Digital Nation Australia

2021

Good Things Foundation Australia

Contents

Executive Summary

The digital divide is a significant issue in modern Australia, particularly with the rapid pace of digitisation brought forward by the COVID-19 pandemic. Digital technology has become an essential requirement for work, study, accessing essential services and connecting with family and friends. The positive news is that the digital divide is slowly improving in Australia, and that initial research points to more people being active online than they were before the COVID-19 pandemic.

However, some groups are still more at risk of digital exclusion than others, meaning they are at risk of being left behind and face increasing barriers when interacting with a digitised society. Even after Australians are affordably connected to the internet (a barrier in and of itself), many people still don't feel confident or safe online, or feel they can't keep up with technological changes.

Good Things Foundation Australia's Digital Nation Australia 2021 report brings together the latest research and insights from government, community and academia to help build understanding of the digital inclusion landscape in Australia and inform initiatives that could close the digital divide for all.

Introduction

Understanding the Digital Divide in 2021

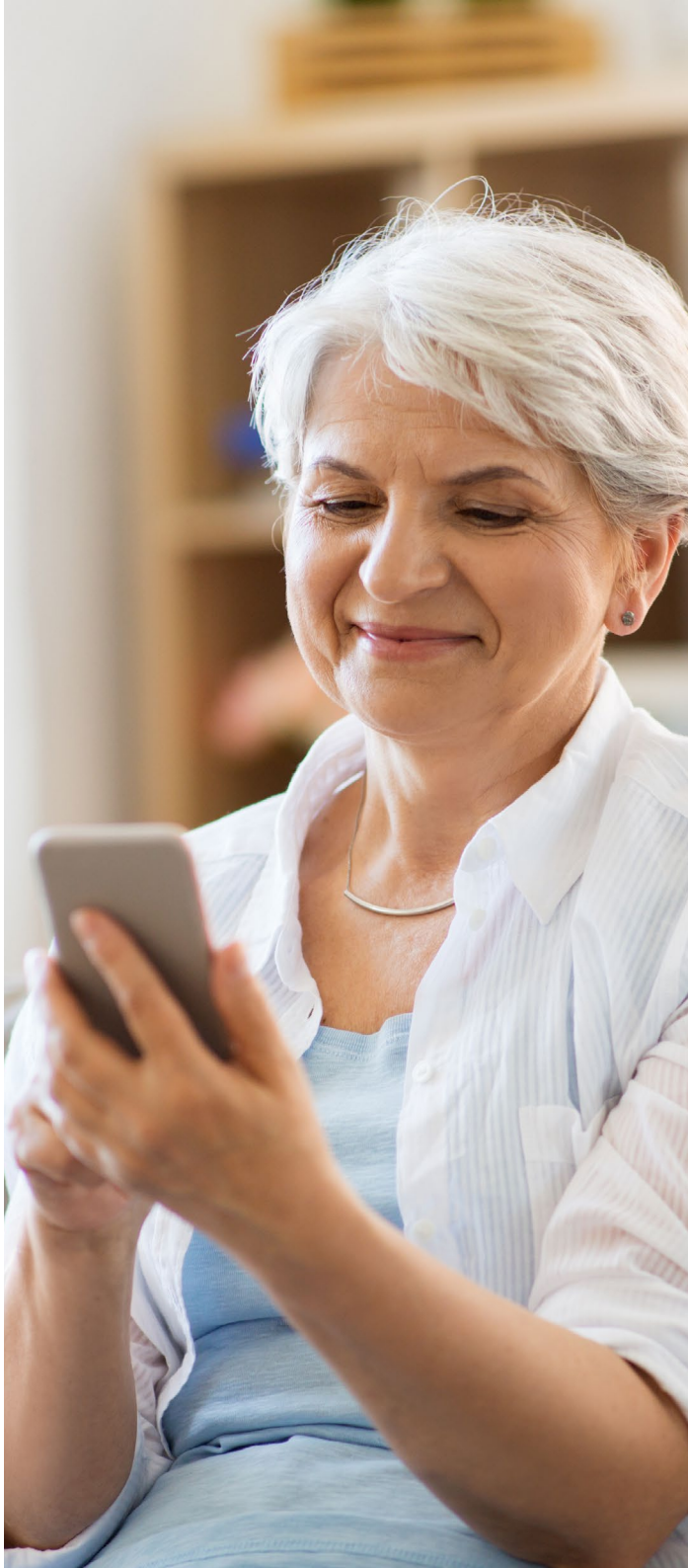
A digitally included country is one where all can participate in the rapidly transforming digital society by having necessary skills, confidence and affordable access to online information and services. Digital inclusion means ensuring everyone can use the internet and technology to improve their daily lives and that no one is left behind.

In modern Australia, people need to be able to use digital technology to find and maintain work, participate in education, access online government and health services, and find reliable information. Digital technology is a vital connector — of communities, of businesses, of families and of friends. Digital inclusion initiatives have been shown to actively reduce social isolation and increase connectedness.[1]

The Australian Digital Inclusion Index (ADII) shows that while rates of digital inclusion have been slowly improving over time, there remains a substantial digital divide in Australia.[2] This divide is creating a separation between those who can and cannot fully and safely participate in the digital world.

Some people are more likely to be left behind than others as digital technology has become an essential part of everyday life.

People with low levels of income, education and employment, those living in some regional areas, people aged over 65, and people with a disability are at particular risk of digital exclusion.[3] Even after Australians are connected to and using the internet on an appropriate device, many people still don't feel confident or safe online, or feel they can't keep up with the rapid pace of technological change.



DIGITAL NATION
AUSTRALIA 2021

The pandemic has seen life, learning and work rapidly digitise in Australia. Digital inclusion is slowly improving in our nation, but some people are still being left behind.

Less than 40% of Australians are confident they can keep up with tech[44]

1% of people are completely offline, down from **10%**[12]

87% of jobs require digital skills[165]

77% of adults used apps to connect with others in 2020[152]

61% lack confidence identifying misinformation online[57]

MOST AT RISK OF DIGITAL EXCLUSION

People with disabilities
are lower users of digital and social media[106]

People with mobile-only connection
1/3 are low-income families with school-aged children[76]

First Nations people
30% of people in remote First Nations communities have no household internet or phone[111]

People living in rural and remote areas
Only **1/3** of Australian land area has mobile connectivity[30]

People aged over 65 years
80% find it difficult to keep up with tech changes[45]

New migrants and refugees
Low skills and **access** are a barrier to accessing services during the pandemic[199]

Women
seek more support around online safety[129]

People with low levels of education
44% have no media literacy support[88]

Low income households
Half had difficulty paying for home internet[40]

People not in the labour force
Confidence in digital skills decreases as length of retirement increases[84]

Younger People
(14 - 49 years)[71]

MOST DIGITALLY INCLUDED

People living in capital cities

High income households
(over $150,000)[71]

People who are tertiary educated

The ADII score of Australia is **63 in 2020**, up from **61.9 in 2019**[7]

ACCESS

ABILITY

AFFORDABILITY

THE DIGITAL DIVIDE

Good Things Foundation Australia

Impact of the COVID-19 pandemic

The COVID-19 pandemic has particularly highlighted the digital divide in Australia. With social distancing policies enacted across the country, the pandemic showed more than ever the need for people to have basic digital skills and affordable access to technology. Before the pandemic, many Australians relied on the internet for some important activities in their lives, such as online banking, work emails, online education and entertainment. But, in a very short period of time, a more extensive range of activities has had to move online, from ordering essentials to online remote working, learning and medical consultations.

> Rapid digitisation means that affordable digital access and digital skills are paramount to thrive in today's society.

While the full impact of the pandemic on the Australian digital divide is not yet fully evident in digital inclusion research, it is clear that this rapid digitisation means that affordable digital access and digital skills are paramount to thrive in today's society. The OECD has stated that bridging the digital divide and delivering inclusive digital transformation is critical to ensure everyone equally benefits from the digital economy and are resilient for the post COVID-19 future.[4]

IMPACT OF THE PANDEMIC

10 years of growth[27] in data consumption brought forward by COVID

Digital Nation Australia 2021

Many organisations and researchers are working to better understand digital trends and transformation across different contexts in our society. Multiple new research reports, strategies, and analysis pieces have been published to help people understand the impact of the pandemic on the digital lives of people, workplaces, services, institutions and the changing nature of the economy in Australia.

To make sure that no one is left behind and that all Australians can benefit from the rapid transition to the digital economy, we need to understand the digital revolution through the lens of inclusion.

Digital Nation Australia 2021 brings together the latest research and evidence on the Australian digital inclusion landscape, aiming to improve understanding of the complex nature of the digital divide. In particular, we aim to identify who is more at risk of being left behind, the factors that lead to people facing digital exclusion in Australia, and how this may impact their lives and our society more broadly. Where possible, research showing the impact of the pandemic on digital inclusion is highlighted throughout this report.

Digital Nation Australia 2021 adds to the annual *Digital Nation* series Good Things Foundation publishes in both Australia and the UK. For the first year, in addition to an infographic, we are releasing this report as a resource for the community, government and businesses to give more context and background to the key facts and statistics that we compile. We believe that by illustrating the digital inclusion landscape in Australia and improving our understanding of this issue, effective, targeted strategies and initiatives can be implemented to close the digital divide, for everyone, for good.

The state of our digital nation

Digital inclusion bridges the digital divide.

Levels of digital inclusion are impacted by a range of factors including socio-economic status, age, where a person lives, and if they have a disability. To measure national rates of digital inclusion, the Australian Digital Inclusion Index (ADII) focuses on three key dimensions - Access, Affordability, and Digital Ability - to create a score out of 100.[5] This Index is the leading piece of multi-year digital inclusion research in Australia, the understanding of which is complemented by academic, corporate, not-for-profit, and government research on digital trends, usage and services. We have combined these sources to highlight the state of our digital nation in this report.

The ADII shows that levels of digital inclusion are increasing over time in Australia, but the rate of this increase is slowing.[6] In 2020, the national ADII score was 63.0 out of 100, a slight increase on the previous year.[7]

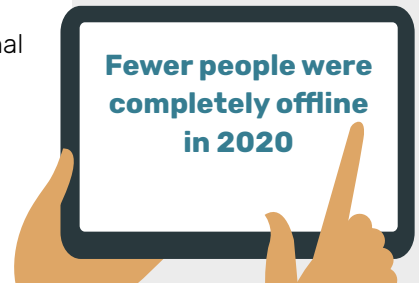
Location within Australia matters when it comes to digital inclusion, with some states faring better than others.[8] While both Victoria and the Australian Capital Territory recorded no significant changes to their levels of digital inclusion, Western Australia recorded the largest increase of 2.8 points in the 2020 research while Tasmania has slipped further behind the national average over time.[9]

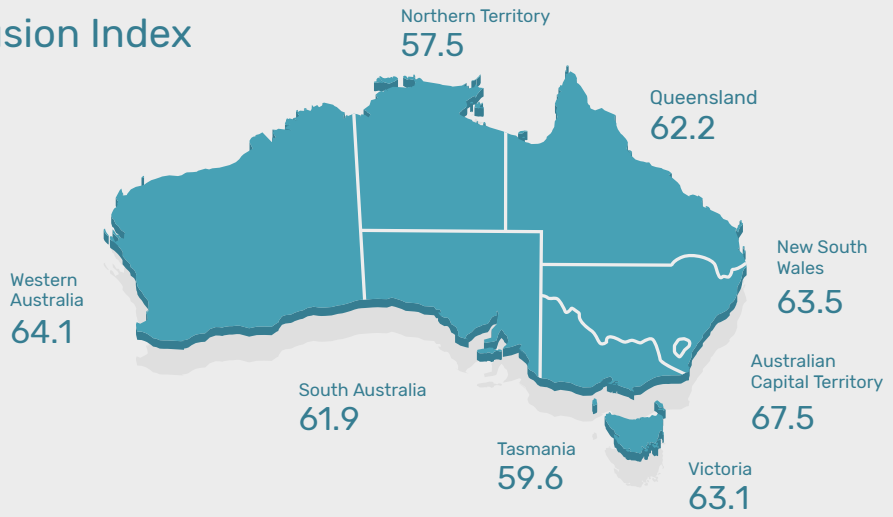
The number of people completely offline nationwide was reported in 2018 at 2.5 million, according to the Australian Bureau of Statistics.[11] However, recent research from the Australian Communications & Media Authority (ACMA) has indicated that the digital divide between those online and offline may be narrowing as a result of the pandemic. It showed that compared to previous years, where rates of people not accessing the internet at all in the past six months had stayed level at 10-11% of those surveyed, in 2020 they dropped significantly to just 1%.[12] This leaves us with the question of whether the number of people completely offline would remain at 2.5 million if this figure were assessed again at a national level by the Australian Bureau of Statistics.

Digital inclusion is critical in Australia's competitiveness with the rest of the world and position in the global digital economy. Australia's Digital Economy Strategy states the Australian Government's ambition to be a world leading digital economy in under ten years to support our economic recovery from the COVID-19 pandemic, and to keep up with investment in other countries.[13] Currently, Deloitte Access Economics ranked Australia 7th out of the 16 nations studied for competitiveness in the digital economy, but this ranking has fallen over time as other countries speed up.[14] When compared to 141 other countries for digital readiness, Australia was in the top 20.[15] However, without a digitally inclusive country, not everyone will benefit from the digital economy and the divide is at risk of deepening. It is important for Australia to get inclusive digital transformation right so no one is left behind.

Australian Digital Inclusion Index (ADII) Scores[10]

Australian average
= 63





Bridging the divide

Three main factors influence a person's ability to cross the digital divide: **ability, affordability, and access.**

Often these factors interplay with each other to influence levels of inclusion. Without an affordable and reliable internet connection, there is reduced access to information, digital services, and communication channels with one's community, family, individuals, and government.[16]

There are also reduced opportunities to develop key skills. Without confidence or digital skills, people are unable to make full or safe use of an internet connected device once they have it, or understand how it may be beneficial to their life. Higher levels of inclusion in all three areas are required to lead people and communities to be 100% digitally included.

Access to the internet is improving in Australia,

but people who are mobile-only are more likely to miss out

Access to the internet

Access relates to where Australians access the internet, the devices they use, how much data is used, and the quality and reliability of the connection.[17]

The national level of access has steadily increased over the past six years.[18] A significant factor in this has been the roll out of the NBN. As of February 2021, there are 8 million homes and businesses connected to a plan over the NBN network through a phone and internet provider,[19] which is an increase of 1.7 million since February 2020. NBN take-up continues to close the divide in access for rural Australia, decreasing the ADII gap between country areas and capital cities from 8.8 in 2014 to 4.8 in 2020.[20]

People with mobile only access to the internet have lower levels of digital inclusion. Mobile-only users have an overall ADII score 19.3 points lower than the national average.[21] More than 4 million Australians have a mobile phone or mobile broadband device with data allowance, but do not have a fixed broadband connection, showing the potential scale of this divide.[22] Income is linked with mobile-only access, with ACMA identifying that, *"In the 12 months to June 2020, 18% of Australians earning less than $50,000 were mobile-only for the internet, compared to 9% on $150,000 or more".*[23] It must be noted that younger people aged 18-34, who are generally more digitally confident than older generations, also tended to be higher adopters of mobile devices and mobile-only internet connections.[24] But, younger people also increasingly use more than one device, with nearly 50% using 5 or more types of devices in the 6 months to June 2020.[25]

They also use a more diverse range of apps,[26] which may help to offset this potential digital disadvantage.

For those with an internet connection, the pandemic has seen Australians access the internet more.

A recent study on data consumption shows that 10 years of growth has been brought forward by COVID-19.[27] In line with other like-countries, Australia saw an unprecedented increase in internet demand during the toughest phases of COVID-19 restrictions, which then stabilised over time.[28] 8.2 million terabytes of data was downloaded over fixed-line and mobile services in the 3 months to June 2020, compared to 6 million terabytes a year earlier.[29]

Despite the strides made in terms of access and data consumption, there is still more to go in terms of securing quality access for all. While Australia's mobile footprint covers more than 99% of the population, only one-third of the total land area has mobile connectivity.[30] This means that services are limited, especially in rural and remote areas.[31] And, although Australia ranks fourth in the world in average mobile broadband speed, a 2019 report states that fixed broadband speed is much slower, ranking in 57th place among comparable developed nations.[32] It must be noted that during the pandemic the NBN reportedly performed well compared to other countries, with speeds improving when demand grew with the implementation of social restrictions when many countries had internet speeds decrease.[33]

Ensuring quality, reliable internet access for all will assist to bridge the digital divide.

Data poverty and affordability

Data poverty is used to describe those *"individuals, households or communities who cannot afford sufficient, private, and secure mobile or broadband data to meet their essential needs".*[34]

Affordability of the internet and devices is a significant factor in data poverty and a barrier to closing the digital divide.

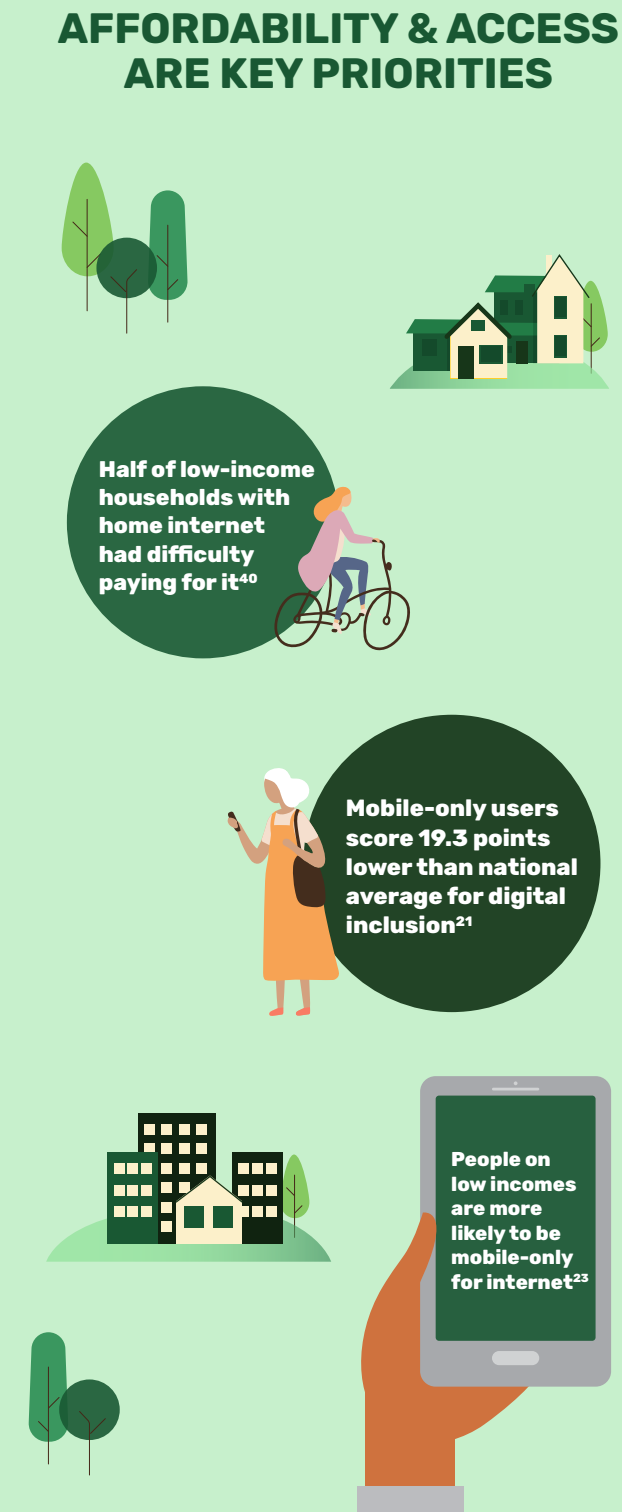
By 2020, the national ADII affordability score was just 4.9 points above the 2014 level,[35] showing a positive, yet gradual, increase. When compared to other OECD nations in 2019, Australia was last on the affordability ranking list for entry-level broadband services (36th), while Japan ranked first, the US 6th, the UK 7th, and New Zealand 21st.[36]

But, with increased demand and usage of data, Australian households are spending more on staying connected.[37] While the cost of internet access has reduced and overall relative household expenditure on telecommunications is comparable between 2019 and 2020, for low income households the proportion of income spent on internet access has increased every year since 2014.[38]

The effect of COVID-19 on internet affordability is only just emerging.

During COVID-19, both the residential and small business debt for digital services increased, after previously decreasing.[39] A survey of 500 low-income households saw half of those with a home internet connection reported difficulty paying costs associated with the service.[40] The effect of financial pandemic support initiatives such as JobKeeper and JobSeeker supplements ending on Australians being able to pay for internet data remains to be seen. However, we do know that people who entered financial hardship agreements with telcos were more likely to successfully exit them during COVID-19 than before the pandemic.[41]

While telecommunications providers have made some important steps to improve affordable internet access during COVID-19, such as hardship arrangements and government-agreed upon principles,[42] these initiatives are largely fixed-term and do not provide a long-term solution. Community-based and not-for-profit organisations have supported people to stay connected during COVID-19 restrictions by providing affordable access through data-enabled digital device rentals and remote digital skills and social support by phone, when online was not possible.[43] However, there is a need for more support from government and telecommunications providers, and broader positive socioeconomic change to provide a holistic, sustainable solution to data poverty which enables people to move across the digital divide.



Digital ability and attitudes

Digital capability, confidence and motivation have a significant impact on a person's level of digital inclusion. Even if they have affordable internet access and appropriate devices, a low level of skills or confidence can see the digital divide linger on.

> Many Australians aren't confident that they can keep up with the pace of tech changes.

Less than 40% of Australians are confident that they can keep up with the rapid pace of changing technology, and less than 50% believe digital technology gives them greater control over their lives.[44] For older Australians this increases, with 80% finding it difficult to keep up with the fast pace of technological changes, and only 34% of older people feeling that technology gives them more control over their lives.[45] The same research shows that only 28% of older Australians would go out of their way to learn about technology, and 67% are worried about the invasion of their privacy through new technology.[46] Overall, people who are late adopters or have a low level of interest in new technologies tend to also be low consumers of digital media, such as social media, in general,[47] indicating a link between usage and attitudes.

Despite many Australians displaying a fearful attitude, the national ADII score for digital ability has risen by 9.8 points since 2014.[48] The proportion of Australians engaged in basic digital activities has also increased.[49] While this is a small sign of progress, there are still significant barriers to effective digital participation related to digital ability, including low digital media literacy, lacking essential skills for life and work, and online safety.

Essential skills

The level of digital ability a person requires depends on their life and goals. However, there are essential digital skills that all internet users need to be safe online and resilient to technological changes. The UK Government defines essential digital skills as including foundational skills such as turning on a device and accessing apps or programs, communications skills including email and messaging apps, skills for work including complying with security protocols of a workplace, and transactional and information handling skills.[50] To build digital resilience to changing technologies, people need to have these basic skills. It is important to note that as technology changes, the essential skills required may also need to evolve. To that effect, 40% of respondents in a recent survey by the eSafety Commission on the impact of the pandemic were concerned that learning new skills and ways of doing things online was a big challenge.[51]

The Be Connected program has shown that community-based essential digital skills programs create significant social return on investment of $4 for every $1 spent, and effectively help to improve people's confidence and essential digital skills, particularly in groups most at risk of digital exclusion - in this program's case, the over 50's.[52] Good Things Foundation's grassroots campaign Get Online Week

has also shown success in impacting motivation and capability. 90% of digital skills event attendees wanted to learn more about what they could do online after attending the event and 90% of event holders said that Get Online Week improved their community's digital skills.[53] However, these initiatives alone will not ensure all Australians have the essential digital skills they need for life and work.

Digital Media Literacy

Media literacy is defined as, *"the ability to critically engage with media in all aspects of life. It is a form of lifelong literacy that is essential for full participation in society".*[54] In the modern world, media literacy encompasses skills and confidence using digital technologies such as social media, identifying misinformation in digital media, and using new technologies.

30% of Australian adults have a low level of media literacy.[55] Australians who live in regional areas, are less educated, living with a disability, identify as First Nations, or are over 56 years of age are at higher risk of having low media literacy and have a lower likelihood of engaging with a broad range of media channels.[56] Gaps in digital media literacy include not knowing how to change social media privacy settings (55% of adults) and a lack of confidence in identifying misinformation online (61% of adults).[57] To this point, the ACCC's 2019 Digital Platforms Inquiry report recommended that a community-based education program is established to develop resources and train community organisations to upskill all Australians in identifying and scrutinising online news, building on the model of the Be Connected program.[58]

Online safety

Online safety — the knowledge and skills to confidently and safely use the internet — is fundamental to digital inclusion. Perceptions of online safety and confidence form part of Australians' attitudes around digital, and thus their digital ability. While it is important to talk about the benefits of digital participation, it is also important to address the anxieties that many Australians have about going online and the potential for negative experiences.

There is a high level of concern about cyber security and safety among the Australian population. One in two Australians indicated that they are 'extremely' or 'very concerned' about their online safety.[59] Cyber security concerns are mostly related to fraud (72%) and identity theft (76%), with many concerned about cyber security threats to the Government and businesses ahead of themselves.[60]

Although Australians have high levels of concern about risks online, many have a limited understanding of what to do about them.

Not having this knowledge can lead to people feeling more concerned about getting online and increase their risk of being a victim of cyber security issues such as fraud and identity theft.[61] Only 33% of adult Australians report feeling very confident online, with 8% feeling *"not confident at all that they have the skill and access to information to feel safe online".*[62] Generally, males exhibit higher online confidence than females.[63] The latest cyber security profile snapshot identified that 34% of the population surveyed are categorised as 'at risk' due to low levels of understanding of cyber security.[64] This cohort includes women, people over the age of 60, those who spend two or less hours on the internet per day, and households with incomes under $50,000.[65]

COVID-19 social distancing and isolation measures led to a significant increase in internet usage, and thus also increased risk of being exposed to online harm. The COVID-19 impact on Australian adults' online activities and attitudes research report conducted by the eSafety Commissioner provides insight on this impact. The report finds that 38% surveyed had a negative experience online during COVID-19, including receiving unwanted messages or interactions (26%), receiving unwanted inappropriate content (12%), attempts to provoke an argument online (8%), and being electronically tracked without consent (6%).[66] Despite the prevalence of these situations, 65% of adults don't know what to do when they are harassed online.[67]

Given fears around online safety and privacy, negative online experiences during COVID-19, and lack of awareness on how to get help, there is a need for further education on how to stay safe online. The eSafety Commissioner found that nearly half of surveyed Australian adults identified during COVID-19 that they want information on how to be protected against viruses and hackers (41%), while there is also a need for information on device privacy and safety features (35%) and how to block harmful or inappropriate content (31%).[68]

All Australians need to be digitally capable in order to be fully included and cross the digital divide. This includes being digitally media literate and having the essential skills and confidence to be safe online.

Who is more impacted by the digital divide?

The gap between digitally included and excluded Australians is substantial and widening for some groups.

Those more likely to experience digital exclusion[69] are:

People with a mobile-only connection

People aged over 65 years

First Nations people

People on low incomes

People with disabilities

People living in rural and remote areas of Australia

People with low levels of education

People who are not in the labour force

Women

New culturally and linguistically diverse (CALD) migrants and refugees[70]

Conversely, those who are more likely to be fully digitally included are people who:

Earn higher incomes

Live in cities

Have high levels of education

Are younger[71]

Trends among those most at-risk of digital exclusion

Trends among groups most at-risk of digital exclusion reveal the complex interaction between access, affordability, digital ability, and broader socio-economic contexts on the digital divide in Australia.

Low socioeconomic status: Income, employment, and education

> There is a significant digital divide between people who have higher levels of income and education in Australia, and those with lower incomes, levels of education and workforce participation.[72]

The lower a person's income is in Australia, the greater risk they are at of being digitally excluded. For people earning less than $35,000/year, their ADII score is 19.2 points lower than the national average.[73] For those in the next income bracket of $35,000-$60,000/year, this improves slightly, but is still 9.2 points behind the national average.[74]

For low-income families with school aged children, affordability is the most significant barrier to digital inclusion.[75] Low income families with school children spend about five times more of their household income on data access compared to families in higher income quintiles and compared to national spending.[76] This is largely due to low-income families being more dependent on mobile-only access relative to the broader population, with one third being mobile-only users.[77] As a result, in the ADII these families score 29.8 points lower in affordability compared to other families with school-aged children.[78] The affordability divide between people on low and high incomes has not changed much over the past 7 years.[79] Overall, the Australian Communications Consumer Action Network (ACCAN) reports that over 1 million low-income households are at risk of not switching over to an NBN internet service because of cost.[80]

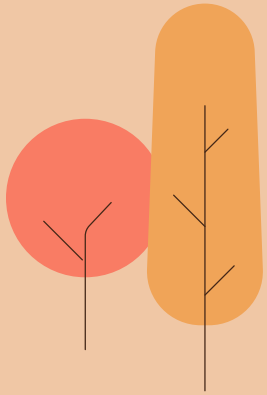
While affordability is a major issue impacting access for people on low incomes, there is also a correlation with lower levels of digital ability. Recent research shows that people on low incomes are also 10% more likely to have the lowest levels of media literacy.[81]

The divide between people not in the labour force and those who are employed has widened, largely due to the cost of being connected.[82] People who are in the labour force have an ADII score 13.5 points lower than people who are employed.[83] The Be Connected program social impact evaluation has shown that the longer a person has been out of the workforce (post-retirement), the more likely they are to not feel confident in having the digital skills they need to keep up with technology.[84]

People with lower levels of education are similarly more at risk of digital exclusion, with those who have not completed secondary education having an ADII score 16.6 points below those who have completed tertiary education.[85] A recent study has shown that 46% of people with low levels of education used three or more social media platforms in the past week when surveyed, compared to 77% of adults with high levels of education.[86] Further, 15% of people with low levels of education did not use social media platforms at all in the past week.[87] 44% of people who have not completed secondary education have not had access to any media literacy support and are the group most likely to be missing out on upskilling in this area.[88] Together, this points to a divide across usage, skills, and support between people with high and low levels of education.

IMPACTS OF DIGITAL EXCLUSION

21% First Nations school children without internet access at home[112]



People with disabilities are more likely to experience cyberbullying and digital abuse[107]

Only 55% of over 65s used apps to communicate in the first half of 2020, compared to 88% of 18-34 year olds[99]

Older Australians have increased their use of digital technology during the pandemic, but still lag behind younger generations

People aged over 65

The risk of digital exclusion increases with a person's age, particularly when it comes to access and digital ability.[89] Australians aged over 65 years record an overall ADII score 13.3 points lower than the Australian average.[90]

Before the pandemic, approximately a third of older Australians over 50 used the internet one or less times a month, while another third used the internet less than once a week.[91] ABS data from 2018 showed that 45% of over 65s don't use the internet at all.[92]

However, more recent research highlights that the pandemic has seen the number of older Australians getting online increase, particularly for the purpose of communication and entertainment. According to ACMA, the majority of older Australians (95%) now use email[93] and the rate of older people using apps to make voice calls almost tripled between 2019 and 2020.[94] The proportion of older people undertaking other digital activities also increased. Use of online banking rose to 77% of older people (up from 59% in 2017), watching videos to 71% (from 43% in 2017), shopping to 64% (from 44% in 2017) and 36% of older people were listening to audio content (rising from 21% in 2017).[95]

While usage has increased in this age group, research still points to it being significantly lower than younger generations, with a higher reliance on offline mediums such as print, radio and television.[96] Younger people (aged 18-34) increased their online usage more during

the pandemic than older people and are nearly twice as likely to be confident that they can keep up with rapid technological change than people aged over 65.[97] 88% of people aged 18-34 used an app to communicate in the six months to 2020[98] compared to 55% of over 65s.[99] People in the older age group also have lower levels of confidence than younger generations when it comes to their digital media abilities, with 75% of over 75s falling into the 'low media ability' category when assessing their own confidence across 12 different online tasks, compared to just 12% of 18-23 year olds.[100]

Affordable access is a big barrier for older Australians, particularly those on low incomes. Both the ADII access and affordability scores for people aged over 65 are significantly lower than the national average.[101] From research with the Be Connected Network, we also know that many who need digital skills support in this age group did not have access to an appropriate, internet connected device they can use at home during the pandemic.[102]

People with disability

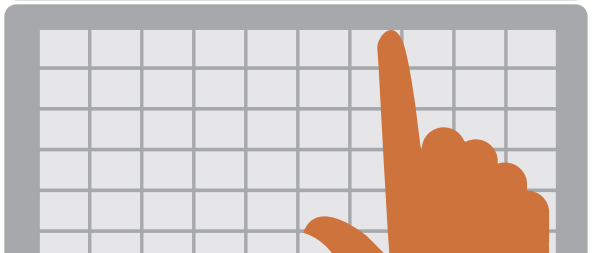
Since 2014, the digital inclusion gap for Australians with disability has changed very little, and they are more likely to be digitally excluded with an ADII score 10.4 points lower than the national average.[103] The Human Rights Commission has recently described digital inclusion for people with disability under the encompassing term of 'availability'.[104] This draws on the multiple interlocking factors that lead people with disability more likely to be excluded from digital technologies: lack of internet access, high cost of assistive technology, digital ability, and socio-economic factors.[105]

Recent research has found that people with disability are more likely to be lower users of digital media, use social media less, and have lower levels of interest in emerging technologies than people without a disability in Australia.[106] The Australian eSafety Commission has also reported people with disability being more likely to experience online safety issues such as cyber-bullying, harassment, image-based abuse and technology facilitated abuse.[107]

For people living with disability, there is also an additional barrier to digital access to consider - technical accessibility.

Poorly designed websites and apps create barriers to people being able to communicate and equally access information.[108] If online content is created with consideration for accessibility guidelines, users both with and without disability will benefit. Both technical accessibility and broader barriers to access need to be solved for all people with disability to fully cross the digital divide.

Poorly designed websites and apps create barriers to people being able to communicate and equally access information



First Nations People

> Lower levels of affordable access and online participation means that First Nations peoples in Australia are more likely to experience exclusion from our digital society.

Importantly, between 2019 and 2020, there was no improvement in the overall ADII score for First Nations people.[109]

First Nations people living in urban and regional areas are 7.9 points below the national average ADII score for digital inclusion.[110] This is exacerbated by a lack of in-home internet access compared to the national average. Currently, as estimated 30% of First Nations people living in remote indigenous communities do not have household access to internet or telephone services, despite improvements in infrastructure.[111] For First Nations school children this disparity is clear, with 21% without internet access at home compared to 5% for all public school students.[112]

Affordability is a persistent key issue for First Nations people. A relatively high proportion of First Nations people are mobile-only users with prepaid connectivity (35.0% versus the national average of 19.9%), which has a higher cost per unit than fixed internet connections.[113] Affordability is one of the main factors for reduced rates of household internet access in remote indigenous communities.[114] First Nations people are more likely to have lower levels of digital ability with an ADII ability score 7.9 points below the national average.[115] With digital ability incorporating attitudes towards technology, it is useful to note that 49% of First Nations respondents in a recent study had a low level of interest in new technology, a rate 12% higher than that of non-First Nations people.[116]

Due to the rapid digitisation of essential services, information and education moving online, and risks associated with COVID-19 for the First Nations population,[117] the need for affordable internet connectivity and the skills to use it is more evident than ever. Very few remote First Nations communities were able to readily access services like MyGov and education or work from home during COVID-19 restrictions due to lower levels of digital inclusion.[118] To that point, equal digital inclusion of First Nations people has recently been recognised as essential to Closing the Gap, being identified as one of the 17 national targets to ensure equal access to information and services in the National Closing the Gap Agreement.[119] Investment is needed to ensure that this target is achieved and that First Nations people co-design or lead digital inclusion strategies.

Women

Women in Australia follow the global trend of being less digitally included than men.

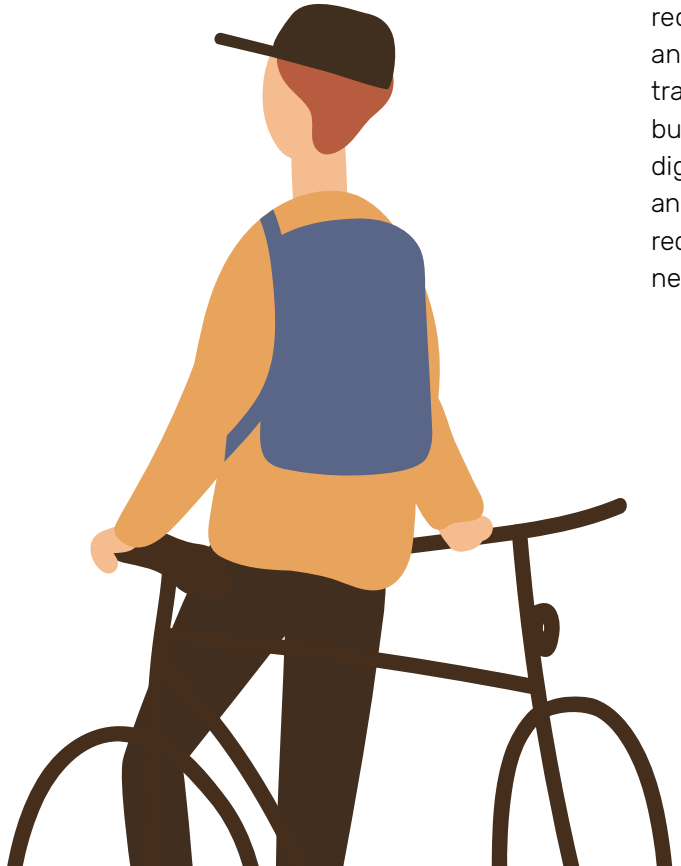
Women are less digitally included than men in Australia,[120] a trend also reflected at the global level.[121] Young women in Australia were heavily affected by job losses during COVID-19, representing one-third of the total fall in women's employment.[122] The Australian Government has identified that improving digital capabilities is a key strategy to enable women to return to work and fully participate in the digital economy.[123] There is particular opportunity in the growing tech industry, where currently just 29% of the workforce is made up of women.[124] Increasing gender diversity in this sector could lead to the Australian economy growing on average by $1.8 billion per year for the next 20 years and create 5,000 jobs.[125]

The link between online safety and digital literacy is an important consideration for Australian women. It has been particularly identified in research on women accessing support for technology-facilitated abuse.

Low digital literacy has been shown to be a key barrier for women from CALD backgrounds when seeking this support.[126] Research shows that low digital literacy makes them more vulnerable to online abuse, less able to identify instances of online abuse, and negatively impacts their ability to take action once online abuse has been identified.[127] Research has similarly identified that improving digital literacy in a culturally appropriate setting, particularly on topics such as privacy settings, can improve support for First Nations women experiencing technology-facilitated abuse.[128] In addition, 70% of people experiencing image-based abuse who the Australian eSafety Commission support are women,[129] highlighting the need for strong online safety skills.

Culturally and linguistically diverse (CALD) new migrants and refugees

While overall CALD communities have average levels of digital inclusion according to the ADII, research suggests that newly arrived migrants and refugees experience higher levels of digital exclusion.[130] A 2019 ADII case study showed that recently-arrived CALD migrants' digital inclusion falls below that of the broader CALD migrant community.[131] Research with settlement services indicates that digital inclusion is a key barrier for delivering on their priorities with new migrants and refugees.[132] Many in this community, while connected, had only one internet connected device per household, meaning that family members needed to time-share their access.[133]



When gaps in digital literacy overlap with low levels of English literacy, this can lead to increased challenges when upskilling.[134]

A lack of digital skills can impact a person's ability to find secure, meaningful and sustainable employment, which is an important step for a refugees' or new migrants' successful settlement in Australia.[135]

Low digital skills is one factor among others that can see refugees and new migrants pushed into unskilled work, despite the wealth of knowledge and experience they may bring with them.[136] Therefore, it is important to remove the barriers to digital inclusion from recent migrants and refugees to allow them to find and participate in appropriate employment and training opportunities, or successfully run their own business.[137] Measures such as culturally appropriate digital mentoring, improved access to digital devices, and translated digital skills learning materials have been recommended to help reduce the digital divide for new migrant and refugee communities in Australia.[138]

Living in regional and remote areas

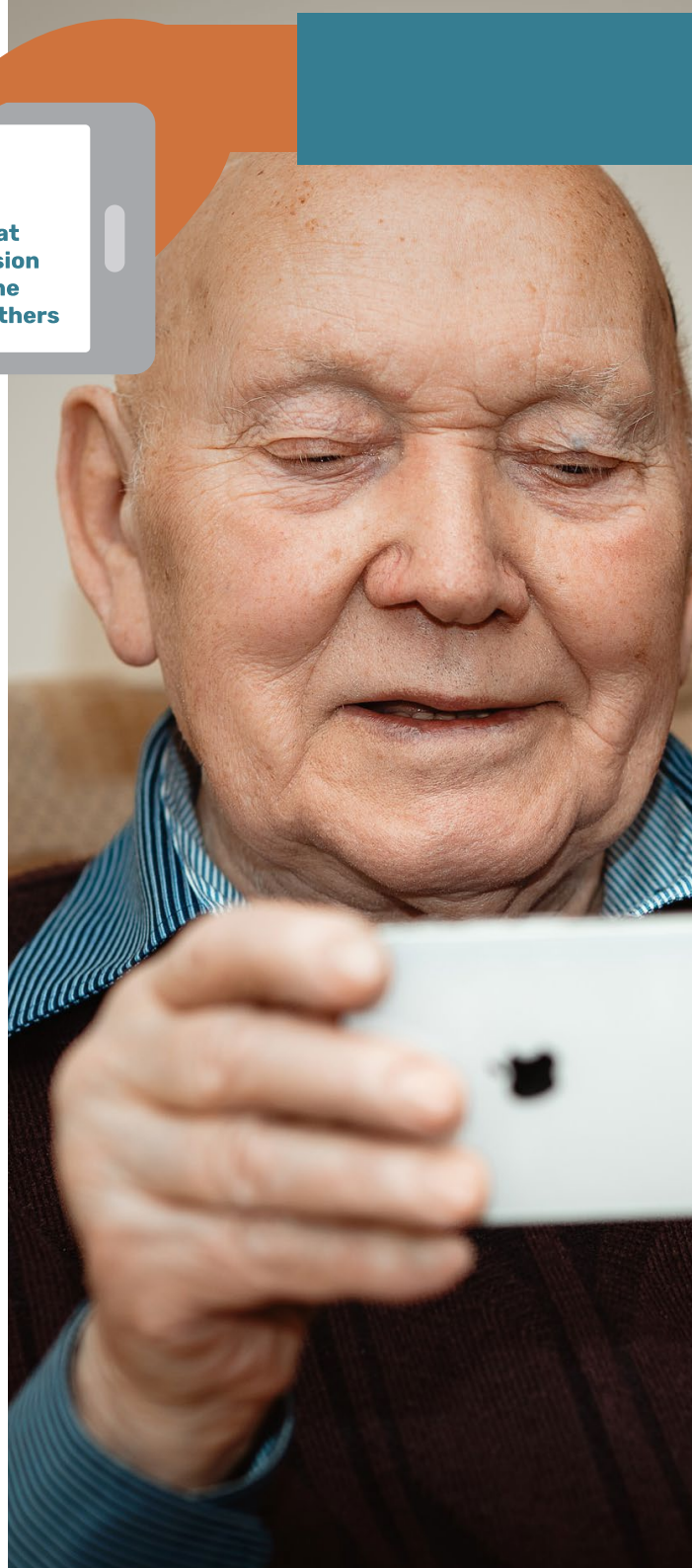
Despite some recent improvements in access, people living in regional and rural areas of Australia are still considerably less digitally included than their metro peers.[139] In 2020, the "Capital-Country Gap" was evident across all areas of digital inclusion, with the ADII score being 7.6 points lower in rural areas than capital cities.[140] There is also a gap in usage, with only 24% of people living in regional Australia being high users of digital media, compared to 38% of their metro peers.[141] Research by Better Internet for Rural, Regional & Remote Australia discovered a distinct gap in digital skills for people living in regional areas, particularly around connecting to the internet, due to a range of factors, such as the rapid pace of improvements to digital access in these areas and a lack of tech advisors located in regional areas.[142]

The importance of digital access and inclusion in regional and remote areas has been highlighted by the recent movement online of essential services, such as banking, health, government services, work, and education.

Even before COVID-19 restrictions, people living in geographically remote areas of Australia had decreased access to services.[143]

With rapid digitisation, those in regional and remote areas - making up 30% of the Australian population[144] - risk being further excluded. The need for increased digital inclusion support for people living in regional areas of Australia has recently been recognised with the introduction of the Regional Tech Hub, an Australian Government funded program being delivered by the National Farmers Federation in collaboration with ACCAN.

What does the digital divide mean to Australia?



COVID-19 and the consequent lockdowns and restrictions saw Australians increasingly turn to the internet for everyday services, socialisation, and work and education. COVID-19 has accelerated four key trends: the move from offline to online for businesses, remote work, remote learning, and new service delivery channels such as telehealth.[145] People who are digitally excluded risk being left behind across a number of areas, while those who are digitally included can more readily benefit from Australia's rapid transition to the digital economy.

Social isolation and loneliness

Loneliness has been described as *"one of the most pressing public health issues of our time",*[146] with COVID-19 restrictions elevating the risk of social isolation.[147] Between March and April in 2020, one in two Australians reported feeling lonelier since the COVID-19 pandemic began.[148]

There is a particular risk of social isolation surrounding older Australians due to a lack of affordable internet access and digital ability, with one in five older Australians not using the internet at all at the start of the pandemic.[149] This is further aggravated by the fact that older Australians are more likely to live alone and, because of the COVID-19 restrictions and fear of transmission, this group of people have been particularly encouraged to reduce their face-to-face socialisation.[150] During the pandemic over a third of Australians increased their use of social networking sites[151] and three quarters of adult Australian internet users in 2020 used communication apps to make voice and video calls or send messages, showing how digital technology brought us together during times of social restrictions.[152] This included older Australians, who increased their use of digital technology to connect with others.[153]

Further, we know that increased digital participation through improved skills and confidence contributes to social connectedness and enhances social and economic inclusion.[154] An evaluation of the community-based digital skills program for over 50s, Be Connected, showed a reduction in loneliness for participants over the program's duration.[155]

Therefore, while Australians display some distrust around internet use due to safety concerns, the pressures of isolation and social distancing measures have nonetheless seen an increase in internet use for social purposes and some benefits in reducing loneliness.

Access to information in a crisis

People need to have the digital skills and confidence to find reliable information online in an emergency, contact friends and family, and connect with their community and essential recovery and support services.

Recent emergency situations, such as the 2019-20 bushfires and COVID-19 pandemic, have highlighted the importance of nationwide digital inclusion.

The United Nations Economic and Social Commission for Asia and the Pacific note that advances in technology, such as cloud computing and the Internet of Things, create opportunities for increased resilience and connectivity in disaster prone areas.[156] However, full digital inclusion is a requirement to see the benefits of this increased capability, including being able to distribute enhanced information quickly.[157]

The recent Royal Commission into Natural Disasters reported that natural disasters can emphasise existing vulnerabilities, such as low levels of digital literacy, or disrupt internet and communications services, limiting people's ability to access digital and online recovery information and services.[158] They recommended that community education and engagement programs have a strong role to play in building disaster resilience in communities by providing information that is accessible, accurate and authoritative, and that this information needs to be provided both online and offline and include details on how digital services may be affected in emergencies.[159]

89% of Australian adults surveyed by the eSafety Commissioner identified specific needs from the internet in times of emergency or crisis.[160] These needs include having access to up-to-date, accurate information (32%), reliable internet connection (24%), faster internet speed (15%), and secure, safe internet (8%).[161]

Skills for work

Digital technologies have also fundamentally changed how people work. This has especially been the case with the massive shift to remote working in 2020 due to COVID-19 restrictions and the rapid rise in the technology and skills needed to support it. What was a nice-to-have suddenly became a must-have for many workplaces. During Australian COVID-19 restrictions, 46% of employees were working from home in April 2020,[162] and 58% of people said that the internet was essential to work during the pandemic.[163] This trend of remote working looks to continue beyond the end of the pandemic, with one quarter of Australians planning to work from home more after the crisis ends.[164]

> Digital skills are now an essential requirement for most working Australians.

One of the biggest emerging skills needed for the Australian economy is digital, with 87% of jobs in Australia now requiring digital skills.[165] Prior to the pandemic, Australian businesses reported that digital literacy was the third largest skill shortage they faced.[166] It is expected that one in four jobs created

by 2025 will be for digital technology workers.[167] Given that just three years ago the Australian Government anticipated that by 2030 over 90% of jobs will need digital skills and 45% will need more advanced digital capabilities,[168] it seems likely that this estimate for the requirement of digital skills in the workforce will be met much more quickly than expected.

Recent data shows that agriculture, tourism/arts, health, construction, utilities, and manufacturing have the greatest productivity potential and digitisation opportunities.[169] While some sectors, such as mining, have been quick to adopt digital technologies and invest in digital infrastructure, the Future Productivity Report report by the Office of the Chief Economist found that agriculture is lagging behind.[170]

With digital transformation comes some risk for workers. By 2034, 2.7 million Australian jobs are at risk of being lost due to automation.[171] However, almost twice as many jobs as those lost to automation could be created with appropriate investment in upskilling the workforce, nearly a quarter of which being technology jobs.[172] Deloitte Access Economics suggests that for those who have lost employment during COVID-19, reskilling with digital skills may provide a pathway into this in-demand technology career.[173]

Clearly, technology will be of vital importance to the recovery of the national economy from the effects of COVID-19.[174] But, with the rapid digitisation of work, people who have low digital skills face additional barriers when searching and applying for jobs, or retaining their roles and participating in a rapidly changing workforce. Some groups who are already at risk of digital exclusion, such as people with disabilities, are also more likely to currently be underemployed or unemployed[175] or, in the case of women, underrepresented in the tech workforce.[176] This creates additional risk, but also potential additional opportunities with digital upskilling and appropriate support. The Productivity Commission recently identified that foundational work-ready digital literacy programs need to be delivered through channels like community adult education, in addition to school and VET providers, to reach those who would not engage in formal education.[177]

Digitisation of small businesses

Small businesses account for 98% of all businesses in Australia and employ 5 million people.[178] This makes them an essential part of the transitioning digital economy.

While small businesses are increasingly digitally capable, their adoption of digital technologies is slow relative to medium and large businesses.[179] When compared to other countries in Asia, Australian small businesses lag behind in terms of digital adoption. During the pandemic,[180] *"70% of Australians said they wanted to support small businesses but found it difficult to engage due to a limited online presence"*.[181] As the recent crises have seen businesses across industries rapidly innovate, with 40% having changed business models in order to respond to the world

around them as of June 2020,[182] small businesses need to undertake digital transformation to remain competitive.

> Small businesses who do not become digitally capable risk being left behind.

Research by Westpac showed that of the small to medium sized businesses who had a physical store at the beginning of 2020, 70% continued to have a physical store only by the end of the year, while 10% moved completely online and 6% were operating in a hybrid online-offline model.[183] The move to online was particularly apparent in Victoria,[184] which had the longest COVID-19 lockdowns in the country. Of those who did move permanently online, 74% said it made it easier to run, but only 67% were marketing their business online.[185]

When undertaking this digital transformation, online safety will be paramount. Before the pandemic, research indicated that 62% of small businesses had been a victim of a cybersecurity incident.[186]

The Australian Government has developed some initiatives to support small businesses to upskill, including resources, guides and mentoring but acknowledge that the divide between digitised and non-digitised businesses has increased.[187]

However, digital transformation requires investment. In June 2020, 70% of small businesses had reduced income compared to the same time the previous year,[188] and by May 2021 25% of small businesses still reported having less cash on hand than usual for this time of year.[189]

Not-for-profit and community sector

Like for-profit businesses, not-for-profits have had to rapidly adapt their business model due to the pandemic to continue providing support services and advocacy, all while demand for their services has often increased.[190] 81% of respondents in a recent not-for-profit survey said that they had to move at least part of their services online, with 60% moving to a fully digital service delivery model by mid 2020.[191] The sector is also increasingly digitising, with two-thirds now reporting that their systems support their teams to work in-office or remotely, and nearly half having moved to the cloud.[192]

This means that not-for-profit staff members and volunteers have had to rapidly upskill in order to provide their essential services and skills support to their community. 48% of organisations feel that the pandemic has made improving digital capabilities in their workforce a bigger priority.[193] Overall, 49% of not-for-profit staff are not confident using technology, but the bigger the organisation that they work for, the more confident and digitally capable staff tend to be.[194]

Volunteers are an important part of the not-for-profit workforce that need considering in digital

transformation initiatives. While the majority of organisations had not recommenced their full volunteering programs since the pandemic hit, 25% of respondents in a recent survey of the volunteering sector said they are now engaging more volunteers remotely or digitally than before the pandemic, and 20% want support to increase the number of volunteers engaged in this way.[195]

For organisations providing services to people at risk of digital exclusion, additional barriers have had to be overcome during the pandemic when they were unable to provide their usual service offerings. 75% of Good Things Foundation Australia's network of community organisations said that some or all of the people they supported to learn digital skills lacked digital devices to use at home.[196] This significantly limited the community sector's ability to provide ongoing digital skills support. While a digital device grant program was established to loan devices and data to learners, the issue of people not having internet connected devices at home they could use persisted, indicating that it was not a long term solution to the scale of the problem.[197] Services supporting new migrants and refugees reported similar barriers, with many in the sector also mobilising to provide digital devices and connectivity to their clients, but noting that there was not enough borrowed or donated technology to meet the scale of demand during this time.[198] As a result of low access and digital literacy, the digitally excluded in this cohort struggled to engage with settlement services throughout COVID-19 restrictions.[199]

Despite the initial barriers, through innovating and upskilling, by July 2020, 73% of organisations in Good Things Foundation's Australian network reported that they delivered some form of digital skills support during COVID-19 lockdowns.[200] Largely this was a limited service compared to their usual support offer, indicating the difficulty in providing digital services to those most at risk of digital exclusion, and the entrenched divide this can create in the community.

Accessing and providing essential services

Along with many businesses and organisations undertaking digital transformation, there is a big focus on moving government services online. It is estimated that $20.5 billion could be saved through a move of government services to online.[201] The Australian Government has a stated goal for all government services to be available online by 2025,[201] and have been investing in digital service provision through their recent COVID-impacted federal budgets.[203]

> More Australians are accessing essential services online, but some are still missing out.

Recent research from the eSafety Commissioner shows that over half of Australian adults increased their internet usage for at least one task during the

Digitisation of healthcare

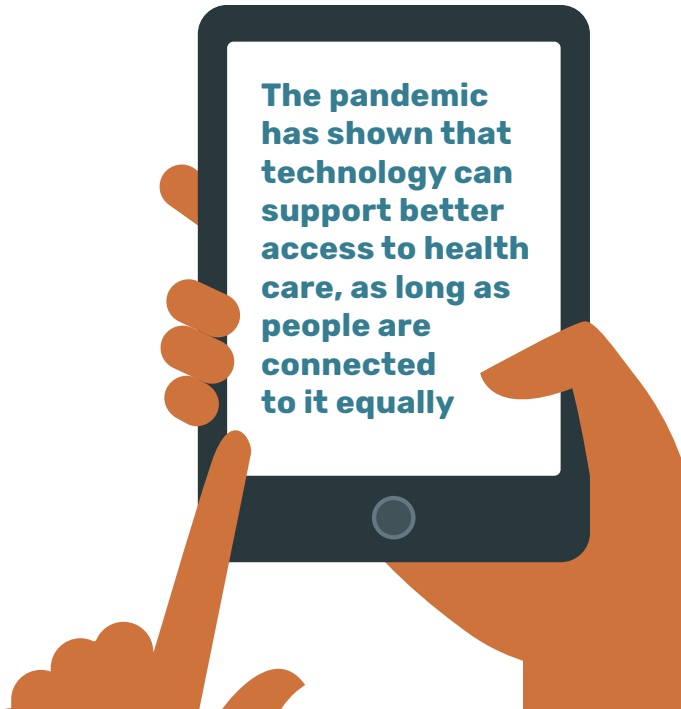
first COVID-19 lockdown and saw the internet as essential for services such as paying bills (87%), accessing news and information (82%), staying fit and healthy (44%) and buying groceries (39%).[204] However, the shift to digital-first services, information and activities during COVID-19 exacerbated the digital exclusion of some groups, such as newly arrived migrants and refugees, creating a barrier to accessing local news and reliable information, health and government services, and causing increasing social isolation.[205] Further, 25% of people reported feeling more stressed by having to use technology and the internet to get things done during the pandemic.[206]

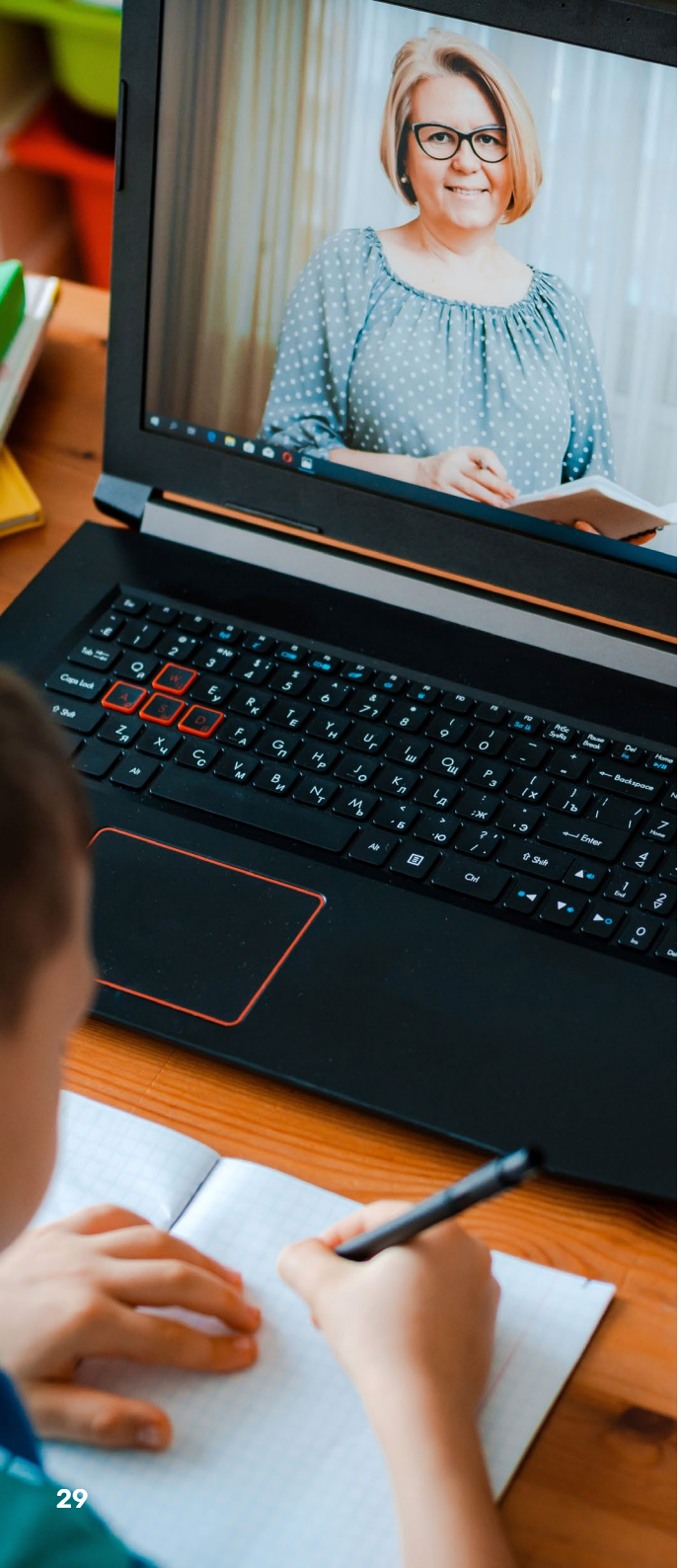
With increased digital inclusion comes reduced costs for people in regional and remote areas to access essential services.[207] Further, digital inclusion can strengthen civic participation, with research showing that people who have higher levels of digital media literacy and higher usage of social media participated in more civic engagement activities such as keeping up to date with politics, talking to others about issues or signing a petition than those who have low levels.[208]

The issue of the digital health divide has been particularly relevant during COVID-19. The provision of telehealth consultations rapidly expanded, with over 56 million telehealth consultations held between March 2020 and April 2021.[209] This helped to provide continuous access to health care during lockdown restrictions and reduce risks to vulnerable patients.

84% of Australian internet users used telehealth for the first time or increased their usage of telehealth during the COVID-19 pandemic.[210] In particular, 50% of older Australians started using telehealth for the first time, and 29% increased their use.[211] However, research shows that the majority of people used their telephone for telehealth appointments, with only a small minority of consultations via video conference.[212]

Moving forward, the rise in digital health provides opportunities for communities with traditionally poorer access to health care, such as those in remote areas, to have improved access. Conversely, the digital health divide means that vulnerable populations can be marginalised further if they don't have equitable access.[213] Those most likely to be missing out on the benefits of digital health due to time, cost, preference or low digital ability, are also more likely to have higher healthcare needs.[214] All Australians need to have the skills and confidence to access reliable health services and information online, and the affordable access to do so.[215] Digital health capability programs such as Good Things Foundation's community-based Health My Way have been shown to have a positive impact on improving skills and confidence,[216] but more needs to be done at a national level.





Digitisation of education

Access to the internet is important for school-aged children to research and complete their homework and not fall behind academically. Worldwide, by March 2020, 1.5 billion pupils were impacted by school closures due to the pandemic.[217] Across Australia, children in every state and territory experienced interruptions to their schooling.[218] Lack of affordable internet access has an enormous impact on children's educational outcomes, particularly with the rapid move to home schooling during the pandemic.

There are almost 4 million students in primary and secondary school in Australia.[219] 20% of these students are from disadvantaged, low income families.[220] Low income families with school aged children lack access to digital devices, pay more for their data compared to other families, and have lower levels of digital ability.[221] Before the pandemic, in Australia's most disadvantaged communities, only 67.8% of school aged children (5-14 years of age) accessed the internet at home, compared with 90.5% of students from the most advantaged communities.[222] First Nations students have significantly lower rates of home internet access than the public school student average.[223]

Since the pandemic, a survey by The Smith Family revealed that 81% of respondents are concerned about students struggling to do schoolwork without reliable access to a laptop and internet.[224] There was also a noted divide that some school children experienced beyond digital access, including some schools not being able to readily implement learning adjustments in remote learning situations and a lack of digital capability, creating an unequal playing field.[225] The lack of access to suitable digital devices, paying more for the digital services compared to their household income, and lower levels of digital skills combine with other factors to have challenging implications for online learning. Immediate and significant, coordinated support is needed for disadvantaged families with children to assure a successful and equitable educational future for all.

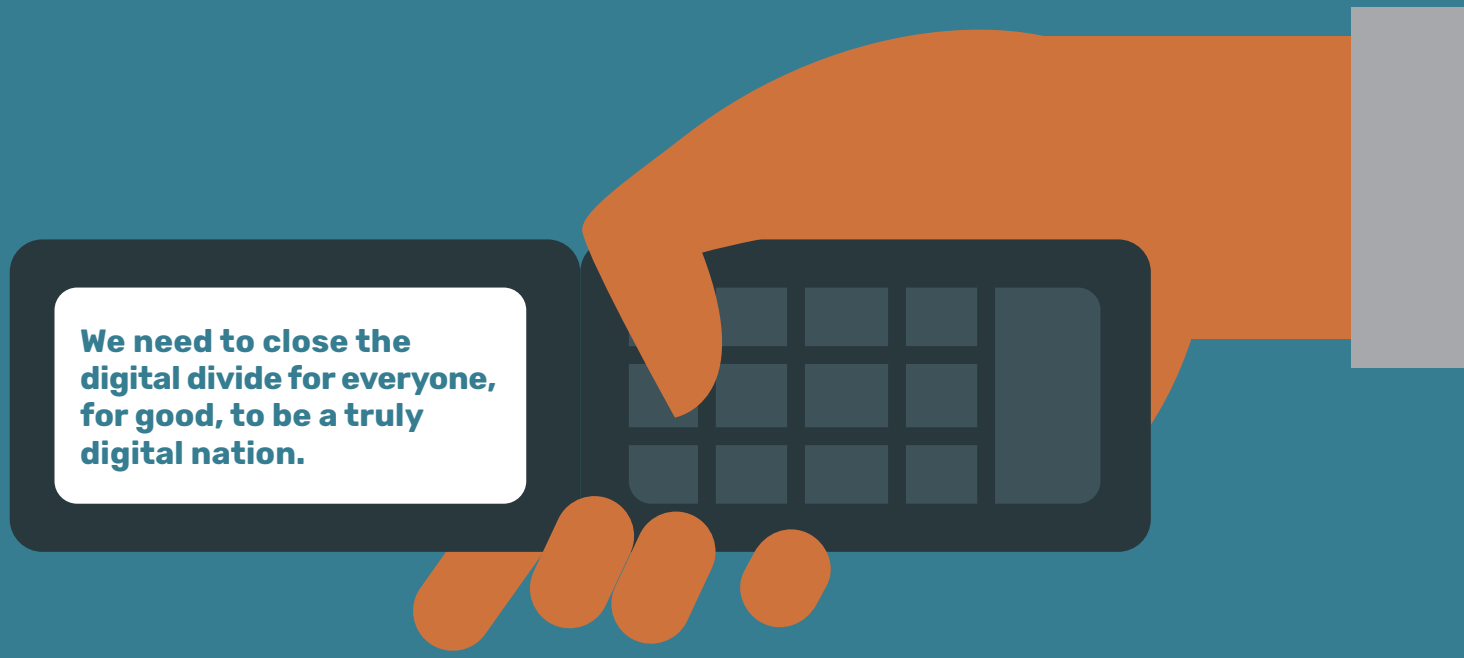
The pandemic has rapidly digitised education at all levels, meaning people at higher risk of digital exclusion face additional barriers to participate equally.

Digitisation of education is not limited to school-aged children. Universities and professional development courses for the workforce also needed to rapidly go online during COVID-19, and Australian Government incentives were introduced to support people to retrain or upskill in identified areas. 55% of Australian adults reported increasing studying online from home since COVID-19, including 37% of adults aged over 55 years.[226] Research by the Tertiary Education Quality & Standards Agency revealed that while there were some positives in the rapid transition to online learning experienced by tertiary students during COVID-19, such as improved availability of course resources and technology making it easier to learn, IT problems was the most commonly mentioned challenge.[227] These IT issues included a number of digital inclusion related elements such as students having slower internet access at home, a lack of access to devices, familiarity with new software.[228] Digital inclusion is therefore also a basic requirement for post-secondary education.

Conclusion

The evidence suggests that the digital divide is slowly improving in Australia, and more people are active online than they were before the pandemic. This has brought with it many benefits over the past year, including social connectivity during times of distancing, employment flexibility, and continued access to essential services like healthcare, banking and education. However, some groups are still more at risk of digital exclusion than others, which can have significant impacts on their ability to fully participate in our increasingly digital nation.

Digital inclusion is an issue more complex than whether someone has recently accessed the internet or not. Even after Australians are connected, many people can't afford the data or devices they need to keep up with the digital society around them, don't feel confident or safe online, or don't feel they can stay up to date with rapid changes to technology. The 2019-20 bushfires followed by the rapid digitisation due to the pandemic have shown us just how important digital inclusion is.



Different organisations and governments have put forward recommendations and solutions to close the digital divide and some initiatives are already in place. But, for Australia to take advantage of the full benefits that digital technology can bring, we need to invest in effective digital inclusion strategies that sit alongside digital transformation across all sectors. What the latest research and insights show is that our digital nation needs a focus on supporting people to be affordably connected, and confidently and safely use the internet, as it is now critical for most aspects of our daily lives and and how we connect to our community.

By describing the national digital inclusion landscape, it is hoped that Good Things Foundation Australia's *Digital Nation Australia 2021* report can build understanding of the complexities of digital inclusion as an issue that needs action in modern Australia, and inform initiatives that can help to close the digital divide.

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Good Things Foundation Australia

Good Things Foundation Australia is a social change charity helping people to improve their lives through digital. We work with partner organisations in thousands of communities across Australia to close the digital divide.

Published: August 2021.

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