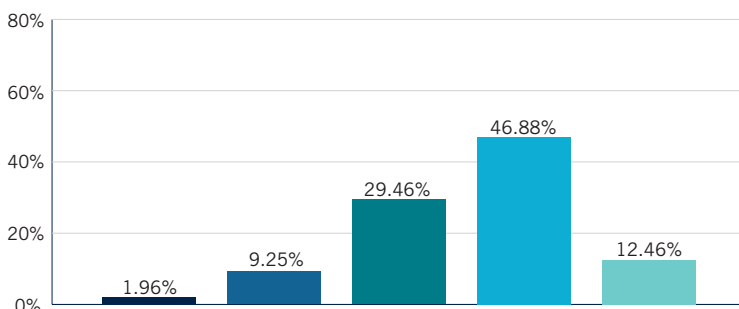
Who is accessing government services online everyday or once a week?

50 – 59 years old **16.2%**
60 – 69 years old **12.0%**
70 – 79 years old **9.5%**
80+ years old **8.18%**

Frequency sending a text

At least everyday	58.31%
At least once a week	24.21%
At least once a month	5.23%
Rarely	6.62%
Never	5.63%
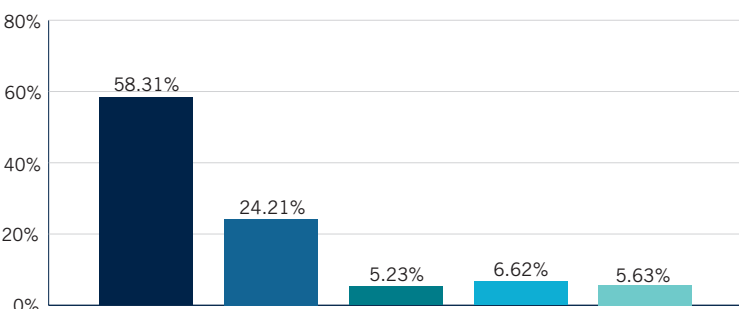
Who is texting everyday?

50 – 59 years old **77.2%**
60 – 69 years old **66.7%**
70 – 79 years old **49.8%**
80+ years old **31.6%**

Legend: At least everyday · At least once a week · At least once a month · Rarely · Never

Devices used in general

Contrary to popular belief that all older Australians are being left behind by advances in digital technology, particularly smartphones, this cohort showed a strong uptake of devices others than desktop computers to access the internet. In response to the general question: "What devices do you use to access the internet?", mobile phones were actually the devices with the highest reported use, with 68% of 4970 respondents to this question saying they use them for internet access.

Figure 2: Devices participants use to access the internet (NSSS Wave 7, 2018; N=4970)
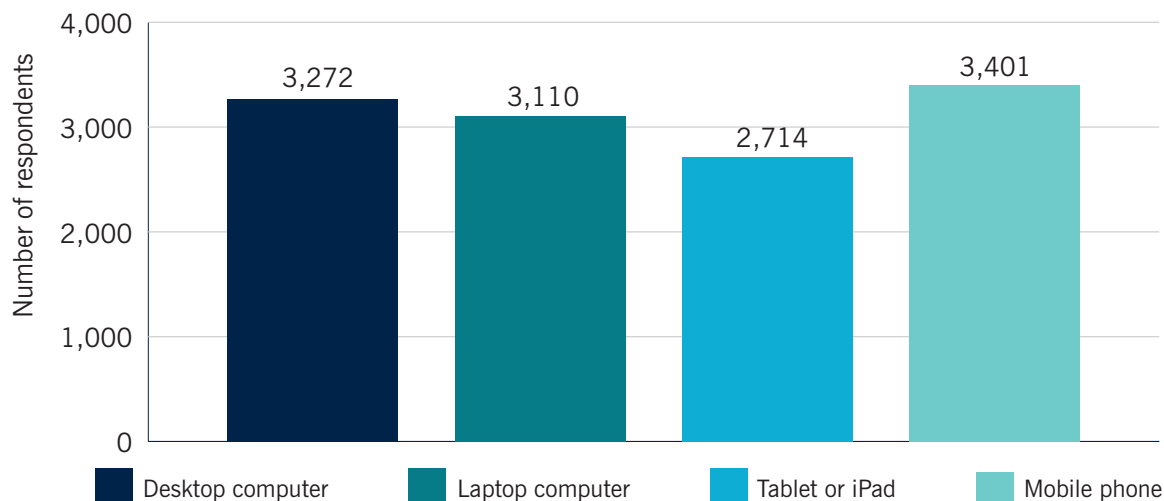
Devices used for survey completion

Desktop computers were the most frequently used device for completing the survey at 41 per cent, however laptops or notebooks and tablets were also used by many participants (29 and 18 per cent respectively). Around 10 per cent of participants completed the survey on a mobile phone. A total of 29 participants completed a paper survey and mailed it to the National Seniors research office.

Figure 3: How surveys were completed (%) (NSSS Wave 7, 2018; N=4963)
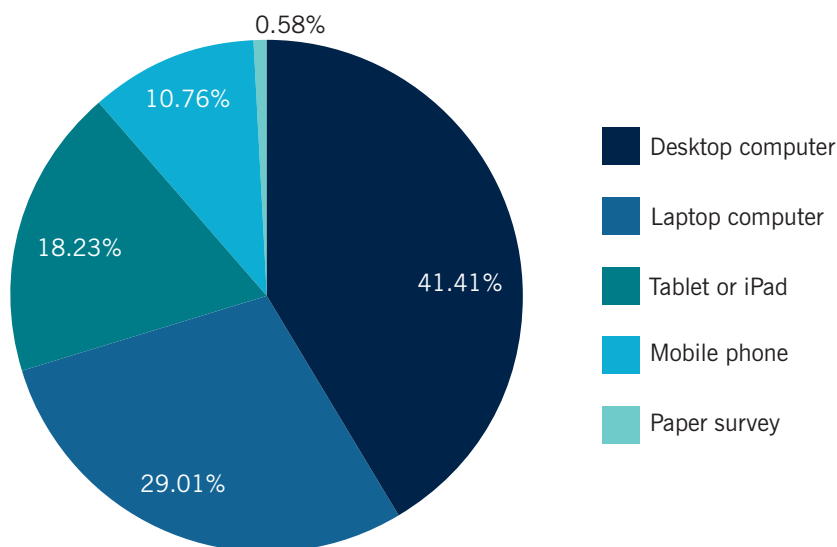
Age differences in devices used to complete the survey

Older participants were more likely to use a desktop computer than younger ones, and vice versa for tablets and mobile phones – younger participants were more likely to use these devices than older ones.

Figure 4: Breakdown of device used to complete survey by age group (%) (NSSS Wave 7, 2018)

50 – 59 years

	Desktop	Laptop	Tablet	Phone	Paper
	33%	26%	21%	20%	0%

60 – 69 years

	Desktop	Laptop	Tablet	Phone	Paper
	36%	30%	20%	14%	0.1%

70 – 79 years

	Desktop	Laptop	Tablet	Phone	Paper
	45%	30%	18%	7%	0.8%

80+ years

	Desktop	Laptop	Tablet	Phone	Paper
	59%	25%	11%	3%	3%
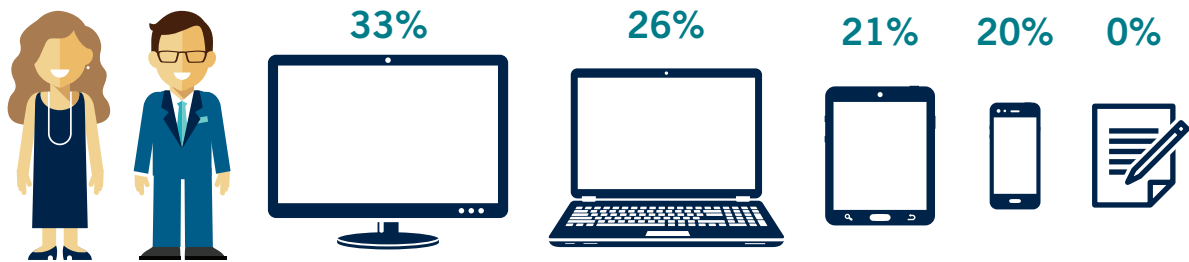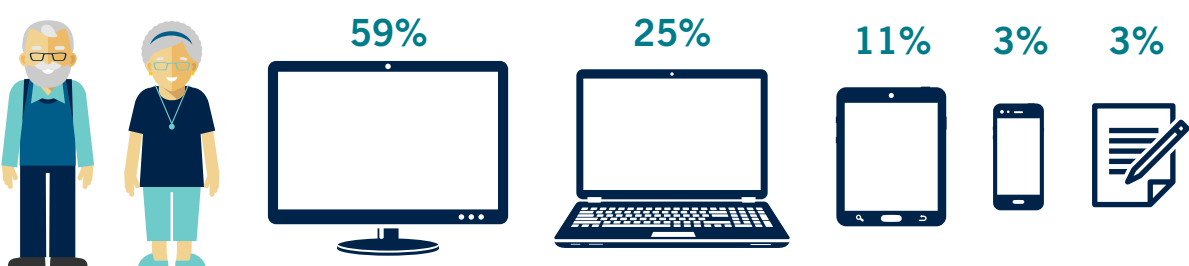
Gender differences in devices used to complete the survey

Men were more likely to use a desktop computer to complete the survey than women, whereas women were more likely to use a tablet or mobile phone than men.

Figure 5: Breakdown of device used to complete survey by gender (%) (NSSS Wave 7, 2018)

	50%	30%	12%	8%	0.5%
	35%	28%	23%	13%	0.7%
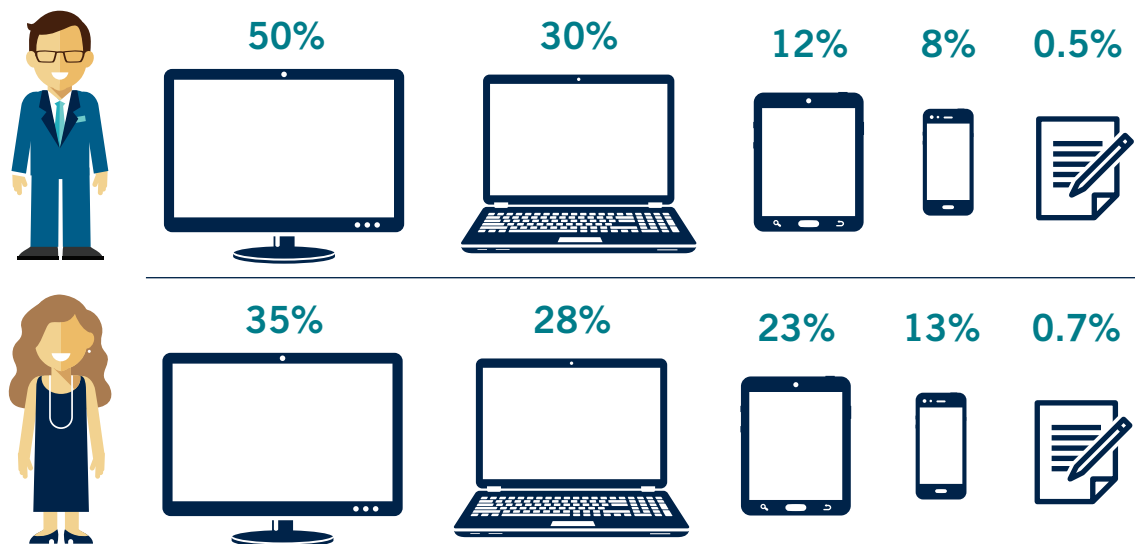
Use of apps

Again, defying stereotypes of older Australians being left behind by new technologies and ways of interacting, many survey respondents reported using smartphone apps in their everyday lives. Some apps, such as email and facebook, were more popular than others like Twitter and LinkedIn, however overall there was evidence of an embracing of this new technology among survey respondents.

Figure 6: Use of online apps (N) (NSSS Wave 7, 2018)

Number of participants using apps on a smartphone or tablet

Maps
Weather
Email
Facebook
Internet Banking
Skype
Music Apps
WhatsApp
LinkedIn
Instagram
Uber
Centrelink
Twitter
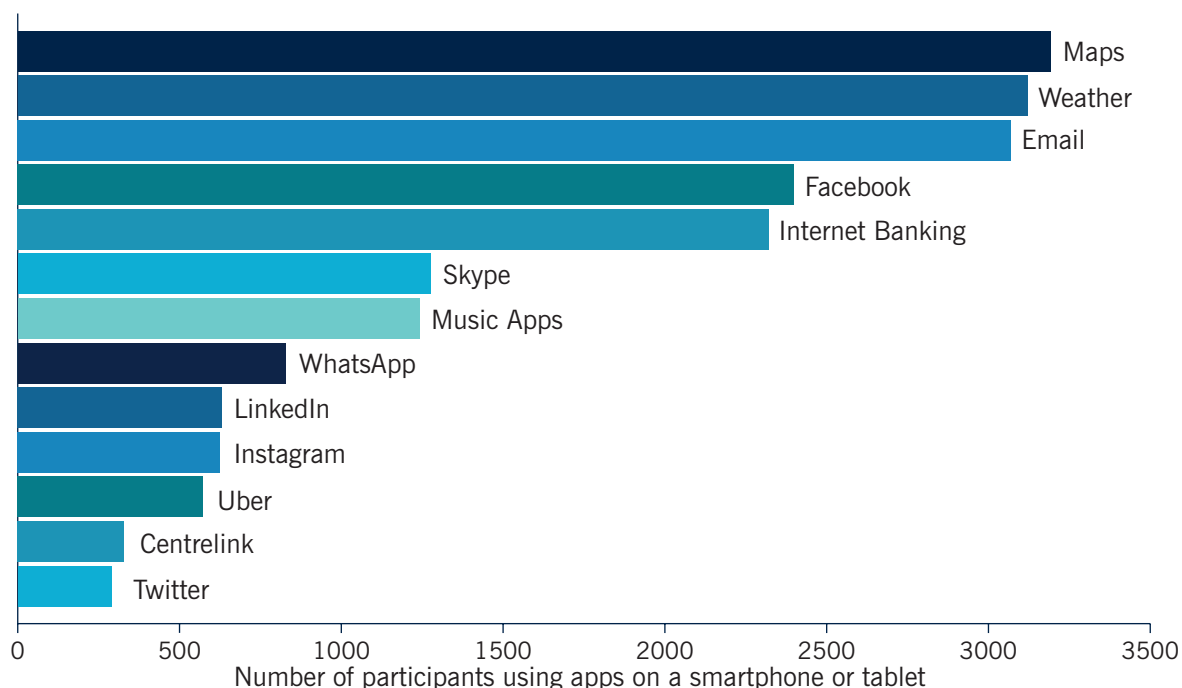
Just under 20 per cent of the sample said that they did not use apps on a smartphone or tablet at all. Interestingly, 153 of these then went on to select particular apps such as Weather and Maps that they do use on a smartphone or tablet. It may be that there is some confusion in terminology and technology in terms of when an app is being used or not. Although we did ask specifically if participants used these applications on a smartphone or tablet, some participants may have thought to select apps such as Facebook or email if they use them at all, regardless of whether they use them via a web browser or an app.

2. There are varying levels of proficiency using digital technology among older Australians who are already online

In terms of abilities using the internet and technology, the majority response was "good" for all questions. For all age groups, over 90% responded either "good" or "acceptable" for ability to find information online and email. There was more of an age gradient for using word processing software and doing internet banking or paying bills online, with the proportion of "poor" or "I can't do this" responses growing larger in the older age groups. Despite the fact that the most common device reported for accessing the internet was the mobile phone (Figure 3), the ability to use a smartphone received a lower rating of good compared to other digital activities.

Figure 7: Self-rated proficiency using digital technology (%) (NSSS Wave 7, 2018; N~=4950)

Word processing software like Microsoft Word

4.41%
6.48%
58.87%
30.53%

Age breakdown acceptable/good

91.7% 50 – 59
91.2% 60 – 69
88.5% 70 – 79
82.6% 80+

Finding information online

1.03%
2.52%
24.16%
72.29%

Age breakdown acceptable/good

97.4% 50 – 59
97.3% 60 – 69
96.1% 70 – 79
93.5% 80+

Emailing

1.04%
1.00%
14.75%
83.21%

Age breakdown acceptable/good

97.8% 50 – 59
98.1% 60 – 69
98.5% 70 – 79
95.6% 80+

Doing internet banking or paying bills online

9.75%
4.46%
13.95%
71.84%

Age breakdown acceptable/good

92.9% 50 – 59
88.9% 60 – 69
83.2% 70 – 79
74.2% 80+

I can't do this   Poor   Acceptable   Good

Using a smart phone

Age breakdown acceptable/good

89.5% 50 – 59
83.0% 60 – 69
70.1% 70 – 79
50.7% 80+

- I can't do this
- Poor
- Acceptable
- Good

3. Comfort levels vary depending on the technology

Responses to a question about how comfortable participants were using specific technologies revealed that, while technology may be an accepted part of everyday life for respondents, they report varying degrees of comfort depending on the particular technology.

Figure 8: Level of comfort using different technologies (%) (NSSS Wave 7, 2018; N~=4950)

Using self-checkouts at the supermarket

Age breakdown very/somewhat comfortable

82.3% 50 – 59
75.9% 60 – 69
67.6% 70 – 79
55.1% 80+

Using an ATM

Age breakdown very/somewhat comfortable

96.8% 50 – 59
94.7% 60 – 69
92.8% 70 – 79
86.0% 80+

Resolving minor issues with technical devices (e.g. computer, phone, TV)

Age breakdown very/somewhat comfortable

83.7% 50 – 59
81.1% 60 – 69
76.8% 70 – 79
71.3% 80+

Online dating

Age breakdown very/somewhat comfortable

9.7% 50 – 59
5.3% 60 – 69
3.3% 70 – 79
2.5% 80+

Online shopping

Age breakdown very/somewhat comfortable

77.3% 50 – 59
69.8% 60 – 69
55.2% 70 – 79
43.3% 80+

- Very comfortable
- Somewhat comfortable
- Not comfortable
- Not applicable

Using ATMs had the highest rating in terms of comfort using particular technologies, which is not surprising considering that the Commonwealth Bank of Australia introduced Autobank and Keycard in 1981. With increasing use of online banking and "tap and go" payments, it is worthy of note that banks are not only closing branches but also ATMs. Our findings suggest that this should be approached with caution, given that it takes time for individuals and societies to learn and adapt to new technologies, as we can see in the examples of online shopping and self-checkouts.

Online shopping has a lower comfort rating than using self-checkouts, and comfort drops significantly with age. Resolving minor issues is lower still, however adding together the ratings of very comfortable and somewhat comfortable reveals quite a high level of comfort. This may be a study limitation, with the range of technical devices respondents were asked about being wide.

In terms of differences between age groups, online shopping and use of self-checkouts had the largest range between comfort levels of the youngest age group (50-59) and the oldest (80+). Lowest spread between age groups occurred for online dating, with a very low comfort level for all ages, and for use of ATMs, with a very high comfort level for all ages.

Given the issues of loneliness and increasing rates of widowhood, separation and divorce as people age, it is also worth noting that a small of proportion respondents (144 participants) said they were very comfortable online dating. Of these, eight (five men and three women) were aged 80+. Of those who considered this question applicable, more were not comfortable online dating than very or somewhat comfortable (58.5% versus 24.8% and 16.7% respectively). This and the very large number of participants who considered this question not applicable suggests that there is not a large uptake of online dating in this group of over-50s, and for this reason this question was not included in the Senior Surfer score.

4. Senior Surfers are not all the same

The Senior Surfer index was developed to reflect the finding that not all older Australians are the same in terms of their approach to, and acceptance of, using technology in their daily lives.

As outlined in the methodology section of this report, respondents were grouped into one of the following four Senior Surfer categories:

Super Surfers	Surfers who are very comfortable using digital technology in their everyday lives.	**31.4%**
Savvy Surfers	Surfers who are also very comfortable using digital services but perhaps might not use them as often or have some areas with which they are not so comfortable.	**41.6%**
Sometimes Surfers	Surfers who use digital technology as necessary but are not always comfortable or proficient.	**21.8%**
Seldom Surfers	Surfers who can use the internet and digital technology but rarely do and likely prefer other methods of interaction.	**5.2%**

There is also a fifth category, "Stranded Surfers", who will be mentioned later in the discussion section, in recognition of the fact that there are many National Seniors members who are not online, for various reasons.

So what makes a Super Surfer?

Super Surfers were slightly more likely to be women than men. There were more Super Surfers in the younger age groups than the older age groups. The odds of being a Super Surfer was higher for participants with children, participants in good health, more highly educated participants and participants in paid work, as shown in the results of both the cross-tabulation of demographic variables with Senior Surfer status and the logistic regression model in Appendix C.

Those at risk of being a Seldom Surfer, in other words those who we might reasonably fear could be left behind in a digital divide, were more likely to be older, in poorer health and with less savings than other participants. Gender was not associated with being a Seldom Surfer, nor was having children or being employed, also seen in Appendix C.

Given that the chance of being a Super or Seldom Surfer seems strongly determined by some of these sociodemographic factors, target groups for training in digital technologies can be identified. Specifically, our research suggests that efforts should be directed to older groups who are limited in their access to technology, either due to factors related to poor health, or financial issues in terms of affordability of training and/or resources.

5. Attitudes to digital services vary among Senior Surfer groups

The utility and appropriateness of Senior Surfer categories became apparent when analysing attitudes to digital services. Trends emerged in responses to questions, showing that not all older Australians feel the same way about their lives being increasingly digitalised, and that responses do vary according to Senior Surfer categories.

There was an overwhelming response to the optional text box at the end of the digital literacy questions, with over 650 participants adding extra information to qualify their thoughts on these issues. Some interesting themes emerged from these comments, demonstrating that issues surrounding digital literacy are complex and nuanced. In this section, quantitative responses to statements are supported by qualitative comments from participants.

Feeling frustrated depends on skill levels

The majority of participants disagreed that they feel frustrated using digital technology. This depended heavily on Senior Surfer category: less than ten per cent of Super Surfers reported feeling frustrated using digital services, whereas almost 90% of Seldom Surfers agreed that they feel frustrated.

Figure 9: I feel frustrated using digital services

Pie chart data:
- 32.07% Agree (dark navy)
- 67.93% Disagree (teal)

Senior Surfer
breakdown - 'agree'
8.1% Super
26.9% Savvy
59.0% Sometimes
88.1% Seldom

■ Agree   ■ Disagree
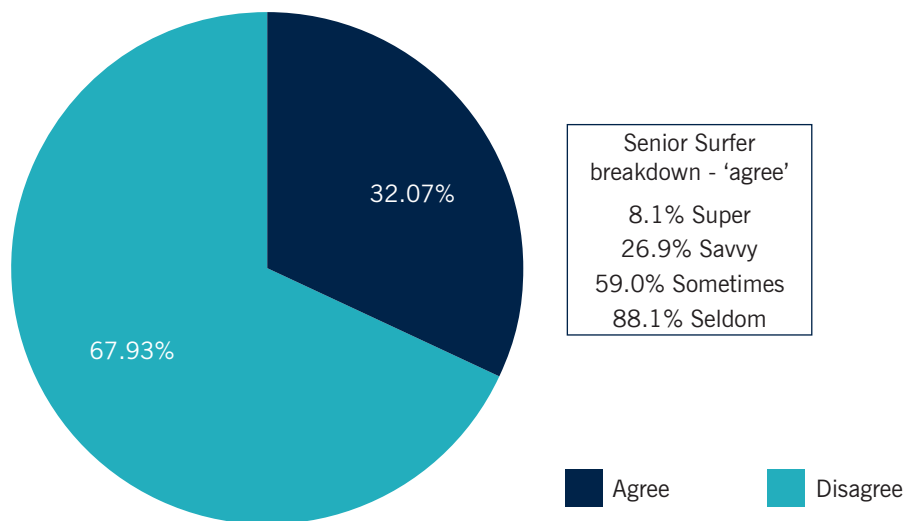
Some respondents were emphatic expressing their frustration about the impact of digital services on everyday life:

> *"If you ring some of the call centres about any number of things e.g. Virgin, Main Roads, Optus etc there are so many instructions listed that it makes me tear my heart out… Goodness knows how an 80 year old copes with these inefficient services."*

> *"All digital stuff is getting out of hand, I feel we do not need all this rubbish."*

> *"Digitalisation has been the biggest con of my generation. NO time is saved, lots of time is wasted, and the outcome of continual irritation is not good for one's health."*

> *"It annoys me so much seeing people out to dinner using their phones and ignoring each other. I also get frustrated with people out walking and not looking where they are going - I now stop in front of them till they look up!!! Also - annoyed by having to listen to very private conversations on public transport. Makes me sound like a grumpy old woman - but I'm not!!"*

Feeling forced to go online

Many participants protested the fact that they felt forced to interact online:

> *"A lot of activities are starting to be available online only e.g. some information requests result in being told "we don't have any brochures, go online".*

> *"I am fed up with businesses telling me to log into their website to look up information. I am not paid a salary to do their job."*

> *"I hate being forced to use the internet you cannot see the people you are dealing with and don't have proof of them being honest or wanting to help you."*

Government services that force seniors online were a particular focus for these protests:

> "Governments assume that putting something on a website amounts to informing the public. Forcing people to access services online is about cutting costs, not helping the public."

> "I feel technology advances too fast and my generation is being left behind. I find it frightening. It is unfair that we are expected to do everything on line, especially Centrelink, it is so confusing."

Some argued that it is a form of discrimination against older people:

> "Governments are trying to force older people to use technology many find difficult and expensive, rather than deal with human beings, in order to cut costs. There is absolutely no consideration of the difficulties faced by many elderly, such as deteriorating health, loss of dexterity, the difficulty of learning entirely new skills, particularly if there is little support and the unaffordability of equipment and the internet to name a few. Government attitudes border on age discrimination and cruelty."

> "I strongly resent govt services being available only online. A good number of seniors are disadvantaged and feel discriminated against."

> "Government should ensure that the aged segment of society is not left out. While I am digitally savvy to an extent, I was appalled when Centrelink told me that I was to upload documents and access my account on the mobile. I refused to do this as I fear I may make a mistake or put my privacy at risk. Centrelink and other government entities should not expect people of the age of 55 to be completely tech savvy. They need to cater to our needs."

> "The internal efficiency audit has become more important to business, industry and government departments through digitisation at the cost of effective service. 'Your call is important to us…' 'Thank you for your patience…' The implication is that their time is more important than yours because theirs is remunerated by the mighty dollar. Costs to consumers are more than monetary and the stress and frustration caused by dealing with governments agencies causes ill health including high blood pressure and depression. 'Efficiency' and 'effectiveness' should not be confused."

One respondent described her efforts to persist in the face of adversity:

> "I feel that so much is only available online & I don't know how to access it. I do try but have no family accessible to get quick , on the spot, answers to a small query. None of my friends even try to learn or give up in frustration. I think the push to make so many contacts only available online is about 10 years too early. Most 80 yo find it difficult to comprehend how a computer works & what they are capable of. However, I shall keep trying!"

Objection to long call queues

Although they resented being forced online, many participants thought this was a preferable alternative to unacceptably long wait times to speak to a person on the phone:

> *"Because of call centre delays often better to use online chat for speed plus a record of the conversation."*

> *"It depends on the service that the real person provides. Sometimes the wait on phone and their lack of skills or enthusiasm is worse than doing it online. Sometimes using online services is also bad because the technology won't work etc. It's just a catch 22 situation, and boils down to the luck you're having on the day!!"*

> *"I am forced to use internet sometimes is because it takes so sodding long to get through to anyone on the phone."*

> *"Speaking to a person rather than using a machine is better in theory but so much time is usually wasted waiting in a queue to see the relevant person that a machine or other means of communication is preferable (e.g. banks and government offices)."*

Offshore call-centres were particularly unpopular

Many survey participants commented on the difficulty of communicating over the telephone when the service consultant is not a native English speaker:

> *"I hate companies which use overseas call centres since I cannot understand the people in them. Where possible I avoid doing business with companies who use people with accents which I cannot understand."*

> *"Many times when you phone a provider you get assistance from someone in India or Malaysia who are often not competent linguistically nor understand Australian geography especially if you do not live in a major city."*

> *"Difficult to understand some phone conversations due to accents."*

Sometimes digital access was preferable to speaking to someone not familiar with the cultural context of Australia:

> *"I find it very difficult to talk to foreign speaking people they do not understand what your [sic] trying to convey, it's not that there [sic] not polite its [sic] they don't understand. It's so frustrating and arduous and exhausting so digitally is the only way."*

One respondent was adamant this was a communication, not race, issue:

> *"I only prefer to talk to a person if they are able to communicate in English and hold an easy Australian English conversation. Mostly this is not available and I'd rather not be that frustrated. It has become so challenging there are very few conversations that are comfortable or satisfactory. NOT racism, it is communication breakdown!"*

Another made a plea for advocacy on call centre issues:

> *"If National Seniors could do something about people who are hard of hearing like me it would be wonderful. I have to continually ask young people to put their mouth piece closer to their mouths so that I can understand them. It would also be appreciated if you could get companies to have more people in their call centres and get rid of the bloody menus that you have to go through to either talk to someone or find what you want."*

Privacy is a concern

Showing that they were certainly not naïve about the importance of online security, the majority of Senior Surfers of all types agreed that they worry about the privacy of their information online.

Figure 10: I worry about the privacy of my information online

25.55%

74.45%

Senior Surfer breakdown - 'agree'

64.5% Super
75.4% Savvy
84.1% Sometimes
85.8% Seldom

■ Agree   ■ Disagree
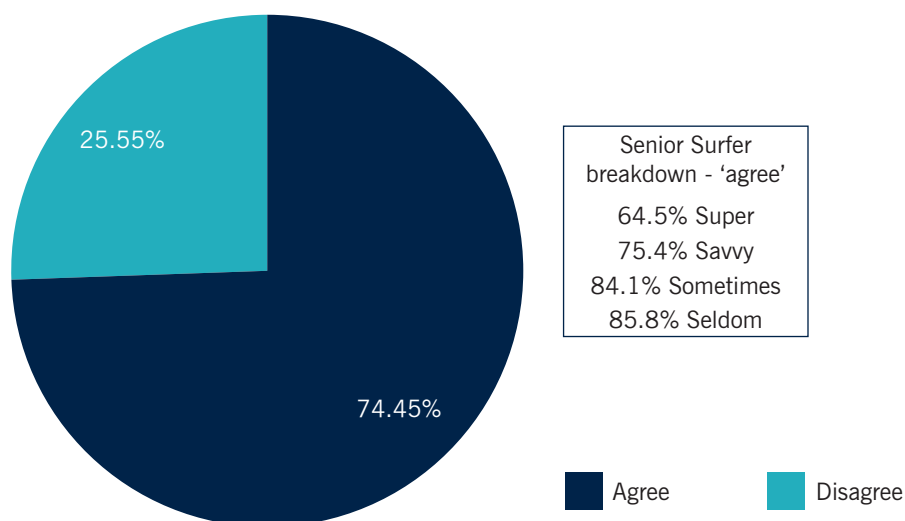
Some participants expressed concern about security issues when sharing information digitally:

> *"Digital stuff is not secure and it's proved over and over again. Big firms, rich people, and even poor people are hacked and scammed. and now the world is forcing us to take chances we shouldn't. There should always be a choice."*

> *"Government won't do on-line voting as it is unsafe yet forces us to do banking, Centrelink, medical etc on-line. That does not add up and so using Internet must be very untrustworthy and risky and is an expense that is a necessary evil."*

> *"Worried about privacy issues/identity theft."*

There were privacy concerns about social media platforms:

> "I am not comfortable or at ease about developing a Facebook page for my yoga business. I have bought a book to see my (sic) through but my apprehension is really over privacy."

> "Information sessions about keeping students safe online before I retired from teaching convinced me of the dangers of using social media."

Internet banking and ATM use was concerning for some, as were internet scams:

> "I do use an ATM occasionally but worry about my safety."

> "I worry about being scammed using a card and feel I am constantly watching what happens with it. Cash makes less to worry about."

> "Scams and attacking me via telephone/mail/post make me absolutely scared and I am using computer very rarely. I will never ever pay anything/or buy via computer or on-line. I am terrified by being ripped off as I work too hard for my money and I learned that computer can be hacked any time."

> "I worry about Internet privacy because I know that hackers can get into a lot of places - even ones like Adobe, which one would have thought would be safe. I take many steps to try to stay private, but it's getting very difficult to stay ahead of it all."

The call for more training

There was a loud and clear call for more training in using digital devices, and this was, understandably, more apparent among Seldom and Sometimes Surfers than Super Surfers. This information is helpful in that training programs and initiatives can now target to older Australians who fit the profile of the Sometimes or Seldom Surfer.

Figure 11: I would like more training using digital services

46.95%

53.05%

Senior Surfer breakdown - 'agree'
30.5% Super
54.3% Savvy
74.3% Sometimes
76.8% Seldom

■ Agree   ■ Disagree

23
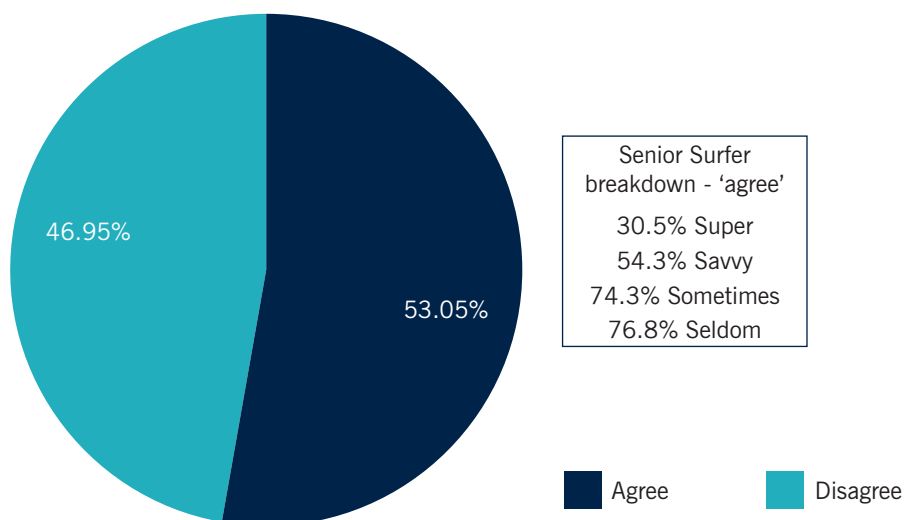
Training requests appeared to be focused on new technologies in particular:

> *"I need tuition for more confident use of my mobile, and computer Outlook programme."*

> *"I would like to see more courses or someone to help with tablets or mobile phones for seniors."*

> *"I'd like training section included in new digital apps."*

> *"Android smartphone is a great frustration. I much prefer my old push button model which was only 2G. Mobile phone (Optus supplied does NOT have a user handbook .. so explore and learn it on your own …)"*

> *"I am currently still working but fear being able to use digital services once I retire. I would love to be able to use a Smartphone and apps but lack the knowhow."*

> *"More understanding of how the digital gadgets work and how you can use the apps efficiently with instruction compatible with my age would be a great asset. I can't follow instructions given by the machine when sets of letters are used and I can't even guess to what they apply. I have not found anywhere yet where I can go to get simple, on-hand instructions. The young ones go too fast for me."*

Many complained that training courses assumed too much prior knowledge:

> *"Absolutely shocked that when there is any Courses available they never teach the simple thing that could help. Everything is the long way around. Internet Banking could be an example, basic use of a Smartphone, what is an App and how do you apply it."*

> *"Despite some attempts at "tuition" groups and the purchase of 3 texts on usage, I've found that ALL assume some prior experience of EDP/E-communication. Not much help if you don't/can't speak the language. Early in my accounting studies we used IBM 80.col.cards and binary numbering."*

> *"I'm frustrated by the lack of teaching for people in my category. I retired before some new-fangled idea called E-mail, yet neither formal institutions such as TAFE or informal sources such as local govt. and/or Voluntary groups seem to know how to deal with people for whom even "basic" terminology is a foreign language … Even texts available "presume" prior knowledge of jargon and technical terminology."*

Others said their digital skills were good but more training would still help them:

> *"Although I have some negative comments, I feel that if I could easily access some suitable training the digital options may be more acceptable to me, even though I am comfortable using the computer & internet."*

"Even though I worked with computers from 1988 (first one was 1964 in Qld - the size of a house!!) I now find myself well and truly left behind and have difficulty catching up. I am going to have lessons to improve my knowledge again, but these are costly."

"Have been using computers but still not comfortable with some areas but slowly getting better could use training to get better like younger people."

A few pointed to the constant need for retraining as things change:

"As I age and digital services change it would be good to have training on how to use."

"I feel reasonably confident using digital services and IT in general. I did my first programmers course in 1981 when PCs were in the infancy. I used a mainframe computer for several research projects in my university career as well as using SPSS before it was windows based for my Masters. I am probably not typical of most people of my generation. However, I see there is a need to constantly retrain as IT is fast moving with new innovations coming on line at rapid pace."

Another made a plea for ongoing advocacy for senior digital literacy courses:

"I am 64. One of my biggest regrets is that I didn't teach my 87 yo Mother to use the internet. I taught her how to send texts and photos but the internet would be SO helpful as her mobility is now declining. Please keep advocating for technology training for the elderly."

One respondent described some problems with training courses:

"I feel I started a little late for this modern stuff, I have tried to learn at libraries but with only 1 hour and so many people it's not easy to receive 1on1 training and they want you to use their computers that are set up for their classes, I couldn't use mine, so on the odd occasion when I can go into a library where I can use my laptop I do, but when I ask an attendant there for some help appears I'm maybe annoying them or taking them away from their rostered work."

Another proposed a training solution:

"Older technical folks like myself should be placed in a pool to help those who are less proficient. We not only understand the frustrations technology can bring, but we understand how to address them. National Seniors should consider a volunteer pool where we proficient folks to help folks perhaps online via a service such as join.me. I would be willing to participate in a discussion of this topic as potential service to help aging folks better use internet technology."

Cost is not a great barrier

Most respondents to the Social Survey disagreed that costs were a barrier to using digital technology. The highest proportion agreeing that costs prevented them from using digital services was among Seldom Surfers, at just under forty per cent. Less than five per cent of Super Surfers agreed when asked if costs were a barrier to digital service use.

Figure 12: Mobile phone and internet costs prevent me from using digital services

14.79%

85.21%

Senior Surfer
breakdown - 'agree'

4.8% Super
13.0% Savvy
24.2% Sometimes
39.6% Seldom

■ Agree   ■ Disagree
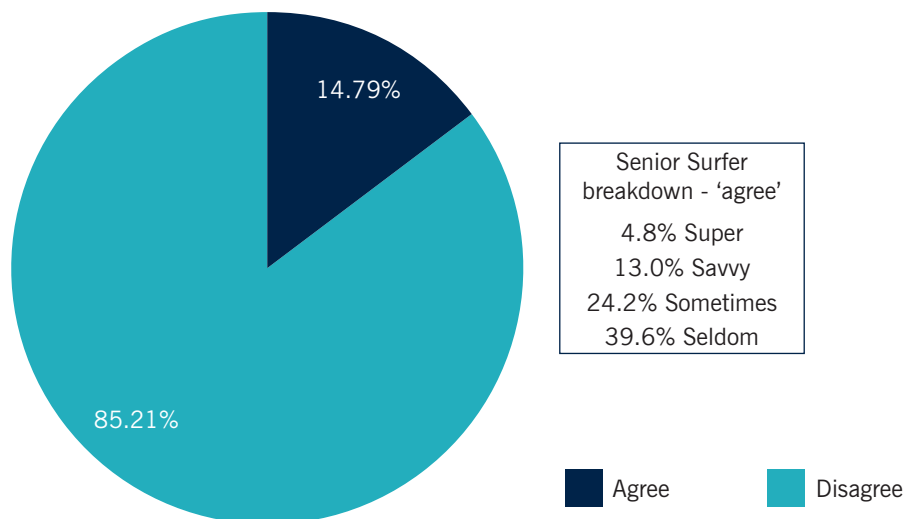
A few respondents did indicate that they would like increased understanding of how billing was calculated:

> *"I have trouble understanding what my phone plan gives me as it always seems to cost me more. I want to get our phones and internet in one bundle but don't understand how this works and what is the cheapest. Too confusing when you try to organise this."*

> *"I find it hard to access help. I know others who have children who are knowledgeable and helpful. Then there are the telephone companies which really set you up for failure and really are partly responsible for older people's fear of digital. I have just agreed to a new Telstra plan which I do not understand. And that's just the telephone for goodness sake."*

A preference for online services at times

Asking about whether participants might prefer to achieve some tasks online rather than over the phone or in-person generated some interesting responses, particularly from respondents with special needs who highlighted the advantages of an alternative means of communication, particularly in the case of sensory loss. Again, there was a large difference in the proportion of Super Surfers who preferred online communication for some tasks, at 73%, and the proportion of Seldom Surfers who agreed, which was only 18%.

Figure 13: For some tasks, I prefer to interact online rather than face-to-face or on the telephone

44.43%

55.57%

Senior Surfer
breakdown - 'agree'
73.1% Super
56.8% Savvy
39.0% Sometimes
17.8% Seldom

■ Agree ■ Disagree
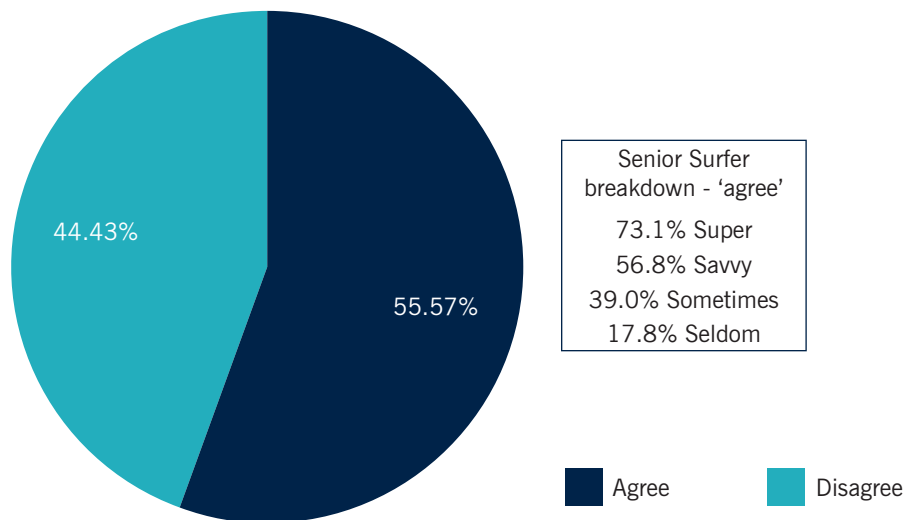
Some members expressed an acceptance of the practicalities of online communication.

> *"I would prefer to talk to a person face to face, but with the younger generation it is easier to text as you know they get the message rather than phone and leave messages and wait for an answer which often does not happen."*

Preference for face-to-face

While many participants reported feeling comfortable using digital services, comments indicated that their preference would still be for face-to-face interaction when possible:

> *" 'Digital Services make my life easier' – both YES *and* NO!! I am rather I am rather old-school in that I still prefer to TALK to someone on the phone rather than send a text or FB message."*

> *"Advice on line seems to answer all the questions but the specific question I want to ask. Talking to a person saves time and gets to the answer required."*

> *"I prefer to speak with people. One can make judgments about them. I think older people are more hesitant about that which they cannot see or feel - and thus make judgments about. It is about learning to trust that which seems to be unknown."*

> *"I believe older people need to communicate with each other, other people such as service providers etc. We do not see very well, we do not hear very well, and it is very difficult to learn these skills in later life!"*

> *"Although I use digital technology all the time I still prefer to do many things face to face."*

> *"Give me a person to talk to."*

> *"Human interaction preferable to machine any day."*

For some, this preference related to privacy:

> "Digital has its purposes, but do enjoy face-to-face especially when dealing with private matters (e.g. finding best bank rates, etc). Enjoy doing research online, but final decisions in person (due to privacy and security reasons)."

Those in rural areas sometimes felt they had less choice:

> "Because I live in a rural area I often have no choice but to use digital services but my preference is always for face to face or phone contact."

Others described the enjoyment they received from human interactions:

> "I prefer face to face service but I am quite proficient with computers etc. I refuse to use self-service checkouts as I prefer Service with a Smile and to ensure younger people have a job."

Many believe that face-to-face services help keep people in jobs:

> "I prefer to talk to someone - and hopefully keep them in a job, rather than doing self-service. I was working in a bank when ATMs were invented and staff/unions were assured they would not cause any jobs to be lost...."

Advantages of technology for users with special needs

As well as saving time, online services were easier for those with hearing problems:

> "I am 70% deaf and have phone problems."

> "As I am deaf, using machine is easier."

> "As I am partially deaf, I find emailing easier than face to face and especially phone interaction."

> "Being deaf makes verbal/phone communication more difficult."

> "Being very deaf, using online and text communication is preferable to voice. Face to face is mostly OK but telephone is not easy."

> "Due to lack of hearing now discuss my financial position online to finance adviser as I cannot hear (especially when they are on mobile) and cannot visit office in city."

> "I have hearing loss and the internet allows me to communicate more easily. I use the National Relay Service for phone calls."

One participant offered practical advice on how digital services can be used to overcome physical impairment:

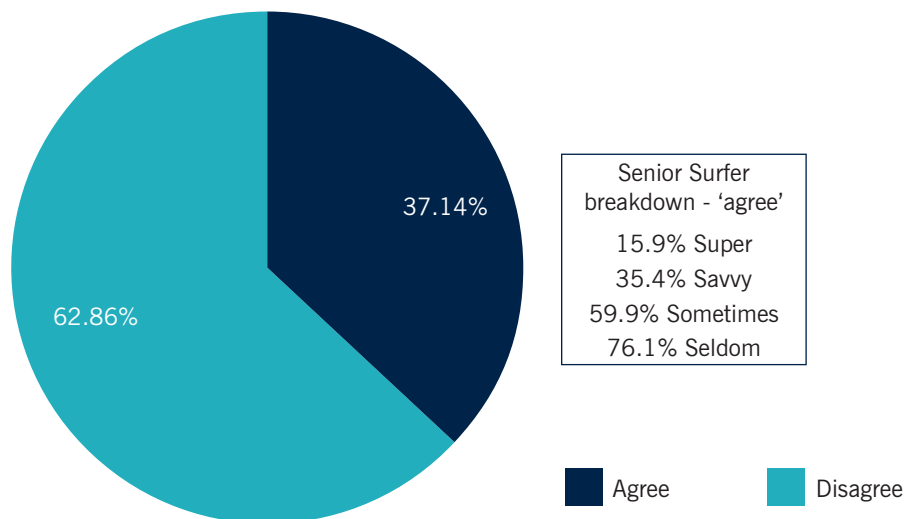> "Personally, I think digital devices are a life saver. If you can't afford prescription glasses you can manage quite well thanks to computers. If you can't see paper mail, get paperless mail so you can enlarge the font.

If you can't see the numbers on your bank card, do net banking so you can enlarge the font. If you can't see the voucher number on a mobile phone recharge docket, buy a recharge via net bank and enlarge the font, etc, etc. Digital devices have made my life bearable."

Generational divide was not an issue for this cohort

Even though many new technologies and websites have clearly not been designed for users with sight, hearing or cognitive impairment issues, only 37% of respondents agreed overall that "digital services are designed for younger generations than mine". Among Seldom Surfers, 76% agreed with this statement, but among Super Surfers, only 16% agreed. Comments were revealing on this issue, with participants describing usability issues and expressing their wish that technologies could be designed with older users in mind.

Figure 14: Digital services are designed for younger generations than mine

Senior Surfer breakdown - 'agree'

15.9% Super
35.4% Savvy
59.9% Sometimes
76.1% Seldom

37.14% 62.86%

■ Agree   ■ Disagree

Long-term users object to negative stereotyping

Many described their long history of use and were opposed to stereotypes about all older people being left behind by advances in technology:

"I was part of the generation that developed the online world and I think understands it sometimes better than the younger generation. I was a programmer when the internet was being built (1991 to 2002+). I understand what is happening inside the computer, which a lot of young people don't. Back in the old days it wasn't plug and play! Young people I know are good at configuring apps to make them do what they want, but what happens when that doesn't work? I don't like the stereotypes about older people being computer illiterate. Everybody I know is online."

"My generation were the first to use computers and we are not as computer illiterate as many younger people think. I have taught ICT for many years and built my own computers for over 20 years. I find it amazing that younger generations think people in their 60s know little about digital technologies."

> *"Online services are great where appropriate and well executed. I signed up for the initial NAB Internet Banking trial a million years ago and have used it almost exclusively ever since."*

A few proudly described the admirable digital skills of elderly family members:

> *"My mother is 95 and uses her smartphone and ipad on a daily basis for business and recreational activities."*

> *"My two aunts aged in their 90s both use iPads quite well. One has help to set up her books. The other has taught herself with my help over the phone. She is very sharp and capable and has a thirst for information."*

User-friendliness is an important factor

Participants expressed that using digital services is made more difficult when websites or applications are not well-designed with the needs of the older user in mind. Government and utilities websites were criticised in particular for not being user-friendly:

> *"User Friendly" was the word when I designed computer systems. These kids have no idea."*

> *"I do not identify the buttons that people say are intuitive. Nothing on most pages look anything like a button. I have had enough of what banks and governments are trying to flog as customer service."*

> *"Although I use digital services every day, I do feel frustrated because some websites and apps are very badly designed or not user friendly … The myGov website is particularly frustrating. It is NOT easy to follow or use. I have given up on it. I log in to get the emails Centrelink send, then I write a letter forwarding the information. I have never been able to upload anything successfully. I keep a soft and hard copy of everything I send and keep notes of telephone conversations, although they are very few due to the length of time you have to wait!!!!"*

> *"Design of some websites is very poor. Govt sites are not user friendly and often do not offer the access they claim."*

> *"The digital designers don't realise how illiterate the older generation are, when designing websites etc. It is like when we taught our children to drive a car, we presumed they knew what to do!!!"*

> *"Internet websites are designed with very little thought to older people or people who may have limited technology skills. Even the Centrelink website is hard to work out at times."*

> *"Many websites are very poorly designed and in some cases impossible to move around. Government sites are BAD."*

Some called for user-friendly apps:

> *"I believe there is scope for versions of apps which are more user friendly to people with limited skills, vision, dexterity and so on."*

> *"I'd use more apps if more apps were useful. Normally they're just clunky, hard to see/use, dumbed-down versions of things one can do more easily on a website."*

Another called for better email or chat capabilities:

> *"Sadly government sites are often illogical and less than intuitive assuming that a user knowledge of the service or issue exists. Few enable email queries or online chat capabilities."*

Some generally positive attitudes

Finally, there were also some remarkably positive comments from respondents when asked to express their general thoughts on using digital services, including from one participant who wanted to be able to rate his/her ability using digital technology as beyond "good":

> *"Regarding question 44 above, why does the rating stop at 'good'. Many of us are beyond good and would rate ourselves as excellent. The inference that seniors can only be 'good' in handling digital technology is an insult to your target audience. You have two options below the mid-point of acceptable, so there should be two above acceptable."*

Many pointed out the advantages of embracing digital technology:

> *"Access to the internet enables me to familiarise myself on matters before I meet with professional services. This improves the quality of discussion and reduces the time required to reach a good outcome."*

> *"As we travel all our info must be electronic e.g. books (kindle), photos online, Dropbox. The weight restrictions are too onerous to do otherwise."*

> *"Digital services are often more efficient, saving money."*

> *"I like the convenience of the internet for things like banking, the weather and emailing as well as doing some research on topics of interest. Otherwise, it can be frustrating and a waste of time."*

> *"I love internet banking in particular. When I think I used to wander all over the shopping strip paying bills when now I can sit in the comfort of my own home and pay bills, transfer funds around, it is so convenient. I guess the down side is less physical walking than I used to do."*

Some had found that digital communication increased connectivity and saw it as a positive addition to their lives:

> "I think elderly people can learn to use electronic services and that it improves quality of life e.g. I had to move interstate for 15 months. I taught my mum Skype. She loved it and learned to communicate with others including those friends of hers just down the road."

> "I love the connection that digital brings and ease of communication, and many tasks eg banking. Living currently with no landline has forced a new relationship with my mobile phone. Tend to have friends with similar outlook, also my daughter and her family are strongly digital."

> "I love my devices I am never lonely."

> "I love the challenge of using the computer but lack background skills for same. I feel in touch with the world!"

> "My life is far too busy to be contacting everyone in person. The internet gives my even busier family time to reply."

> "Prefer to use email as I can do it in my own time both making initial contact and responding / following up on ongoing conversations and can take time thinking about messages."

6. Senior Surfers are developing resilience to scams

When asked if they had ever been a victim of an internet scam, more than 1000 of 4956 respondents (22 per cent) replied that they had. The reliability of this proportion is, however, uncertain, given that analysis of comments related to this response revealed that participants often replied 'yes' when in fact they had only been exposed to a scam attempt, but had not suffered any loss as a result.

Whether an individual had been a victim was associated with their Senior Surfer status, with Super Surfers being least likely to respond yes to this question and an increase in yes responses with each decrease in Senior Surfer level. Almost 30% of Seldom Surfers reported having been victims of an internet scam.

Table 1: Frequencies of 'yes' response to scam question by Senior Surfer status

Senior Surfer status	% responding yes to being a victim of an internet scam
Super	18.5
Savvy	20.9
Sometimes	24.1
Seldom	29.7
Overall	21.3

The decreasing proportions not reporting scams by digital literacy level is evidence of the validity of the scale. The fact that Seldom Surfers were more vulnerable to scams, although not surprising, shows the potentially vicious cycle of digital challenge: those less savvy are more vulnerable, leading to being scammed, which then leads to less willingness to being online which results in remaining less savvy etc.

Once again participants showed a keenness to elaborate on their response, with 789 leaving comments regarding their exposure to scams. Qualitative analysis of these comments resulted in the following findings:

1. Older Australians online are highly exposed to internet scam attempts

Many participants mentioned that they are contacted regularly by scammers, both by email and telephone.

> *"Get many, many attempts."*

> *"Had numerous attempts via phone or online, must be in the 10s of 1000s by now. We are called several times each week, plus several via email constantly."*

> *"I have daily unwanted phone calls, emails, and now SMS messages, from obviously scammers."*

> *"I have experienced many, many attempts to scam me through the phone, my mobile phone and e-mails. As many as 20 calls a week and innumerable numbers of daily e-mails."*

> *"I've had many phone calls telling me that Telstra were going to cut off my internet, Microsoft is getting error from my PC, the Tax Office is taking action against me etc, and also letters wanting to launder vast sums of money."*

2. The pervasiveness of scams has left some feeling vulnerable

Participants used words such as "scared", "fearful", "afraid" and "anxious" to describe their experiences being exposed to scams.

3. Meanwhile, others framed their experiences as lessons learned

Despite the volume of scam attempts and associated sense of vulnerability, many participants described having learned their lesson, either the hard way or through a narrow escape.

> *"There claimed to be a parcel awaiting pick up. I opened the email and a virus was sent to my computer with a demand for money. Computer repair shop then omitted to reinstall computer security so more chaos was created. Costs involved and much inconvenience. Many lessons learned!"*

> *"Yes, I foolishly got caught with the "Your computer has been hacked, but for a fee we'll fix it" scam. But I immediately afterwards had the credit card transaction challenged and stopped. The bank recovered the money. I learnt a valuable lesson - without losing any money!"*

"Did have to get my computer attended to after clicking on fake Australia Post link. Learned from that!!!"

"This occurred about 5 years ago. I lost approximately $300. I learnt from that experience never to give money to people over the phone and if a person asks for personal details, never to give them."

"I lost a lot of money, but I learned a good lesson, scammers play on our tendencies for greed."

4. Senior Surfers are developing strategies of digital resilience

What emerged from the comments overall was the sense that this digitally literate cohort is in the process of building strategies of resistance to scamming attempts online. Although they were not prompted to do so, many respondents offered specific and/or detailed ways in which they are able to detect and avoid scam attempts. These included:

1. Having good virus protection on devices

"I have internet security and I keep up-to-date with technology."

"Extra security has reduced these annoying emails."

"I now have very strong virus and malware protection and have had no problems since."

"I now use AdBlock, Privacy Badger, NoScript, lock out PopUps and cookies and scan and delete all types of cookies including single pixel persistent ones as routine. It makes access to some sites very difficult as they rely on tracking you. I am about to wipe all access to Flash and Java and make more use of my VPNs."

"Use Mailwasher to appraise and also usually can identify scams."

"A good anti-virus package helps."

2. Never giving out information over the phone

"Never to give money to people over the phone and if a person asks for personal details, never to give them."

"We have a rule at home, no information given over the phone. Tell them to send it in writing or now we don't have a computer. Usually works!"

"Never give out any information online or on the telephone."

3. Not answering the phone or hanging up on unsolicited call

"Put the phone down for a few days."

"Do not take up phone calls that you do not relate to."

"I am very careful about phone calls and won't answer if number is unknown or interstate."

"I am very careful, if I don't know the person or I don't like what it says I remove it immediately. My mobile phone has all my numbers on it so if it doesn't come up with the person on my mobile I don't answer it."

"I have stopped answering my landline phone to avoid scammers."

4. Deleting suspicious emails

"Any dodgy email is deleted immediately. The same applies to texts and phone calls."

"I delete most suspicious/unknown things appearing on my system."

"Now I delete anything I'm not sure of."

"I delete anything suspicious and don't open anything from someone I don't know or answer calls from anywhere I don't know."

"I delete anything unfamiliar to me."

"I delete if email sender not known."

"I know where the delete button is and if I don't know or understand some things that appear on the screen from time to time - DELETE."

5. Being alert for spelling errors or unusual email addresses

"Usually easy to spot, due to spelling error."

"A lot is in the spelling and checking the email address. If they aren't quite right I don't open the email."

6. Having a general attitude of caution

"I am very careful about what I do online."

"Am very wary."

"I am very careful."

"A bit of paranoia does help."

7. Warning others of known scams

"I am "too smart" so far to get caught. I also warn others of scams."

"I am the chairperson of X Neighbourhood Watch and regularly email our volunteers about the current scams."

"As I am very tech savvy, I am well aware of a lot of different scams around and so ensure my family and friends are also aware."

8. Reporting scam attempts to authorities

"All scams received are lodged with scamwatch."

"Will contact the company or government department to advise when this occurs."

"Reported them to police and scam net."

"Have reported a few attempts to scamwatch authorities."

"Reported emails from scammers to the ACCC."

9. Subscribing to or monitoring scam alerts

"I am always very careful and receive and read Government messages about possible scams."

"Make use of websites such as hoax-slayer.net."

"I subscribe to the govt. Stay Safe Online service."

"We belong to the ACCC Scam Alert service."

10. Not opening suspect emails or links

"Have heeded advice not to open unknown attachments."

"Do not open anything that I cannot identify with."

"Do not open if concerned."

"Have received suspicious looking emails that I have not opened."

"I do not open any email attachments when the email has failed to address me by name."

"I do not open emails with headings or names that mean nothing to me."

11. Mild retaliation

"Often if you say "say my name" they hang up. Sometimes I develop basso profundo and say "you will burn in hell" just for fun."

"Sometimes I like to play games with the call centre staff - one of my favourites if offering them English lessons at $1000 an hour. Gets them off the line pretty quickly."

"At times I just hang up at others I tell them how despicable it is to take advantage of unsuspecting people."

"My hobby to lead them on when it suits me."

"We have become adept at recognising these callers and depending on our mood either hang up on them or play games with them by giving false information or by asking dumb questions. They hang up on us when they realise they are getting no where."

12. Asking others, particularly adult children, when unsure

"I am very aware, and I contact my family if I am suspicious."

"My son has given me advice on how to handle them."

"Family have given help!"

13. Healthy scepticism

"Being a cynic helps. So I check all unknown contact/content and delete or block/delete."

"I never believe anything sent to me until I have checked it out. I do not usually take things at face value (and I don't know anybody in a foreign country that wants to leave me money!)"

Several respondents spontaneously wrote in the comments field: "If it seems too good to be true, then it probably is" or a variation thereof.

7. Digital disengagement does not necessarily mean digital illiteracy

A total of 872 respondents to the NSSS Wave 7 were not included in Senior Surfer analysis because they did not answer the questions in the digital literacy module. This will not always indicate a "Stranded Surfer" status as there are other reasons that respondents choose not to answer a section of survey questions and we do know that all of these participants were capable of filling out an online survey.

Many National Seniors members either do not have an email address or indicate that they don't want to receive emails from the organisation. These members were invited via the National Seniors quarterly magazine, 50 Something, which is posted out in hard copy, to request a paper copy of the NSSS if they wanted to complete the survey. A total of 29 paper copies were received and included in overall survey analysis.

Of the 29 respondents who completed a paper survey:
- 11 respondents were Seldom Surfers;
- 5 were Sometime Surfers;
- 4 were Savvy Surfers;
- None were Super Surfers;
- 9 were excluded from Senior Surfer analysis as they didn't complete the digital literacy module of the survey.

As can be seen by these scores, while these members chose not to complete the survey online, not all were digitally disengaged. Many indicated that they search the internet or use Facebook every day, or reported their word processing skills and ability to email as good. Some indicated they could use a smartphone and listed many apps that they use. Some disagreed that they felt frustrated using digital services. These respondents, thus, received a relatively high-scoring Senior Surfer rating, considering they did not complete the survey digitally.

Other paper survey respondents, by contrast, had never used the internet, could not use a word processor, email, do internet banking, or access government services online. Some of these did indicate being able to text, use ATMs and resolve minor issues with technical devices. Overall, these respondents received a low-scoring Senior Surfer rating.

Again, we would like to highlight the heterogeneity in this group of older Australians and point out that digital literacy and/or digital engagement can be more about choice than capacity.

DISCUSSION

Stranded surfers do exist

It is important to acknowledge that, while this report presents the results of an online survey of a digitally literate group of older Australians, there is a sizeable portion of Australians aged 50 and over who are not engaging with digital technologies – we are calling these the "Stranded Surfers". Since 2016, the Royal Melbourne Institute of Technology, along with other partners, has taken various measures of digital access, affordability and ability in Australia, published each year as the *Australian Digital Inclusion Index*. In 2017 and again in 2018 it was reported that "those aged 65+ are the least digitally included age group in Australia" (Thomas J. , et al., 2018). Representing the needs of these Stranded Surfers, and their attitudes towards an increasingly technological world, is paramount; but beyond the scope of this study.

Those respondents left out of analysis may or may not be "Stranded Surfers". This also applies to National Seniors members without an email address or not receiving emails from National Seniors. It indicates that a study of this design can find out very little about seniors who are completely left out of the digital world.

We acknowledge the importance of not leaving Stranded Surfers 'on the beach', in a world where digital technology is increasingly pervasive. By no means should the findings from this digitally literate cohort detract from the important issue of older Australians facing increasing barriers to service access if they are not online. As one of our members wrote recently for publication in our member magazine *50 Something* (National Seniors Australia, 2019):

> *We read enough about viruses, malware, phishing, and the like, not to mention the costs of a computer, a printer, printer ink, an internet connection, software, and so on, to make some of us think twice about embarking on the digital journey.*
>
> *And to begin that journey…all we must do is…log on, type in a link and click on it. But is that really the first step? It may be for some people who already have a connected computer, but definitely not for all.*

The fact that there are large numbers of older Australians who are not in a position to simply "click on a link" to access services is becoming increasingly problematic as more government, community and corporate organisations shift their service delivery focus to online platforms. Essential information is unavailable for the disengaged and phone and hard copies can be relatively inaccessible. In 2018 the Australian Human Rights Commission published an Issues Paper on human rights and technology in Australia, identifying that the over-65 age group, with the lowest rates of internet usage, was among those specific population groups at risk of "especially acute problems" as more government services move online (Australian Human Rights Commission, 2018).

There are now important policy initiatives addressing the issue of access, including the Australian Communications Consumer Action Network's "No Australian Left Offline" (ACCAN, 2019) advocating for affordable broadband and the Australian Digital Inclusion Alliance (ADIA, 2019) calling for action on digital inclusion. There is a clear case for this type of action but the question remains: who is ultimately responsible? Is it the government, business, the community, individuals, or a combination of them all? Obviously, all parties are needed because it is a major and growing issue with technological change. Business and government gain efficiencies in going digital but fail to return them in training to allow people to use digital channels.

National Seniors stands behind these initiatives but also recognises that there will be a portion of older Australians who choose not to 'surf' at all. For this reason, we would encourage service providers to maintain the accessibility and quality of the more traditional channels of communication and delivery and to support more training initiatives as they shift into digital channels.

Digital disadvantage contributes to cumulative disadvantage

Digital literacy has become a new addition to the cumulative disadvantage experienced by vulnerable population groups. Our analysis showed that those with less savings were disproportionately represented in the lowest Senior Surfer category (Appendix C). It is this category of Seldom Surfers that are also more likely to report being victims of scams and more likely to agree that mobile phone and internet costs prevent them from using internet services. A vicious cycle pervades, where those with fewer financial resources are firstly, in less of a position to gain the digital skills required to improve their financial position; and secondly, left financially vulnerable due to their lack of know-how. Actions are needed to reverse these cycles of disadvantage in groups of all ages.

But is there a generational digital divide?

Overall, the evidence here weakens claims that there is a 'digital divide' leaving an entire generation of older Australians less literate than younger people. While there is undeniably a large proportion of Stranded Surfers among the National Seniors population that is difficult to reach via digital communications channels, to perpetuate the stereotype of all seniors being stuck on one side of a divide is potentially harmful and misleading. There are large numbers of Super Surfers among our population, as well as other Surfers of varying competency, who navigate online platforms to achieve what they want to in their everyday lives. Interestingly, women were more likely than men to be Super Surfers in our study, an encouraging finding given that women have previously been reported as "having lower levels of overall digital inclusion" than men *(Thomas J. , et al., 2018)*. The age differences are more likely attributable to less access to formal and informal training and poor design for the functional abilities of older people, in particular usability. Our position is that we have enough negative descriptions of ageing without seriously overstating digital literacy differences.

There are clear benefits of internet access to compensate for risks of later life such as loneliness, isolation and less mobility which need to be captured for more people. Findings from this study relating to regular internet use of Australians aged over 80 can provide positive inspiration.

RECOMMENDATIONS

From this research we can see three clear paths to move forward in terms of improving digital literacy and digital inclusion for older Australians.

1. Leverage the diversity in skills and attitudes to develop and support age and skills-appropriate training programs

Older Australians fitting the profile of Super Surfers could be ideal digital mentors for Stranded Surfers. The knowledge and experience reflected by participants responding with their strategies to avoid scam attempts is an example of a valuable resource for peer-to-peer learning.

The concept of the digital mentor has recently been investigated in a report commissioned by Australia Post and conducted by researchers at the Queensland University of Technology. The digital mentor role was defined as one "that focuses on assisting others to improve their digital ability" and key skills including kindness, patience, empathy, generosity and flexibility were identified as complementary to the mentoring relationship (Dezuanni, Marshall, Cross, Burgess, & Mitchell, 2019).

Feedback from our members in this report and anecdotally is that they would prefer to be trained by other people of a similar age, who are more likely to have a shared history and understanding of the issues specific to engaging with technology during the later years of life. The National Seniors website currently allows members to register their interest in becoming a digital mentor and it is our hope that, in collaboration with partners such as the Australian Government's *Be Connected* initiative, we can continue to support older Australians to support each other through digital mentoring programs.

2. Co-design digital services with older people of all Surfer levels

Too often digital services explicitly targeted at older people seemed to have been designed and implemented without taking their specific needs into account. Consumer comments were clear on this issue, expressing disappointment and frustration that government websites in general were so difficult to navigate and interact with. This is a particularly sensitive issue for older consumers with physical or cognitive impairments, people who are perhaps most in need of the services offered at websites such as My Aged Care, but the least able to profit from them due to the inaccessible nature of the online offering. As usability engineer Jakob Nielsen states:

> *On the Web, usability is a necessary condition for survival. If a website is difficult to use, people leave. If the homepage fails to clearly state what a company offers and what users can do on the site, people leave. If users get lost on a website, they leave. If a website's information is hard to read or doesn't answer users' key questions, they leave. Note a pattern here? (Nielson, 2012).*

Nielsen's point about survival is especially salient in the context of My Aged Care, which is not a company, but a government service offering, that is directly related to the physical survival of our older population in Australia.

User-centered design practices should be incorporated into the technological development lifecyle: an iterative process that spans from inception to delivery. We encourage government and industry to engage older Australians as experts on their own technological needs and desires. Recruiting experts from all Senior Surfer categories, including Stranded Surfers, is recommended to not only foster increased engagement, but also increased satisfaction and willingness to engage in the future.

3. Advocate for digital inclusion

We fully support the "No Australian Left Offline" and Australian Digital Inclusion Alliance initiatives, especially in their efforts to make digital technologies more accessible to older Australians. We are also a proud community partner in the *Be Connected* Network - a programme that provides online training and support to develop skills and confidence using digital technology in everyday life.

CONCLUSION

This research highlights that it is time to publicly recognise the heterogeneity among older Australians in their engagement with technology. As public concern about the extent of ageism and discrimination against older people is growing, the importance of digital literacy is ever-increasing as it relates to health and care needs and citizenship rights. Access to community and essential information is a human right in a civil society. As we look to a future with new assistive technologies, digital illiteracy will be a barrier both to entry and cost saving which needs to be removed and the sooner the better.

APPENDIX A

The age breakdown of National Seniors survey participants and overall members as compared with the Census data is as follows:

Table 2: National Seniors' members compared with 2016 Census data

	NSSS survey participants 2018	NSSS 2018 (%)	All NSA members 2018 (%)	Census 2016 (%)
50-59	715	13.2	19	37.4
60-69	2124	39.3	37	31.3
70-79	1997	37.0	30.5	19.4
80+	563	10.4	13.5	11.9
Total Answers	5399*			

Although N=5446 for the study, only 5399 gave their age.

Table 3: Basic characteristics of the NSSS sample, 2012-2018 (%)

Sample

	2012	2013	2014	2015	2017	2018
Age (unweighted)						
50-64	48.0	42.2	44.7	43.9	33.3	30.3
65-79	40.9	42.8	43.8	43.3	58.3	59.3
80+	11.2	15.0	11.6	12.8	8.4	10.4
Gender (unweighted)						
Female	54.3	55.9	53.3	54.2	56.2	57.0
Male	45.7	44.1	46.7	45.8	43.8	42.9
Other	-	-	-	-	-	0.1
State (unweighted)						
NSW	29.9	28.8	29.5	30.7	21.8	22.3
VIC	25.8	25.8	25.9	24.7	14.9	14.1
QLD	17.1	18.1	17.4	18.7	42.2	42.4
SA	9.6	9.5	9.3	9.3	4.5	4.1
WA	10.3	11.1	10.1	11.2	8.9	9.0
TAS	4.1	4.1	3.5	3.0	2.5	2.3
ACT	2.2	2.0	2.3	2.0	3.7	3.6
NT	1.0	0.6	0.6	0.4	1.5	2.2
Education	(weighted)				(unweighted)	
Not completed high school	52.1	50.1	49.0	42.3	32.2	42.6
Completed high school	47.9	49.9	51.0	57.7	67.8	57.4
Other qualification					(unweighted)	
Yes	-	-	-	-	77.5	79.5
No	-	-	-	-	22.5	20.5
Highest level of qualification					(unweighted)	
Certificate	-	-	-	-	24.8	21.8
Diploma	-	-	-	-	26.1	24.8
Bachelor degree	-	-	-	-	26.5	19.9
Post-grad dip/cert	-	-	-	-	-	14.6
Masters/Doctorate	-	-	-	-	13.2	12.0
Other	-	-	-	-	9.4	6.9
Employment	(weighted)				(unweighted)	
Currently in the paid workforce	43.2	41.5	40.3	40.5	27.0	26.6
Not currently in the paid workforce	56.8	58.5	59.7	59.5	73.0	73.4
Country of birth	(weighted)				(unweighted)	
Australia	77.6	80.9	80.8	79.6	75.0	76.5
Other	22.5	19.1	19.2	20.4	25.0	23.5
Marital Status	(weighted)				(unweighted)	
Married/de facto/living with partner	62.3	63.7	63.6	63.5	63.8	62.7
Divorced/separated/never married/ widowed	36.4	35.8	36.4	36.7	33.0	37.3
Other	1.4	0.5	0.0		3.2	-
Total					**100%**	

APPENDIX B

Below are the coefficients for the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) used to assess the goodness-of-fit of the latent class model used to inform cut-offs for the Senior Surfer model. Estimated proportions for each latent class are also provided.

Table 4: Goodness-of-fit statistics and proportions for latent class models, by number of classes

	AIC	BIC	Estimated proportions
2 classes	82917.85	83023.5	36%; 64%
3 classes	80797.87	80943.13	16%; 40%; 44%
4 classes	79826.23	80011.1	7%; 23%; 39%; 31%
5 classes	78917.16	79141.65	2%; 12%; 27%; 38%; 21%

APPENDIX C

Table 5: Senior Surfer – profile of respondents in each digital literacy category (NSSS 7, 2018; N~=4550)

Profiling Senior Surfers

	Seldom Surfers	Sometimes Surfers	Savvy Surfers	Super Surfers	p-value
gender					<0.001
male	5.6	24.6	41.5	28.3	
female	4.7	19.7	41.6	34.0	
age					<0.001
50-59	2.2	9.3	36.8	51.7	
60-69	3.4	16.1	41.5	39.1	
70-79	6.3	28.0	45.0	20.7	
80+	12.7	40.4	36.7	10.2	
education					<0.001
certificate	5.6	21.8	43.3	29.3	
diploma	3.6	20.6	41.1	34.7	
bachelor degree	2.8	19.4	41.9	35.9	
postgrad dip/cert	2.6	17.7	42.1	37.7	
Masters/PhD	2.7	12.3	44.0	41.1	
other	6.5	29.0	43.3	21.2	
partnered					<0.001
living with partner	4.1	20.6	41.6	33.6	
living alone	6.8	23.9	41.6	27.8	
children					0.065
has children	5.0	21.3	41.4	32.3	
no children	5.8	24.0	42.3	27.9	
health					<0.001
excellent	2.3	13.9	39.8	44.0	
good	4.8	21.1	43.3	30.7	
fair	7.5	31.3	40.7	20.6	
poor	17.1	29.5	30.8	22.6	
very poor	4.6	36.4	27.3	31.8	
savings value					<0.001
less than 50K	9.8	28.1	41.0	21.2	
50-100K	9.4	24.2	38.8	27.6	
100-200K	6.1	25.0	39.3	29.6	
200-300K	3.4	26.3	39.0	31.4	
300-500K	3.2	20.5	44.3	32.0	
500-750K	2.7	22.2	41.1	34.1	
750K-1.5M	3.3	14.5	42.3	39.9	
>1.5M	1.4	13.3	41.6	43.7	
don't know	7.8	28.3	42.8	21.1	
rather not say	4.9	21.1	43.6	30.4	
employment					<0.001
in paid work	2.4	13.3	38.0	46.4	
not in paid work	5.8	24.8	43.3	26.0	

Logistic regression raw results: demographic predictors of Senior Surfer category

. logistic SS_OR gender agegrp livepartner kids health sav_cal employed

Logistic regression

Log likelihood = **-2488.8514**

Number of obs = **4,349**
LR chi2(**7**) = **467.73**
Prob > chi2 = **0.0000**
Pseudo R2 = **0.0859**

SS_OR	Odds Ration	Std. Err.	z	P>|z|	[95% Conf. Interval]	
gender	1.15871	.0866131	1.97	0.049	1.000802	1.341535
agegrp	.5094438	.0256058	-13.42	0.000	.4616502	.5621853
livepartner	.8907589	.0710449	-1.45	0.147	.7618513	1.041478
kids	.6905952	.0670716	-3.81	0.000	.5708916	.835398
health	.6709684	.0328297	-8.16	0.000	.6096124	.7384997
sav_cal	1.024452	.0126036	1.96	0.050	1.000045	1.049455
employed	.7097491	.0573516	-4.24	0.000	.6057913	.8315466
_cons	10.97429	2.752672	9.55	0.000	6.712288	17.94249

Note: **_cons** estimates baseline odds

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