



Measuring Australia's Digital Divide

The Australian Digital
Inclusion Index 2020



Powered by Roy Morgan



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About this report

Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors, and do not necessarily reflect the views of the partner organisations.

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For more information about the ADII, and a full set of data tables, see digitalinclusionindex.org.au

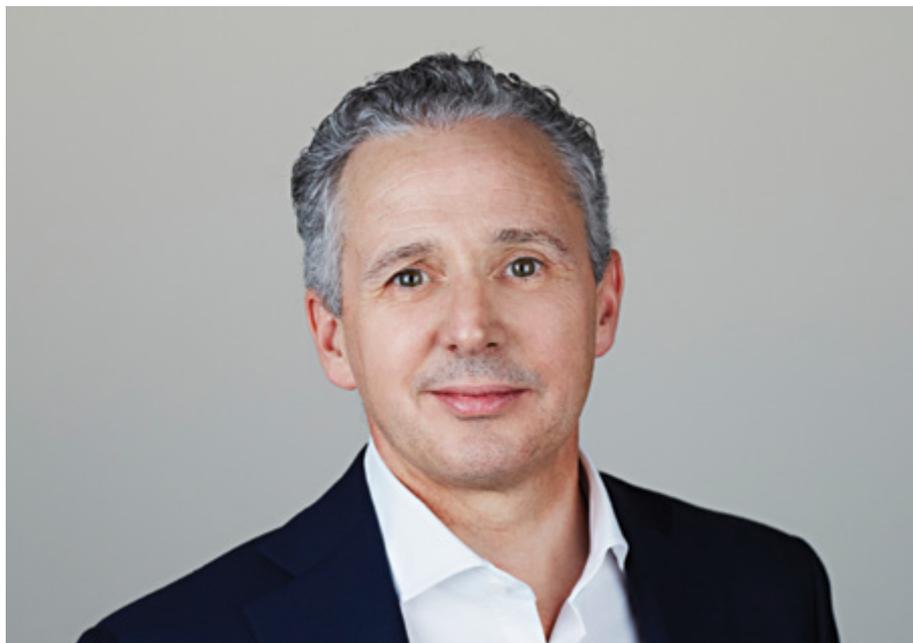
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Foreword

Australian Digital Inclusion Index 2020



Even before COVID-19 turned the world upside down this year, connected digital technologies were rapidly changing the way we live and work. Forced isolation and social distancing during COVID further accelerated the shift to tele-health, online learning, working from home and e-commerce, and these enablers will be very much part of the new normal.

The challenge is that the many benefits of the digital economy are not being shared and too many Australians are still facing real barriers to online participation.

This report – the fifth Australian Digital Inclusion Index (ADII) – provides a comprehensive picture of Australia’s online participation by measuring three key dimensions of digital inclusion: Access, Affordability, and Digital Ability. The ADII this year shows some improvement in some areas but also reveals that the rate of improvement has slowed. It continues to show that the digital divide follows clear economic, social and geographic fault lines. Broadly it is Australians with low levels of income, education, employment and those living in some regional areas that are on the wrong side of the digital divide.

Clearly much more needs to be done and Telstra is committed to continuing to play an active role through localised programs to build Access, Affordability and Ability as well as in continuing to work closely with RMIT and the Centre for Social Impact Swinburne on the ADII.

Digital inclusion is a shared national challenge and I am certain the ADII will again provide strategic insight to enable informed, effective action.

Andrew Penn

CEO, Telstra

Acknowledgements

The research team would like to thank the many people and organisations that have made this fifth iteration of the Australian Digital Inclusion Index (ADII) possible. Understanding digital inclusion in Australia is an ongoing project, and one of national importance.

We wish to acknowledge and thank our project partner Telstra for supporting and enabling this research - in particular, Abigail Brydon, Michael Parks and Robert Morsillo, for sharing their knowledge, expertise, and good advice.

We also thank RMIT and Swinburne University of Technology for their ongoing support. Particular thanks to our colleagues at the Digital Ethnography Research Centre (RMIT) and the Centre for Social Impact Swinburne for their advice and valuable support.

This is the last year the ADII will be powered by Roy Morgan. We would like to thank Roy Morgan for providing data for the ADII since 2016.

We look forward to further exploring the full potential of the ADII in collaboration with the core research team and the broader community.

The research team

The ADII research team was led by Professor Julian Thomas at RMIT University, working with:

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Executive summary

The COVID-19 pandemic has underlined the critical importance of digital inclusion in contemporary Australia. With the shutdown of schools, businesses, services, shops and meeting places across the country, the digital transformation of education, government, business and community services has accelerated.

However, the rapid acceleration of the digital economy and society is emerging at a time when some members of the community still face real barriers to online participation. The impact of the pandemic has therefore been particularly difficult for some Australians and may have lasting consequences. Older people, families without adequate internet access, and vulnerable Australians are among those who have been especially isolated during the pandemic.

The Australian Digital Inclusion Index (ADII) was first published in 2016, providing the most comprehensive picture of Australia's online participation to date. The ADII measures three key dimensions of digital inclusion: Access, Affordability, and Digital Ability. It shows how these dimensions change over time, according to people's social and economic circumstances, as well as across geographic locations, over a seven-year period from 2014 to 2020.

This ADII report incorporates data collected up to March 2020 and so does not fully reflect the effects of the pandemic on Australians' digital inclusion. Instead, this report provides a detailed view of the level and distribution of digital inclusion across the country at a time before the pandemic's impacts were fully felt. Our case studies extend this analysis by exploring the impact of COVID-19 on some of the specific groups most impacted. We hope this will contribute to a better understanding of the highly differentiated social and economic impacts of COVID-19 across Australia. Future reports will provide a more comprehensive quantitative account of the consequences of the pandemic.

Digital inclusion is increasing in Australia, but the rate of increase is slowing

In the past year, Australia's overall digital inclusion score increased by only 1.1 points, from 61.9 to 63.0. The rate of increase has fallen in the past two years. Scores in Victoria and the Australian Capital Territory (ACT) were essentially static. Scores for the other states increased, with Western Australia (WA) recording the largest increase (2.8 points).

The gaps between digitally included and excluded Australians are substantial and widening for some groups

Across the nation, digital inclusion follows some clear economic and social contours. In general, Australians with lower levels of income, employment, and education are significantly less digitally included. There is consequently a substantial digital divide between richer and poorer Australians.

In 2020, people in Q5 low-income households have a digital inclusion score of 43.8, which is 30.0 points lower than those in Q1 high-income households (73.8). Since 2014, this gap has been relatively constant - hovering between 29.9 and 30.9 points. The Employment Gap - the gap between employed Australians and those not in the labour force (NILF) - is 13.5 points. This is wider than that recorded in 2014 (12.6 points) and in any of the intervening years. The Education Gap - the gap between those with tertiary qualifications and those not completing secondary school - is 16.6 points in 2020. This gap has narrowed slightly since 2014, from 18.1 points.

The rapid acceleration of the digital economy is emerging at a time when some members of the community still face real barriers to online participation

Table 1: Digital inclusion scores – Australia (ADII 2014–2020)

Year	ADII Score	Points change from previous year
2014	54.0	
2015	54.4	+0.4
2016	55.9	+1.5
2017	58.0	+2.1
2018	60.2	+2.2
2019	61.9	+1.7
2020	63.0	+1.1

Source: Roy Morgan Single Source, March 2020.

Table 2: Ranked scores for states and territories (ADII 2020)

Rank	State/Territory [^]	ADII Score	Points change since 2019
1	ACT	67.5	-0.1
2	WA	64.1	+2.8
3	NSW	63.5	+1.7
4	VIC	63.1	-0.2
5	QLD	62.2	+1.3
6	SA	61.9	+1.7
7	TAS	59.6	+1.5
	Australia	+63.0	+1.1

[^] NT has been excluded based on sample size (<150)

Source: Roy Morgan Single Source, March 2020.

Table 3: Ranked scores for groups with low digital inclusion (ADII 2020)

Rank	Select Demographic	ADII Score	Points change since 2019	Gap to Australian Average
1	Mobile Only	43.7	0.0	-19.3
2	Household Income Q5 (Under \$35k)	43.8	+0.5	-19.2
3	Aged 65+	49.7	+1.7	-13.3
4	Less than secondary education	51.0	+1.6	-12.0
5	Disability	52.6	+0.6	-10.4
6	Household Income Q4 (\$35-60k)	53.8	+0.7	-9.2
7	Not in labour force	54.3	+0.5	-8.7
8	Indigenous Australians	55.1	+0.0	-7.9
9	Completed secondary education	60.0	+0.4	-3.0
10	Aged 50-64	61.7	+1.3	-1.3
	Australia	63.0	+1.1	0.0

Source: Roy Morgan Single Source, March 2020.

Although internet infrastructure is available to almost all Australians, more than 2.5 million remain offline

Nationally, the Access score increased from 63.9 in 2014 to 76.3 in 2020, reflecting the fact that Australian internet users are accessing the internet more often, using an increasingly diverse range of communication technologies, purchasing larger data allowances and taking up high-speed NBN services. However, in the past year the rate of increase in Access has slowed. In 2020 the Access score rose only 0.6 points. In part this reflects the difficulty in reducing the number of Australians who are not connected.

NBN take-up continues to close the gap in Access for rural Australia

Rural Australia was prioritised in the NBN rollout schedule and, although take-up of NBN services in the capital cities has increased significantly in the past year, NBN fixed broadband remains proportionately higher in rural Australia than in capital cities as it has in each of the past six years. This has been a key factor in narrowing the gap in Access between Australians living in capital cities and Australians living in rural areas.

Geography plays a critical role

The ADII reveals substantial differences between Australians living in rural and urban areas. In 2020, digital inclusion is 7.6 points higher in capital cities (65.0) than in rural areas (57.4). Nationally, the general trend has been a narrowing of this Capital-Country Gap since 2015, (down 2.0 points), driven mainly by increases in Access. However, there has been substantial fluctuation in the Capital-Country Gap across the states and territories since 2014. Over the past 12 months, the gap has narrowed in New South Wales (NSW), Victoria, Tasmania and WA, but expanded in South Australia (SA) and Queensland.

Building digital confidence to safely and securely use the internet is important for enhancing digital inclusion

Nationally, the Digital Ability score has increased in each year since 2014. Although more Australians are engaging in a range of basic and more advanced internet activities, there remain significant attitudinal barriers to effective participation on the internet. While the COVID-19 restrictions may have made the benefits of digital technologies more obvious, it is important to address the anxieties or scepticism that many Australians have about using digital technologies.

Affordability remains a key challenge and is likely to be exacerbated by the COVID-19 economic slowdown

Nationally, the Affordability score has increased only marginally since 2014. While the absolute cost of internet data has gone down, households are now spending more money on internet services¹ due to greater usage.

Expenditure on these services has generally increased faster than household income over this period. The national average Affordability results obscure the hardships faced by those households on low or fixed incomes seeking to remain digitally connected. The ADII shows that the proportion of household income spent on internet access by those living in the lowest household income quintile has increased every year since 2014 and underpinning this is a widening gap in Affordability between Q5 low-income and Q1 high-income households.

Mobile-only users are less digitally included

In 2020, mobile-only users have an ADII score of 43.7, some 19.3 points below the national average (63.0). More than four million Australians access the internet solely through a mobile connection – this means they have a mobile phone or mobile broadband device with a data allowance, but no fixed connection². Around one in five also have no access to a personal computer at home, and thereby rely on mobile devices (smartphones or tablets) when using the internet. Being mobile-only is likely to pose particular difficulties in the context of COVID-19, with online activities such as remote working and learning often demanding higher data allowances and device capabilities.

COVID-19 has been highly disruptive for students in low-income family households

Low-income family households lack access to technology options and suitable devices, pay more of their household income for digital services than others, and have lower digital skills. Our second case study explores the consequence of these challenges in an online learning environment.

Low levels of digital inclusion for older Australians increase the risks of social isolation and loneliness

People aged 65+ remain Australia's least digitally included age group. The ADII score for this age group is 49.7. The Age Gap – the gap between people aged 65+ and the most digitally-included age group of 35-49 – widened progressively from 17.9 points in 2014 to 20.5 points in 2018, before narrowing slightly since. Although narrowing, in 2020, the Age Gap (19.4 points) remains wider than that recorded in 2014 (17.9 points). These results indicate many older Australians are not able to use the internet as an alternative to face-to-face social interactions curtailed by COVID-19 physical distancing measures. The first case study shows how digital exclusion has put older Australians at greater risk of social isolation and loneliness.

Increases in digital inclusion for Indigenous Australians have stalled

Indigenous Australians living in urban and regional areas have relatively low digital inclusion and recorded no increase over the past year. In 2020, Indigenous Australians' ADII score remains 55.1 and is 7.9 points below the national average. Affordability is a key issue, driven by a disproportionately high use of mobile-only and prepaid connectivity, which carries higher costs per gigabyte than fixed connections.

Some Australians are particularly digitally excluded

Sociodemographic groups with ADII scores 10.0 or more points below the national average (63.0) are Australia's most digitally excluded. In 2020, these groups include: mobile-only users (43.7), people in low-income households (43.8), people aged 65+ (49.7), and people who did not complete secondary school (51.0).

Better outcomes will depend on collaboration across sectors and all levels of government

The COVID-19 pandemic has reinforced the importance of digital inclusion for social resilience and economic security. Digital inclusion should take a central role in national policy making and planning, with a greater degree of coordination across sectors and the different levels of government. With the NBN now substantially completed, and the economic and social effects of the pandemic becoming clearer, Digital Ability and Affordability are critical areas for attention. Collaboration across business, the not-for-profit sector, and government will be needed to improve outcomes for vulnerable communities.

Introduction

The COVID-19 pandemic has underlined the critical importance of digital inclusion in contemporary Australia. With the shutdown of schools, businesses, services, shops and meeting places across the country, the digital transformation of education, government, business and community services has accelerated.

Internet access has proved to be essential for Australians, whether they be studying, working from home, maintaining social connections or accessing health care. Prior to 2020, many Australians relied on the internet for many important but specific activities, such as online banking, school homework, and entertainment. In a very brief period, a much more extensive range of activities has moved online, from ordering essentials to online lessons and medical consultations.

However, this rapid digitisation is coming at a point when some members of the community still face real barriers to online participation. The latest ABS data shows that over 2.5 million Australians are not online³. Putting aside the mental health and wellbeing challenges, this has meant that the impact of COVID-19 and associated shutdowns have been particularly challenging for some Australians. Older people, families without adequate internet access, and Australians in vulnerable circumstances are among those who have been especially isolated during the pandemic. The ongoing consequences of digital exclusion are also particularly concerning. For students from already digitally excluded households, COVID-19 has disrupted their education. Without significant support, these students are less likely than their counterparts to return to a successful educational pathway. Finally, the uneven level and distribution of digital inclusion may slow down economic recovery after the pandemic, as not all Australians will be able to take advantage of the benefits of rapidly developing digital services.

What is digital inclusion?

Digital inclusion is about bridging this digital divide. It is based on the premise that all Australians should be able to make full use of digital technologies: to manage their health and wellbeing; access education and services; organise their finances; and connect with friends, family, and the world beyond.

The goal of digital inclusion is to enable everyone to access and use digital technologies effectively. It goes beyond simply owning a computer or having access to a smartphone. Social and economic participation lies at the heart of digital inclusion; using online and mobile technologies to improve skills, enhance quality of life, educate, and promote wellbeing, civic engagement and sustainable development across the whole of society.

There are also larger societal goals at stake. Digital inclusion is a necessary condition for the social, economic, and environmental transformations set out in the United Nations

Sustainable Development Goals (SDGs). Innovation leading to improved outcomes in health and education, sustainable cities, labour markets, and the justice system are likely to rely on high levels of participation, skills, and engagement with digital technologies⁴.

The Australian Digital Inclusion Index

The Australian Digital Inclusion Index (ADII) has been created to measure the level of digital inclusion across the Australian population, and to monitor this level over time. Using data collected by Roy Morgan, the ADII has been developed through a collaborative partnership between RMIT, Swinburne University of Technology, and Telstra.

A growing body of Australian and international research has outlined the various barriers to digital inclusion, the benefits of digital technologies, and the role of digital engagement in social inclusion. Single studies have also measured how different social groups access and use the internet. However, the inaugural ADII report published in 2016 was the first substantive effort to combine these findings into a detailed measure of digital inclusion across Australia.

By presenting an in-depth and ongoing overview, identifying gaps and barriers, and highlighting the social impact of digital engagement, the ADII aims to inform policy, community programs, and business efforts to boost digital inclusion in Australia.

Measuring digital inclusion

For affected people and communities, researchers, practitioners, business and policy-makers alike, digital inclusion poses a complex challenge that calls for a coordinated effort from multiple organisations, across many sectors.

For the benefits of digital technologies to be shared by everyone, barriers to inclusion must be identified and tackled from the outset. While access to technology was considered the primary driver of digital inequality in the early days of the internet, a more holistic conceptualisation of digital inequality recognising the role digital skills, attitudes and

affordability of access play has emerged over time. A more nuanced appreciation of digital inclusion has generated demand for refined measurement tools. Composite digital inclusion indices that systematically combine a set of distinct indicators first appeared in international analyses in

the early 2000s. Such indices focus on quantifying national-level digital inclusion to enable international comparisons. The International Telecommunications Union (ITU) has been a pivotal player in the development of such indices, beginning with the Digital Access Index in 2003⁵. Its latest index, the ICT Development Index⁶, combines data on communication service subscriptions, home computer and internet access, internet usage, and skills proxy indicators (mean years of schooling,

Digital inclusion is whether a person can Access, Afford and have the Digital Ability to connect and use online technologies effectively

gross secondary enrolment, and gross tertiary enrolment) for 176 countries to generate three dimensions: access, use and skills. Since 2017, The Economist Intelligence Unit has collated an annual Inclusive Internet Index. The Index combines personal, institutional and infrastructural indicators divided into four domains (availability, affordability, relevance and readiness) to generate a holistic view of a country's level of internet inclusion⁷.

More focused and detailed national digital inclusion indices have subsequently been developed. One of the first was South Korea's Digital Divide Index (DDI). First compiled in 2004, it incorporates indicators across three dimensions of digital divide – access, skills and utilisation – and measures relative digital inequality between a number of socio-economically disadvantaged groups and the general population over time⁸. A more recent development is the Lloyds Bank UK Consumer Digital Index, compiled annually since 2016. Reflecting an increasing use of data analytics, this index aggregates data from multiple surveys and bank transaction records⁹.

In Australia, a range of data relating to digital inclusion has been captured by government, commercial and non-government organisations, although the range of source data is diminishing, with the Australian Bureau of Statistics (ABS) reducing some collection activity¹⁰. The most important and current sources include the ABS biennial Household Use of Information Technology (HUIT) survey¹¹. Since 2001 the ABS Census of Population and Housing has also been used to capture data on internet access¹². The Australian Communications and Media Authority (ACMA) publishes regular research on aspects of Australian digital access and activity¹³, and the professional services group EY Sweeney has produced three iterations (2014, 2015-16, 2017) of their Digital Australia State of the Nation report¹⁴. While each of these sources identifies and examines particular aspects of digital inclusion in Australia, the ADII is able to combine multiple indicators across three dimensions (Access, Affordability and Ability) in a composite index generating a detailed and comprehensive picture of digital inclusion in Australia.

Methodology in brief

Digital inclusion is a complex, multi-faceted issue with elements including access, affordability, usage, skills, and relevance. To inform the design of the ADII, a Discussion Paper was publicly released in September 2015¹⁵.

Feedback revealed a clear desire for highly detailed geographic and demographic data. In response, researchers worked with Roy Morgan to obtain a wide range of relevant data from their ongoing, weekly Single Source survey that interviews 50,000 Australians per year. Calculations for the ADII are based on a sub-sample of approximately 15,000 responses in each 12-month period. From these extensive face-to-face

interviews and product poll surveys, Roy Morgan collects data on internet and technology products owned, internet services used, personal attitudes, and demographics.

This dataset allows the ADII to report a wide range of relevant social and demographic information, and enables comparisons over time. For more detail on the Single Source survey, please see Appendix: Methodology.

The digital inclusion score

The ADII is designed to measure three key dimensions of digital inclusion: Access, Affordability, and Digital Ability. These dimensions are built from a range of variables (survey questions) relating to internet products, services, and activities. The dimensions contribute equally and combine to form the overall ADII.

The ADII compiles numerous variables into a score ranging from 0 to 100. The higher the overall score, the higher the level of inclusion. Scores are benchmarked against a 'perfectly digitally included' individual – a hypothetical person who scores in the highest range for every variable. While rare in reality, this hypothetical person offers a useful basis for comparison.

This individual:

- accesses the internet daily, both at home and away
- has multiple internet products (fixed and mobile)
- has a cable or NBN fixed broadband connection
- has a mobile and fixed internet data allowance greater than our benchmarks
- spends less money on the internet (as a proportion of household income) and receives more value (data allowance per dollar) than our benchmarks, and
- exhibits all the positive Attitudes, Basic Skills, and Activity involvement listed.

ADII scores are relative: they allow comparisons across sociodemographic groups and geographic areas, and over time. Score ranges indicate low, medium, or high levels of digital inclusion, as below:

Table 4: ADII score ranges: Low, Medium, High

Index	Low	Medium	High
Access	< 70	70–80	> 80
Affordability	< 50	50–65	> 65
Digital Ability	< 45	45–55	> 55
DIGITAL INCLUSION INDEX	< 55	55–70	> 70

ADII time series data

The ADII time series data presented in each annual ADII report is derived from the most current Roy Morgan Single Source dataset. This data can differ slightly from that released in prior-year reports as the dataset is subject to slight weighting changes. In addition, minor refinements to some of the variables underlying the ADII are applied to the time series data released with each report.

Readers should note that the historical ADII results presented in this 2020 report (2014, 2015, 2016, 2017, 2018 and 2019) have been updated and may differ slightly from those published in previous reports. While the combination of weighting changes and minor variable refinements alter the actual ADII numbers for past years, the broader narrative regarding digital inclusion in Australia remains unchanged: there is little to no impact on the trends and relative results for different cohorts.

To conduct time-series analysis, readers should not compare data from each of the annual ADII published reports, but consult the revised historical data on the ADII website: <https://digitalinclusionindex.org.au>

The three dimensions

Each of the ADII's three dimensions is made up of various components, which are in turn built up from underlying variables (survey questions).

Access has three components:

- **Internet Access:** frequency, places, and number of access points
- **Internet Technology:** computers, mobile phones, mobile broadband, and fixed broadband
- **Internet Data Allowance:** mobile and fixed internet.

Affordability has two components:

- **Relative Expenditure:** share of household income spent on internet access
- **Value of Expenditure:** total internet data allowance per dollar of expenditure.

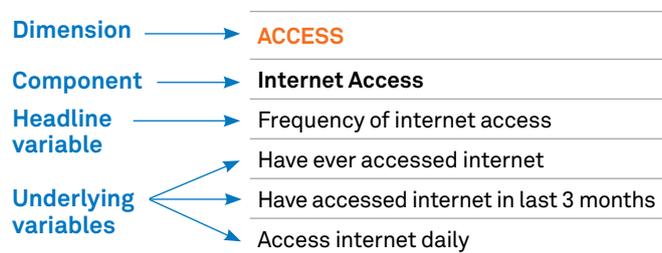
Digital Ability has three components:

- **Attitudes:** including notions of control, enthusiasm, learning, and confidence
- **Basic Skills:** including mobile phone, banking, shopping, community, and information skills
- **Activities:** including accessing content, communication, transactions, commerce, media, and information.

Structure of the ADII

The following diagram illustrates how each dimension is structured, with the various elements labelled.

Figure 1: Example of dimension structure, ADII



The ADII research methodology (including an explanation of the underlying variables, the structure of the sub-indices, and the margins of error) is outlined in the Methodology section of the Appendix. More information about the ADII, along with a full set of data tables, is available at www.digitalinclusionindex.org.au

Reading the data

- **Timeframe:** data has been collected for seven years to date from the periods 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019 and 2019-2020. For each year, data was collected from April to March.
- **Sample sizes:** small sample sizes can render results less reliable. Where asterisks appear in the tables, these signify small sample sizes for that particular group, as follows: *Sample size <150, exercise caution in interpretation; **Sample size <75, exercise extreme caution in interpretation.
- **Regional breakdowns:** to aid comparison, data for each state is displayed alongside scores for Australia as a whole, and for the capital city (and sub-regions) and major regional cities/centres, with the remainder identified as rural.
- **Relative Expenditure:** this component of the Affordability is based on the share of household income spent on internet access. The current national average is 1.16% of household income. Affordability increases as this share decreases.
- **Value of Expenditure:** this component of the Affordability is based on the amount of data allowance obtained per dollar of expenditure. The current national average is 5.1GB per dollar. Affordability increases as this amount increases.
- **Age:** scores for each state are captured across five different age brackets, from people aged 14–24 years to people aged 65+. National data for people aged 65+ is further divided into four groups (65-69, 70-74, 75-79, and 80+).
- **Income:** this is presented in five household income ranges. Each range covers approximately 20% of the population (one quintile). The ranges from high to low-income are: Q1: \$150,000 or more | Q2: \$100,000 to \$149,999 | Q3: \$60,000 to \$99,999 | Q4: \$35,000 to \$59,999 | Q5: under \$35,000.
- **Employment status:** this is divided into three groups in this report – people in full or part-time employment (Employed), those seeking employment (Unemployed), and those not in the labour force (NILF) as they are not employed or seeking employment. The latter group is composed of retirees (60%), students (20%), and home duties/other (20%).
- **Educational attainment:** this is divided into three levels of completion – Tertiary (degree or diploma), Secondary (completed secondary school), and Less (did not complete secondary school).
- **Disability:** people with disability are defined as those receiving either the disability support pension (DSP) from Centrelink, or the disability pension from the Department of Veterans' Affairs.
- **Indigenous Australians:** the term is used to define people that self-identify as being of Aboriginal or Torres Strait Islander origin. Note, the ADII does not capture data from Indigenous Australians in remote communities.
- **Culturally and Linguistically Diverse (CALD) migrants:** people born in non-main English speaking countries that speak a language other than English at home¹⁶.
- **Capital-Country Gap:** the difference in ADII scores recorded by capital city residents and residents of rural Australia.
- **Age Gap:** the difference in ADII scores recorded by those aged 65+ and those in the age group reporting the highest ADII score.
- **Income Gap:** the difference in ADII scores recorded by members of Q5 low-income households and members of Q1 high-income households.
- **Employment Gap:** the difference in ADII scores recorded by those not in the labour force (NILF) and those employed.
- **Education Gap:** the difference in ADII scores recorded by those who did not complete secondary school and those who have completed tertiary education.
- **Gender Gap:** the difference in ADII scores recorded by females and males.

Australia: the national picture

Findings

The 2020 ADII presents updated information about digital inclusion in Australia. At a national level, digital inclusion is increasing, but the rate of increase has slowed. Over the six years since 2014, we have seen marked increases in some dimensions of the ADII – for example, a steady rise in overall Access and Digital Ability. In other areas, progress has fluctuated or stalled, and in some cases, the digital divide has widened.

An ADII score of 100 represents a hypothetically perfect level of Access, Affordability, and Digital Ability. Australia's overall national score has increased from 54.0 in 2014, to 63.0 in 2020 (up 9 points). The rate of growth is slowing, with the national score rising by only 1.1 points since 2019. Australia's overall performance indicates a medium level of digital inclusion, with mixed progress across different ADII dimensions, geographic areas, and sociodemographic groups.

The ADII shows that digital inclusion is uneven across Australia and is influenced by differences in income, age, education levels, and employment. In general, urban, wealthier, younger, more educated, and employed Australians enjoy much greater digital inclusion. Some Australians are falling further behind, and some are making little progress in closing the gap

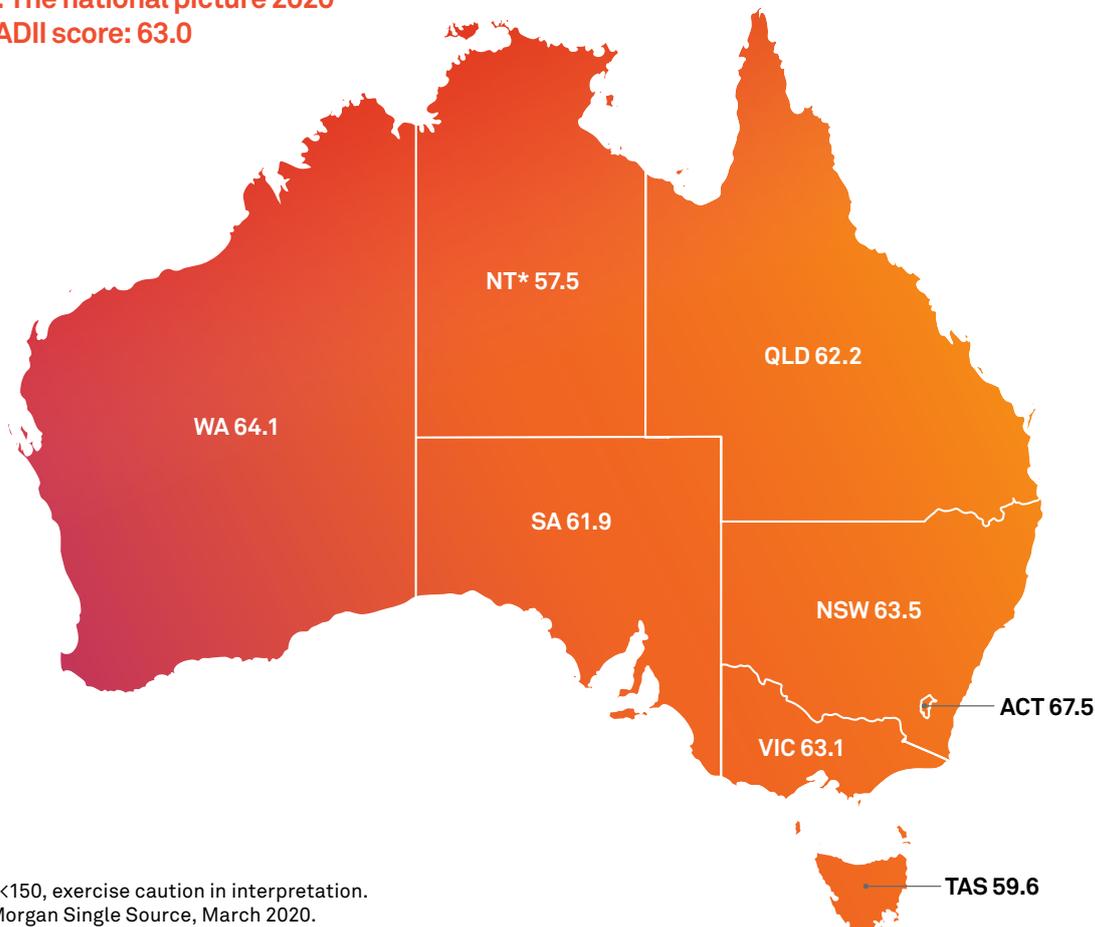
with others. The Employment Gap has widened since 2014, as has the Age Gap. The Income Gap has effectively stalled at its 2014 level.

While people in capital cities record greater levels of digital inclusion than those residing in rural Australia, the gap between these groups has narrowed slightly in the last few years. In part, this is due to the priority rural Australia has been given in the NBN rollout schedule. A greater proportion of rural Australians have NBN fixed broadband services than their city counterparts.

There are some stark differences in digital inclusion at the state and territory level. In 2020, the ACT has the highest level of digital inclusion (67.5). It has recorded the highest score of all states and territories in every year for which ADII data is available (2014-2020). The gap between the ACT and other states and territories has fluctuated over this period. The gap between the ACT and the state with the lowest ADII score was widest in 2016 (13.6 points) and lowest this year (7.9 points). Please note NT has been excluded due to its small sample size. In the past 12 months, WA recorded a larger increase in digital inclusion than all other states (2.8 points).

Digital inclusion is influenced by differences in income, age, education levels, employment and geography

Australia: The national picture 2020 National ADII score: 63.0



*Sample size <150, exercise caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Over the period 2014 to 2020, only SA has substantially outpaced the Australia-wide ADII score increase of 9 points, rising 11.6 points in this period. The increases recorded by other states were either on par with the national rise (Tasmania up 9.2, Queensland up 9.1, WA up 9.1), or failed to keep pace (Victoria up 8.8, NSW up 8.6, ACT up 7.2).

The dimensions over time

The ADII is made up of three dimensions tracking different aspects of digital inclusion: Access, Affordability, and Digital Ability.

Access is about how and where we access the internet, the kinds of devices we use to access it, and how much data we can use. Affordability is about how much data we get for our dollar, and how much we spend on internet services as a proportion of our income. Digital Ability is about our skill levels, what we do online, our attitudes towards technology, and our confidence in using it. Taken together, these measures give us a unique, multi-faceted picture of digital inclusion.

The rise in Australia's ADII score since 2014 has mainly been driven by steady annual increases in Access and Digital Ability. The Access score rose from 63.9 in 2014 to 76.3 in 2020. Digital Ability also increased, although from a lower base. The Digital Ability score rose from 42.2 in 2014 to 52.0 in 2020. The national Affordability score has not consistently risen on an annual basis between 2014 and 2020 and the overall increase in this dimension of digital inclusion over that period has lagged behind that of Access and Digital Ability. The Affordability score fell from 56.0 to 54.0 points between 2014 and 2016. Since 2016 the score has recovered and in 2020 is 60.9. Monitoring Affordability will be important over the coming years given the economic downturn generated by COVID-19. Expenditure on Internet Access is likely to put increasing pressure on the shrinking household budgets of Australians losing their jobs and businesses as a result of COVID-19.

Access

Each of the three components of the Access dimension (Internet Access, Internet Technology and Internet Data Allowance) increased year-on-year between 2014 and 2019. From 2019 to 2020, only the Internet Technology component score rose.

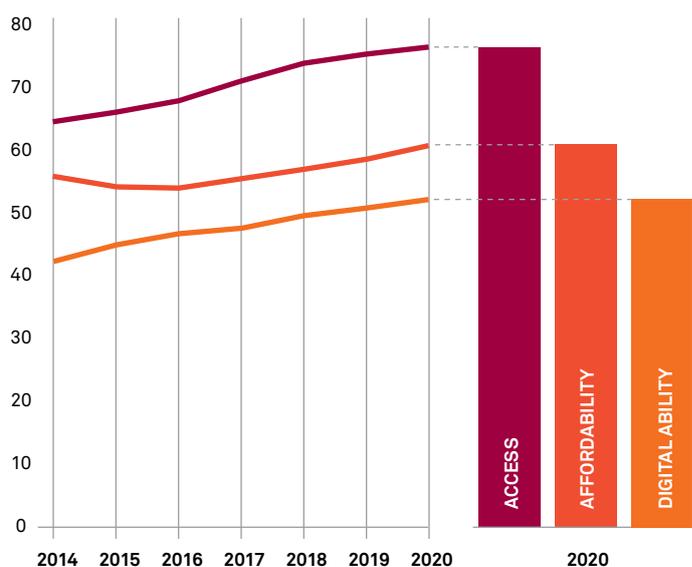
The Internet Access component score was relatively high when the Index began (82.7 in 2014) and has increased slightly each year to reach 87.9 in 2019; the 2020 Internet Access component score remains at 87.9. This slow increase and subsequent stagnation reflects the fact that 13.5% of the population remain offline¹⁷. The majority of these non-users may not see a need to be connected. Research conducted in Australia by the ABS¹⁸ has shown that more than 60% of households without home internet access feel they do not have a need to establish such a connection, although the meaning and reasons for this result require careful analysis. Research from the UK, which has similar overall connectivity rates, also reveals that most non-users are not interested in going online¹⁹. It will be interesting to see whether the shift to the digital delivery of a range of economic, government, cultural and social services resulting from the COVID-19 restrictions changes this perception and leads to an increase in users.

Table 5: Australia: dimension scores over time (ADII 2014–2020)

Australia	2014	2015	2016	2017	2018	2019	2020
ACCESS							
Internet Access	82.7	83.3	84.4	85.4	87.1	87.9	87.9
Internet Technology	68.2	69.1	73.0	75.7	78.6	80.4	82.1
Internet Data Allowance	40.8	41.5	45.7	51.2	54.5	58.7	58.7
	63.9	64.6	67.7	70.8	73.4	75.7	76.3
AFFORDABILITY							
Relative Expenditure	60.3	58.7	55.0	54.9	54.3	54.6	54.7
Value of Expenditure	51.6	49.8	52.9	56.9	61.0	63.9	67.0
	56.0	54.3	54.0	55.9	57.6	59.2	60.9
DIGITAL ABILITY							
Attitudes	45.9	47.3	49.2	50.1	50.9	51.2	50.3
Basic Skills	46.6	49.7	51.7	53.3	56.8	58.1	59.4
Activities	34.2	36.1	37.2	38.4	41.1	43.1	46.1
	42.2	44.4	46.0	47.3	49.6	50.8	52.0
DIGITAL INCLUSION INDEX	54.0	54.4	55.9	58.0	60.2	61.9	63.0

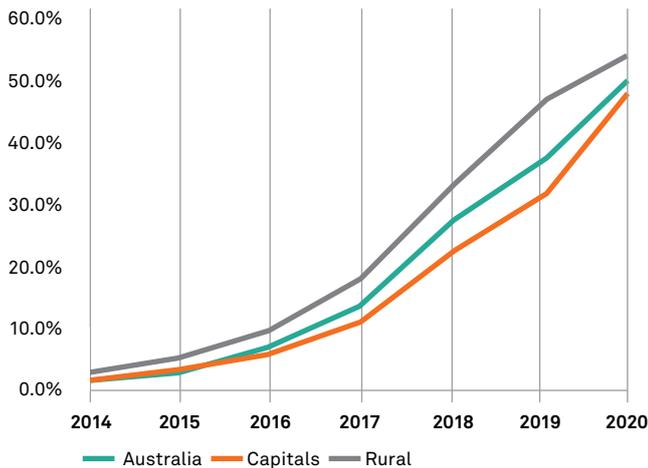
Source: Roy Morgan Single Source, March 2020.

Figure 2: Australia: dimension trends over time (ADII 2014–2020)



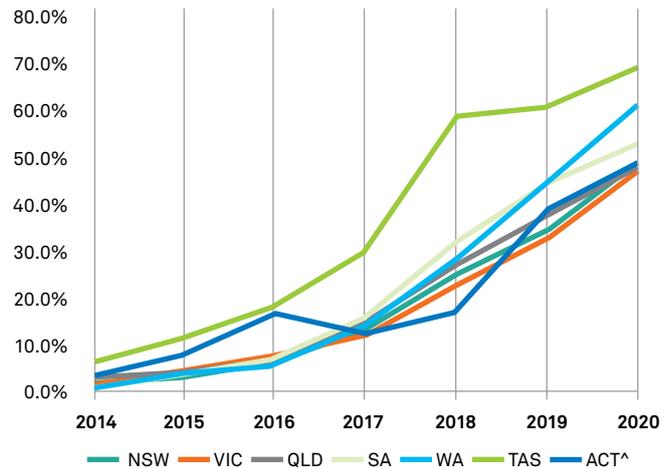
Source: Roy Morgan Single Source, March 2020.

Figure 3: NBN fixed broadband uptake – Australia, rural and capital cities (% of population)



Source: Roy Morgan Single Source, March 2020.

Figure 4: NBN fixed broadband uptake – selected states and territories (% of population)



^The small sample for the ACT has generated some volatility in annual results. Source: Roy Morgan Single Source, March 2020.

The Internet Technology component score started from a lower base of 68.2 in 2014, and has risen consistently and substantially over the six years to 82.1 in 2020. This reflects several developments, including the proliferation of an ever-expanding array of connected consumer devices (from smart phones to smart fridges, voice controlled smart speakers to fitness trackers)²⁰, and the growing demand for data as internet connectivity has become integral to the daily lives of Australians²¹. It also reflects improvements to mobile and fixed network infrastructure, including the rollout of the NBN²².

The NBN fixed network infrastructure project has had a range of implications for digital inclusion. In relation to the Access dimension, the NBN rollout has generated discernible increases in the Internet Technology and Internet Data Allowance components. The impact on these components is multidimensional, and there are three reasons for this.

First, switching from other broadband technologies to the NBN generates a higher Internet Technology score. The Index rates NBN and cable connections as better fixed broadband technologies than their pre-NBN alternatives, given their capacity for higher speeds and improved reliability²³.

Second, detailed ADII data analysis suggests that the NBN rollout is encouraging some of those previously without fixed broadband to establish a connection²⁴. There are a number of possible reasons for this, one being consumer awareness: in the 18-month switch-over window, households in areas with NBN access must make decisions about new telecommunications products. Since fixed broadband connectivity is considered to enhance digital inclusion, taking up such a service generates a higher Internet Technology score.

The proportion of household income spent on internet access by Q5 low-income households has increased every year since 2014 and now exceeds 4%

Third, the average data allowance for those with NBN connections is 8% higher than those on other types of fixed broadband²⁵. One reason for this may be that NBN subscribers tend to have newer plans with higher data allowances than those with older 'legacy' ADSL and other fixed broadband plans²⁶. Regardless, increasing levels of NBN connectivity translates into larger average fixed broadband data allowances and this has underpinned the increase in Internet Data Allowance scores from 40.8 in 2014 to 58.7 in 2019.

While average data allowances for both mobile and fixed broadband increased between 2019 and 2020, the overall Internet Data Allowance component score remained unchanged. This is due to a decline in some other underlying variables of this component, including a slight fall in the proportion of the population with mobile internet.

Affordability

In 2020 the national Affordability score is 60.9. Affordability has increased only 4.9 points since 2014. It was in decline from 2014 to 2016, before a modest recovery over the past four years (2017-2020).

The limited increase in Affordability does not reflect a rise in internet costs; in fact, internet data is generally becoming less expensive on both mobile and fixed broadband services. In particular, the cost per unit of mobile data has fallen substantially over the past two years. Nationally, Value of Expenditure (a measure of gigabytes of access acquired per dollar spent) has increased over the past six years (from 51.6 in 2014 to 67.0 in 2020).

However, while cost per gigabyte of data continues to fall, Australians are spending more time online and connecting an increasing number of data-using devices to the internet.

This has led to an increase in household expenditure on internet services²⁷ at a rate faster than the growth of household income. As such, the Relative Expenditure component, which measures the share of household income spent on internet services, decreased between 2014 and 2018 (from 60.3 in 2014 to 54.3 in 2018) and has remained essentially unchanged over the past two years (54.6 in 2019 and 54.7 in 2020). The proportion of household income devoted to internet services rose from 1.0% in 2014 to 1.18% in 2019, but fell slightly between 2019 and 2020 to 1.16%. The recent fall was due to the increase in average household income (up 4%) slightly outpacing the rise in internet expenditure (up 2%). COVID-19 related restrictions post-date the ADII 2020 data collection period and are likely to have further driven up household usage.

Aggregate Affordability results obscure somewhat the hardships faced by those households on low or fixed incomes seeking to remain digitally connected. The ADII reveals that the proportion of household income spent on internet access by those living in the lowest household income quintile has increased every year since 2014 and now exceeds 4%. This underpins a widening gap in Affordability between low-income and high-income households. In 2014 that gap was 36.6 points and it has steadily grown in the six years since to 45.8 points.

While a range of short term initiatives has been implemented by telecommunication providers and governments to help low-income households and those suffering financial hardship to either get online or remain online during the COVID-19 restrictions²⁸, the economic downturn caused by COVID-19 is likely to generate longer term Affordability issues requiring more sustained interventions.

Digital Ability

Since 2014 the national Digital Ability score has risen by 9.8 points (from 42.2 in 2014 to 52.0 in 2020). The Basic Skills component has increased steadily, rising from 46.6 in 2014 to 59.4 in 2020. There has been a substantial increase in the proportion of Australians with skills relating to mobile phone use (including using a mobile phone as a means for accessing the internet and downloading apps), as well as skills related to online shopping, banking and social networking. The more advanced Activities component score also increased annually in the past six years (from 34.2 in 2014 to 46.1 in 2020). The proportion of the population able to demonstrate skills related to the advanced activities of online transactions and digital audio-visual communications increased substantially over this period.

While the Attitudes component rose annually between 2014 and 2019 (from 45.9 to 51.2) it fell slightly in the past year to 50.3.

Although an increasing proportion of Australians are engaging in a range of basic and more advanced internet activities and are keen to have continuous internet access, there remain significant attitudinal barriers. Less than half of all Australians believe that computers and technology give them more control over their lives and less than 40% feel they can keep up with a changing technological landscape. The prevalence of these attitudes has changed little over the past six years.

For Australians aged 65+ this is an even greater issue. Just over a quarter (28.7%) of this age group feel empowered by computers and technology and just one in eight (13.3%) feel they can keep up with technological changes. As with the national figures, the prevalence of these attitudes among those aged 65+ has changed little since 2014. This data suggests that efforts to increase digital abilities should not simply target basic skill building, but also help build confidence.

While the COVID-19 restrictions may make the benefits of digital technologies more obvious, it will be important to address the anxieties that many Australians have about using these technologies. There is some evidence that the rise in internet use during the COVID-19 pandemic is being exploited by hackers and scammers and it is important that both experienced and new users are equipped with the knowledge and skills to confidently and securely engage online²⁹.

Geography: digital inclusion in the states, territories and regions

Geography plays a critical role in digital inclusion in Australia. Our data reveals significant differences between rural and urban areas. This Capital-Country Gap is evident across all three dimensions – Access, Affordability, and Digital Ability.

The digital inclusion score for capital city residents is 7.6 points higher than for those in rural areas. The overall Capital-Country Gap

has narrowed from 8.6 points in 2014 to 7.6 points in 2020. This trend is not consistent across the three dimensions.

The gap in Access for capital cities and country areas has narrowed each year since 2014 (from 8.8 in 2014 to 4.8 in 2020). The rollout schedule of the NBN, which prioritised rural Australia, has had a discernible impact on narrowing the Access gap. NBN fixed broadband uptake has remained proportionately higher in rural Australia than in the capital cities over the past six years, although in the past year the NBN penetration rate in the capitals has increased significantly (See Figure 3). Since 2014 the uptake of the NBN by rural households has underpinned a rise in fixed broadband connectivity in general, reducing the gap in fixed broadband penetration rates between rural and capital city households – although a gap remains.

The gap in Affordability between those in rural areas and those living in the capital cities widened between 2014 and 2016, peaking in 2016 at 11.7 points. It subsequently narrowed between 2016 and 2019, falling to 8.4 points. During this period rural consumers reported an increase in the amount of data allowance obtained per dollar of expenditure (increasing the Value of Expenditure component score). Over the past year, the gap in Affordability has again widened. While rural households continue to report increases in the Value of Expenditure component, an increase in the percentage of household income spent on internet access is reflected in a fall in the Relative Expenditure component score. In comparison, capital city households recorded increases in both the Value of Expenditure and Relative Expenditure components.

Geography plays a critical role in digital inclusion in Australia

Table 6: Australia: Digital Inclusion by geography (ADII 2020)



*Sample size <150, exercise caution in interpretation. Source: Roy Morgan Single Source, March 2020.

The gap in Digital Ability for capital cities and country areas has fluctuated since 2014. It widened from 7.7 points in 2014 to 10.0 points in 2015 before narrowing to 7.9 points in 2016. From 2016 to 2019, the gap widened (from 7.9 to 10.2 points). In the past year it has narrowed and now stands at 8.2 points.

While the ADII average score recorded in rural Australia in 2020 is 57.4 there is significant variability in the results recorded by different rural areas. Australia's least digitally included rural areas are: Eyre (50.2), Burnie & West TAS (51.5), North West QLD (52.6), Coastal QLD (55.4), South East SA (55.4), North West VIC (55.8) and North VIC (56.0). It should be noted that small sample sizes in the regions leads to some volatility and results should be interpreted with care.

There are some stark differences in digital inclusion at the state and territory level. Despite recording a slight decline in digital inclusion score between 2019 and 2020, the ACT has the highest level of digital inclusion of all states and territories. The ACT's ADII score of 67.5 is 4.5 points above the national average and 7.9 points above the lowest scoring state (Tasmania). The ACT has recorded the highest score of all states and territories since 2014.

In the past 12 months, WA recorded the largest increase in digital inclusion of all states and territories (2.8 points) as a result of increases across all digital inclusion dimensions. WA's Access score rose 2.3 points in the past year as more people obtained fixed broadband (including NBN connections) and data allowances acquired for both mobile and fixed services increased. The 3.7 point increase in the Affordability score for WA is underpinned by greater value for money as West Australians on average received more data per dollar of expenditure than they had previously. WA's Digital Ability score for 2020 was 2.6 points higher than that recorded in 2019, reflecting an increase in both Basic Skills (up 3.4 points) and Activities (up 4.9 points).

By contrast Victoria's ADII score fell 0.2 points in the past year as a result of a small fall in both Access (down 0.7 points) and Digital Ability (down 0.5 points) and a small rise in Affordability (up 0.4 points). As a consequence of these results, the state and territory rankings have changed over the past year. WA is now the second most digitally included state or territory, while Victoria is the fourth most digitally included state or territory.

Demography: digital inclusion and socioeconomic groups

Income, employment, and education

The ADII provides a detailed picture of the social and economic contours of digital inclusion in Australia. There is clearly a digital divide between richer and poorer Australians. In 2020, individuals from Q5 low-income households with an annual household income of less than \$35,000 recorded an ADII score of 43.8. This is 30.0 points lower than those living in Q1 high-income households that have a household income over \$150,000 and 19.2 points lower than the national average.

Differences in Affordability greatly contribute to the overall ADII Income Gap. Those in Q5 low-income households record an Affordability score of 32.7, some 45.8 points below those in Q1 high-income households (78.5). Richer and poorer Australians experience significant differences in digital inclusion.

Examining the components of Affordability, it is clear that Relative Expenditure is a key marker of difference between the two income groups.

People in Q5 low-income households spent approximately 4% of their household income on network access, which translates into a Relative Expenditure score of 10.7, while those in Q1 high-income households, who spend less than 1% of their household income on network access have a Relative Expenditure score of 86.0. In each of the six years since 2014 the gap in Affordability scores recorded by the low and high-income households has widened.

Although Q5 low-income households have reduced the gap with those in Q1 high-income households on the Access and Digital Ability dimensions of digital inclusion since 2014, these gaps remain large. In 2020, Q5 low-income households have an Access score of 62.2, while those in Q1 high-income households have an Access score of 82.4 (a gap of 20.2 points). People in Q5 low-income households have a Digital Ability score of 36.3 in 2020. Those in Q1 high-income households have a Digital Ability score some 24.3 points higher (60.6).

The Income Gap in digital inclusion is not closing. Between 2014 and 2020 the gap recorded each year has hovered between 29.9 and 30.9 points. The 2020 gap of 30.0 points is just 0.5 points below that recorded in 2014.

There is also a clear Employment Gap. In 2020, the ADII score for people not in the labour force (NILF) is 54.3 (8.7 points below the national average), while those that are employed have an ADII score of 67.8 (4.8 points above the national average). The Employment Gap, between those not in the labour force and those in employment has widened since 2014, largely a result of differences in the Affordability score.

In 2020, people who are unemployed have an ADII score of 63.6. This is 0.6 points higher than the national average. The Access score for Unemployed Australians is similar to the national average, but they do not score as well on Affordability. Unemployed Australians have a Digital Ability score higher than the national average. This result reflects the younger age profile of the unemployed compared to the overall population³⁰.

Mobile-only users report low Affordability as mobile data costs substantially more per gigabyte than fixed broadband

In 2020, people who did not complete secondary school recorded an ADII score of 50.1 (12.9 points below the national average). Those with a secondary education scored 60.0 (3.0 points below the national average), while tertiary-educated people scored 67.6 (4.6 points above the national average). The Education Gap, between those who did not complete secondary school and tertiary education graduates, is 16.6 points.

Mobile-only users

More than four million Australians access the internet solely through a mobile connection: they have a mobile phone or mobile broadband device with a data allowance, but no fixed connection³¹. In 2020, mobile-only users have an ADII score of 43.7, some 19.3 points below the national average (63.0).

Being mobile-only diminishes the Access dimension of digital inclusion as it reduces the connectivity options available to a person and also reduces the amount of data allowance users have access to since mobile plans tend to come with significantly lower data

allowances than fixed broadband plans. There is also a greater prevalence of prepaid users amongst those who are mobile-only and this also depresses data allowances.

Beyond Access, being mobile-only also impacts on the Affordability and Digital Ability dimensions of digital inclusion. Mobile-only users report low Affordability as mobile data costs substantially more per gigabyte than fixed broadband and, given their restricted data allowances, are less likely to be engaged in advanced heavy data-use activities such as streaming which diminishes their Digital Ability result. Mobile-only users are more likely to rely on mobile devices (smartphones and tablets) when using the internet. While less than one in ten Australians don't have access to a personal computer or laptop at home, around one in five mobile-only users are in this situation³². The capacity for mobile devices to be used in effectively and efficiently completing some advanced online tasks is limited and this may also be a factor in reducing the Digital Ability score recorded by this group.

Table 7: Mobile-only users (ADII 2020)

	Australia	Mobile-Only
2020		
ACCESS		
Internet Access	87.9	72.0
Internet Technology	82.1	57.5
Internet Data Allowance	58.7	33.0
	76.3	54.2
AFFORDABILITY		
Relative Expenditure	54.7	52.5
Value of Expenditure	67.0	17.2
	60.9	34.9
DIGITAL ABILITY		
Attitudes	50.3	42.0
Basic Skills	59.4	47.6
Activities	46.1	36.2
	52.0	41.9
DIGITAL INCLUSION INDEX	63.0	43.7

Source: Roy Morgan Single Source, March 2020.

Table 8: Gender and age (ADII 2020)

2020	Gender and Age: Years											
	Men	Women	Men 14-24	Women 14-24	Men 25-34	Women 25-34	Men 35-49	Women 35-49	Men 50-64	Women 50-64	Men 65+	Women 65+
ACCESS												
Internet Access	88.2	87.7	91.3	89.4	93.0	91.7	92.8	93.9	87.1	89.0	76.0	73.9
Internet Technology	82.8	81.4	82.3	81.7	86.2	84.6	87.3	87.4	82.1	81.7	75.0	70.9
Internet Data Allowance	61.0	56.5	61.9	58.2	72.2	66.7	68.1	66.0	58.1	54.0	43.3	37.6
	77.3	75.2	78.5	76.5	83.8	81.0	82.7	82.5	75.8	74.9	64.8	60.8
AFFORDABILITY												
Relative Expenditure	56.4	53.1	57.7	54.9	54.3	54.1	61.6	57.5	58.9	54.3	47.1	43.6
Value of Expenditure	68.3	65.7	70.5	63.8	71.9	68.7	71.3	71.5	67.5	65.3	59.2	57.1
	62.4	59.4	64.1	59.3	63.1	61.4	66.5	64.5	63.2	59.8	53.2	50.4
DIGITAL ABILITY												
Attitudes	54.4	46.4	66.8	56.8	63.8	53.0	57.9	50.3	46.7	41.5	37.6	33.1
Basic Skills	57.7	61.1	53.0	61.1	67.0	73.1	67.5	71.4	56.5	59.6	41.5	40.1
Activities	44.5	47.7	45.2	49.5	54.2	59.3	52.1	56.5	40.8	44.9	28.8	28.3
	52.2	51.7	55.0	55.8	61.7	61.8	59.2	59.4	48.0	48.7	36.0	33.8
DIGITAL INCLUSION INDEX	64.0	62.1	65.9	63.9	69.5	68.1	69.5	68.8	62.3	61.1	51.3	48.3

Source: Roy Morgan Single Source, March 2020.

Overall, 19.9% of Australians are mobile-only users. This type of use is clearly linked with socio-economic factors: 32.8% of people in Q5 low-income households, 26.6% of those with low levels of education, and 26.7% of the unemployed are mobile-only users. Also, 35% Indigenous Australians and 31.2% of Australians with disability are mobile-only users.

Gender

Women have an ADII score 1.9 points below that of men in Australia, with similar differences across Access and Affordability (2.1 and 3.0 points) and a slightly narrower gap in relation to Digital Ability (0.5 points). Women have a lower level of digital inclusion than men across all age categories. This Gender Gap is widest in the 65+ age bracket (3.0 points). The gap between men and women in the 65+ age category is widest in relation to Access (4.0 points). In the past year women in this age group have slightly closed the gap with their male counterparts in relation to Affordability (from 4.2 to 2.8 points) and Digital Ability (from 4.2 to 2.2 points).

The Gender Gap consistently increases with age for those aged 65+. Women in the 65-69 age bracket record an overall digital inclusion score 2.4 points lower than their male counterparts. This expands to 4.8 points for women aged 80+ years. With an ADII score of 36.8, women aged 80+ years are some of the least digitally included of all Australians.

Older Australians

Digital inclusion declines as age increases. People aged 14-49 years all have similar ADII scores, ranging from 64.9 to 69.1 (between 1.9 and 6.1 points above the national average). In 2020, those aged 50-64 recorded an ADII score of 61.7. This is 7.4 points lower than those in the age group below them (aged 35-49 years). The largest difference is in Digital Ability.

Those aged 65+ are the least digitally included age group in Australia, with a score of 49.7 (13.3 points below the national average). This cohort records an Access score of 62.7 (13.6 points below the national average), an Affordability score of 51.7 (9.2 points below the national average) and a Digital Ability score of 34.8 (17.2 points below the national average).

The Age Gap in digital inclusion between people aged 65+ and the most digitally included age group³³ widened until 2018 (from 17.9 points in 2014 to 20.5 points in 2018) before narrowing slightly to 19.4 in 2020.

A closer look at the 65+ age category reveals a pattern of diminishing digital inclusion as age increases – particularly in relation to Access and Digital Ability. The ADII score of those aged 80+ (39.2) is 16.7 points lower than those aged 65-69 years (55.9). The Access score record by those aged 80+ (46.8) is some 24.0 points lower than those aged 65-69 years (70.8), while the Digital Ability score for those aged 80+ (21.3) is 21.8 points lower than those aged 65-69 years (43.1).

Table 9: Older Australians gender and age (ADII 2020)

2020	Gender and Age: Years											
	65-69	70-74	75-79	80+	Men 65-69	Women 65-69	Men 70-74	Women 70-74	Men 75-79	Women 75-79	Men 80+	Women 80+
ACCESS												
Internet Access	83.9	77.1	69.3	57.7	84.8	83.3	78.2	76.1	71.2	67.5	60.9	54.6
Internet Technology	79.8	75.2	68.4	58.2	82.0	78.1	77.1	73.5	71.4	65.4	61.9	54.4
Internet Data Allowance	48.8	42.2	34.8	24.5	51.5	46.6	45.5	39.2	39.8	30.0	27.7	21.4
	70.8	64.8	57.5	46.8	72.8	69.3	66.9	62.9	60.8	54.3	50.1	43.5
AFFORDABILITY												
Relative Expenditure	46.4	46.0	41.0	46.6	48.6	44.6	47.3	44.9	42.2	39.8	49.9	42.8
Value of Expenditure	61.0	59.2	54.5	52.7	61.2	60.9	61.0	57.4	57.0	51.9	53.3	52.1
	53.7	52.6	47.7	49.7	54.9	52.8	54.1	51.2	49.6	45.8	51.6	47.4
DIGITAL ABILITY												
Attitudes	41.3	37.3	30.9	23.3	43.9	39.2	39.7	35.1	33.4	28.5	26.9	19.7
Basic Skills	51.8	41.5	34.2	23.4	52.0	51.6	43.6	39.6	35.9	32.6	24.4	22.4
Activities	36.1	29.0	23.6	17.1	36.2	36.1	29.9	28.2	24.7	22.4	17.6	16.7
	43.1	35.9	29.6	21.3	44.0	42.3	37.7	34.3	31.3	27.9	22.9	19.6
DIGITAL INCLUSION INDEX	55.9	51.1	44.9	39.2	57.2	54.8	52.9	49.5	47.2	42.7	41.6	36.8

Source: Roy Morgan Single Source, March 2020.

Indigenous Australians

Indigenous Australians living in urban and regional areas have a relatively low level of digital inclusion, with a 2020 ADII score of 55.1 (7.9 points below the national score). In the past year the ADII score for Indigenous Australians remained unchanged.

The digital inclusion gap between Indigenous Australians and other Australians is evident across all three dimensions.

Indigenous Australians record an Affordability score of 54.0, 6.9 points below the national average (60.9). Indigenous Australians receive less data for each dollar of expenditure, as indicated by their Value of Expenditure component score (54.3), which is a notable 12.7 points lower than the national average (67.0). In part, this reflects the prevalence of mobile-only and prepaid service use amongst the Indigenous Australians population (35.0% compared to the national average of 19.9%). Mobile data costs substantially more per gigabyte than fixed broadband. The 2020 data show that Indigenous Australians spent a similar proportion of their household income on internet connectivity as other Australians, as indicated by their Relative Expenditure component score of 53.6 (1.1 points below the national average of 54.7). This large change from 2019 (when the disparity in Relative Expenditure was 4.9 points) relates to a rise in household income reported by Indigenous Australians between 2019 and 2020.

In 2020, Indigenous Australians record an Access score of 68.5, some 7.8 points below the national average (76.3). In part, the greater prevalence of mobile-only connectivity depresses Access scores for Indigenous Australians. Fixed broadband carries a direct advantage within the Index and an indirect advantage of larger data allowances than mobile broadband subscriptions. Being mobile-only also locks people out of the

Access advantages that accrue to NBN subscribers as a better type of fixed broadband technology. Given the increasing transition of fixed broadband users onto the NBN network it is not surprising that the Access gap between Indigenous Australians and the national average is also widening (from 5.2 points in 2018 to 7.3 points in 2019 and 7.8 points in 2020).

The Digital Ability score recorded by Indigenous Australians in 2019 is 42.8. This is 9.2 points lower than the national average (52.0).

Since 2014, the digital inclusion gap between Indigenous Australians and the national average has fluctuated. The gap peaked in 2015 at 10.1 points and was at its lowest in 2018 at 6.1 points. In the past year the gap has widened from 6.8 points to 7.9 points. Overall, the 2020 digital inclusion gap between Indigenous Australians and the national average (7.9 points) is narrower than it was in 2014 (8.8 points).

The ADII data collection does not extend to remote Indigenous communities, where high levels of geographic isolation and socioeconomic disadvantage pose distinct challenges for digital inclusion. In 2018 and 2019, ADII case studies were conducted in the remote indigenous communities of Ali Curung in the NT and Pormpuraaw in far north Queensland. Findings from these studies suggest that digital inclusion for Indigenous Australians further diminishes with remoteness, particularly in terms of Access and Affordability.

More research is needed to better understand the level and nature of digital inequality experienced by Indigenous Australians. The recent announcement by the federal government that digital inclusion will become part of an Access to Information target outcome of the National Agreement on Closing the Gap is welcome news³⁴.

Australians with disability

In 2020, Australians with disability (defined as receiving disability support pensions) have relatively low digital inclusion. In 2020, the ADII score for this group is 52.6, 10.4 points below the national score. The digital inclusion gap between Australians with disability and other Australians is evident across all three dimensions.

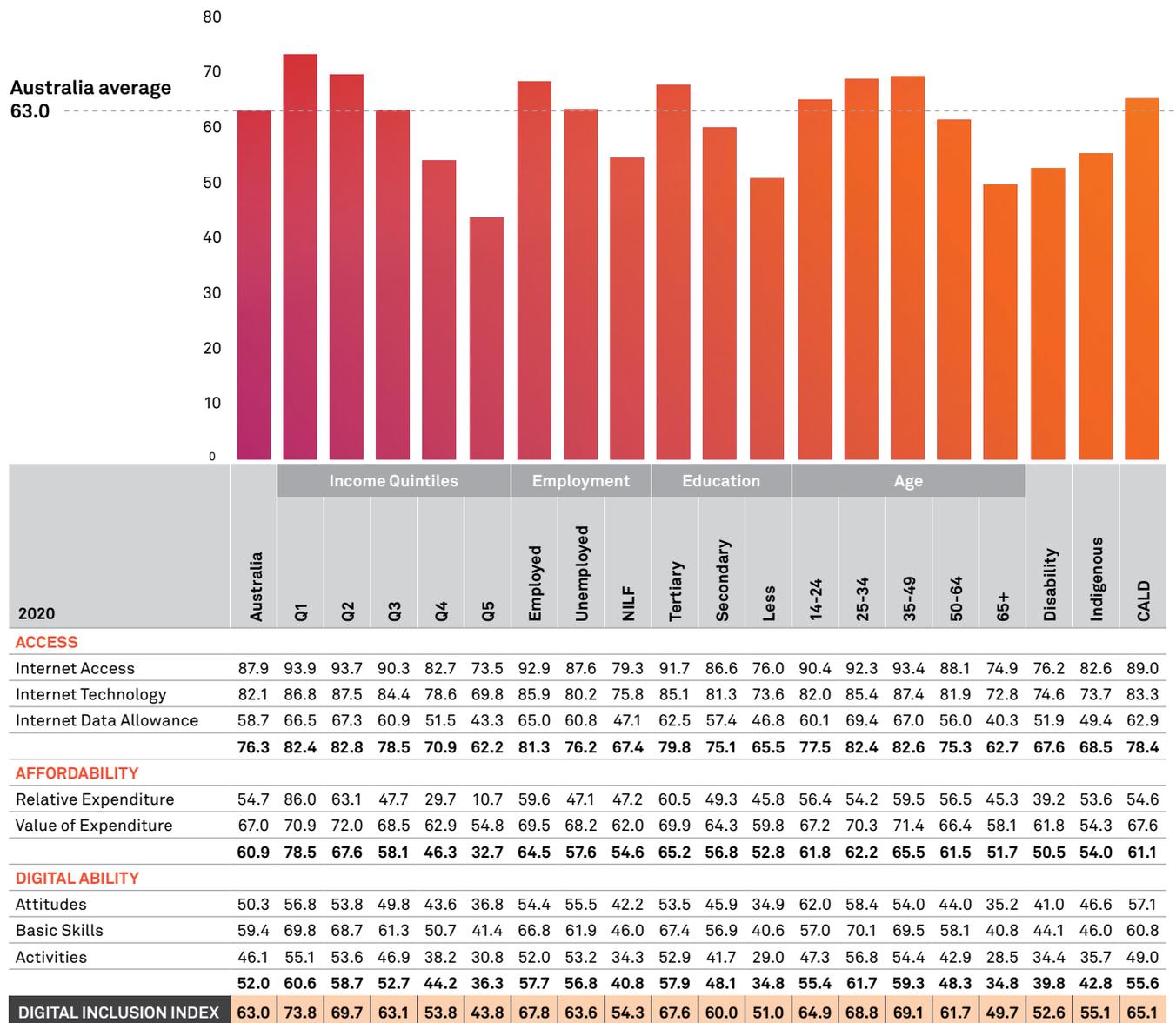
Since 2014, the digital inclusion gap experienced by Australians with disability has changed very little. In 2014, the ADII score recorded by Australians with disability was 11.2 points below the national average. Over the six years since 2014, the gap has only once dropped below 10 points. While the gap in Access and Digital Ability narrowed in the period 2014-2020, the Affordability gap has widened. Australians with disability spend a greater proportion of their household income on internet access than the Australian average and receive less data for each dollar of expenditure than the average.

Culturally and linguistically diverse migrants

Culturally and linguistically diverse (CALD) migrants, defined as people born in non-main English speaking countries and who speak a language other than English at home³⁵, have a relatively high level of digital inclusion. In 2020, the ADII score for this group is 65.1. This is 2.1 points above the national average (63.0). CALD migrants recorded above average levels of Access, Affordability and Digital Ability. In each year since 2014, CALD migrants recorded a higher level of digital inclusion than the national average, although the gap between CALD migrants and the national average has fluctuated – peaking at 4.2 points in 2014 and falling as low as 1.5 points in 2017.

Given Australia's long-established commitment to multiculturalism and the multifaceted nature of immigration policies that have facilitated skilled, family, humanitarian and other forms of migration, it is not surprising that the CALD migrant group is both sizeable and diverse. As such, the aggregate data for CALD migrants may obscure some of the digital inclusion outcomes for distinct groups in that population. In 2019, an ADII case study was conducted with recently-arrived CALD migrants in the regional Victorian city of Shepparton. Shepparton has recently been a key settlement location for migrants arriving from the Middle East, Central Asia and Africa under the humanitarian immigration program³⁶. This study revealed that recently-arrived CALD migrants' digital inclusion is faring less well than the broader CALD migrant community, particularly with regards to Affordability.

Table 10: Australia: Digital Inclusion by demography (ADII 2020)



Source: Roy Morgan Single Source, March 2020.

Further information

More information about the ADII, along with a full set of data tables, is available at www.digitalinclusionindex.org.au



Case study 1

The impact of COVID-19 and digital inequality on the social isolation and loneliness of older Australians

The implementation of physical distancing measures in Australia, while necessary in slowing the spread of COVID-19, have also established the conditions for an increase in social isolation and loneliness for older Australians.

While the internet presents an opportunity to diminish the social impact of physical distancing by enabling a range of social interactions to be maintained, ADII data shows that older Australians (those aged 65+) are more likely to lack effective and affordable internet access and the digital abilities to benefit from this opportunity. Although the rate of social isolation and loneliness recorded by older Australians is not ordinarily above the average for all Australians³⁷, under the current circumstances the lower level of digital inclusion recorded by this group is likely to push this rate up.

Since March 2020, Australian governments have deployed a range of measures aimed at reducing physical human interaction as a response to the COVID-19 pandemic³⁸. At times these measures have extended to 'lock-down' stay-at-home orders, forced closure of non-essential businesses, the suspension of organised face-to-face educational, social, cultural and sporting activities, restrictions on the size of public and in-home gatherings

and a lockdown of aged care facilities. Although a necessary response to reduce the spread of COVID-19 infections, such physical distancing has established conditions that will push some people into a state of social isolation (defined as a lack of social contact) and loneliness (a state of having negative feelings about a discrepancy between desired and actual social contact)³⁹. This is concerning given substantial evidence linking these states to diminished mental and physical health. Indeed, a meta-analysis of studies conducted in Europe, North American, Asia and Australia, found that the risk of premature death associated with social isolation and loneliness is similar to that of other well-known risk factors such as obesity⁴⁰.

While the internet is proving vital in responding to the practical limits that physical distancing measures have placed on everyday life by enabling people to work, learn, and shop remotely, connectivity is also cushioning the social impact of these distancing measures. The rapid transition to digital service delivery by commercial, government and non-profit organisations has enabled some continuity in formal institutional social contact, while the maintenance of important forms of informal social contact has been

facilitated by the integration of digital tools, such as social media and video-conferencing, into a range of private and less structured social and cultural practices. In recent survey research internet users indicated that their participation in online social activities such as social media, making video calls with family and friends, and having social get-togethers have all increased significantly as a result of COVID-19 restrictions⁴¹. The extent of this increase is borne out in internet traffic data. Evening upstream NBN traffic (a proxy for 'social' internet use as it indicates real-time communication application use) rose by more than 35% after physical distancing measures were introduced⁴². For the digitally included, the internet is dampening the translation of physical distancing into social isolation and loneliness. Those lacking effective and affordable internet access and the digital abilities to confidently engage online, however, are not so lucky. Older Australians are one such group.

The ADII shows that older Australians have a very low level of digital inclusion. The ADII score for Australians aged 65+ in 2020 is 49.7. This is the lowest ADII score for any age group, some 13.3 points lower than the national average (63.0). Around one in five older Australians do not use the internet at all⁴³ and thereby make no use of this digital technology to mitigate against the isolating effects of the physical distancing measures. The ADII data also reveals that the size of mobile and fixed broadband data allowances that older Australians have available are lower than that of younger users (aged 14-64 years). These limitations contribute to the ADII Access score gap between older Australians (62.7) and the national average (76.3) and highlight the lesser potential for older Australians to maintain social contact while physically distancing.

Affordability is a barrier to more effective internet access facing older Australians. Older Australians report lower than average household income, with around one third of older Australians falling into the lowest household income quintile (earning under \$35,000 per annum). Although the ADII does not capture data on whether the cost of internet access presents an absolute barrier to connectivity, other studies have drawn a link between not having home internet access and cost, particularly for low-income groups⁴⁴. ADII data also shows that low-income households, which are likely to feel the pressure of internet costs, purchase less data than those with higher incomes.

Older Australians record a very low ADII Digital Ability score (34.8) compared to the national average (52.0) and the underlying data shows they are less likely than younger people to use the internet as a tool for social interaction. While around two thirds of internet users aged 14-64 use social media, just one third of older Australian users do. Similarly, around two thirds of younger internet users engage in instant messaging compared to only one third of older Australians. Around 40% of younger internet users make phone or video calls over the internet, while 20% of older Australian internet users do.

Table 11: Older Australians (ADII 2020)

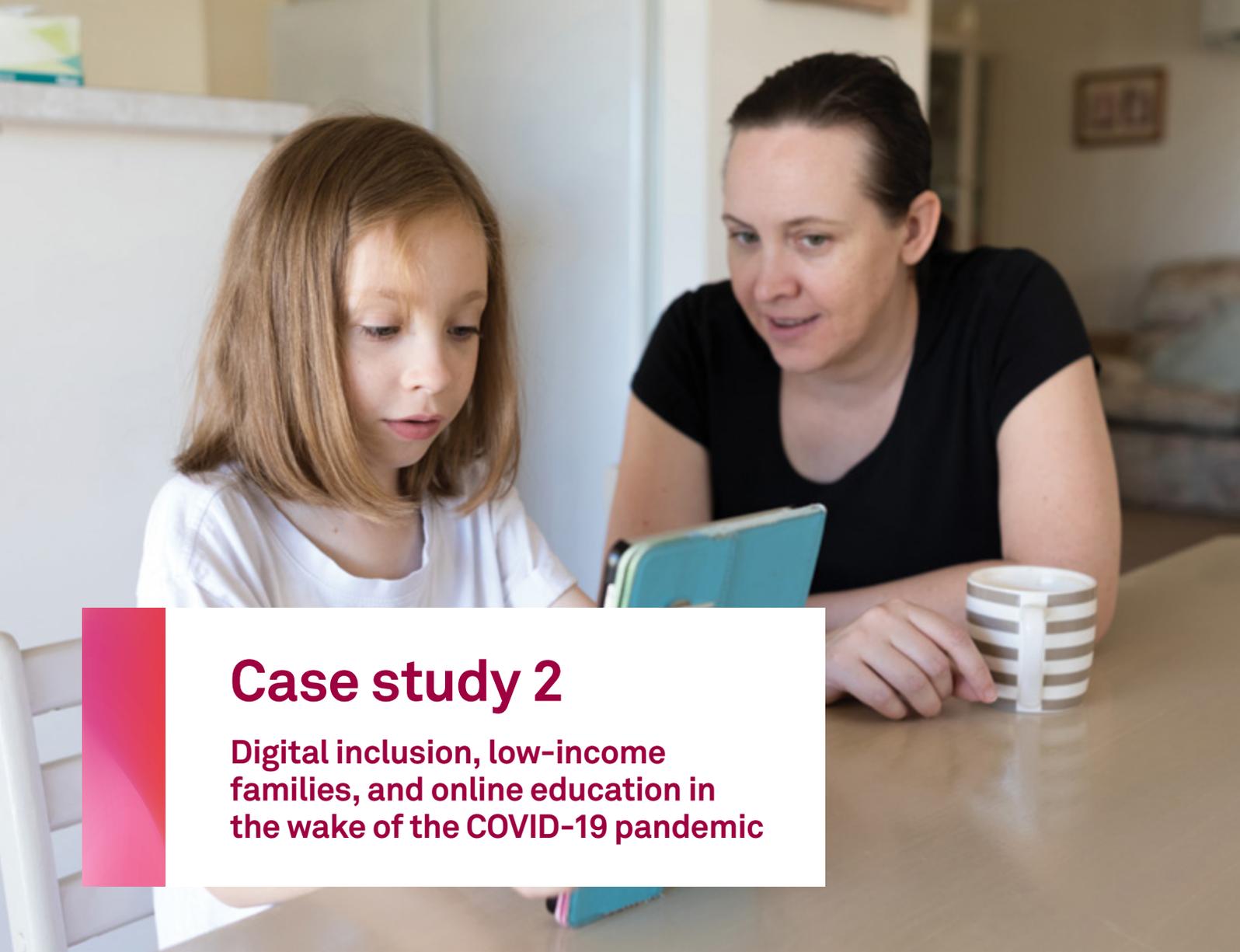
2020	Australia	Older Australians (Age 65+)	Gap between Australia and Older Australians
ACCESS			
Internet Access	87.9	74.9	13.0
Internet Technology	82.1	72.8	9.3
Internet Data Allowance	58.7	40.3	18.4
	76.3	62.7	13.6
AFFORDABILITY			
Relative Expenditure	54.7	45.3	9.4
Value of Expenditure	67.0	58.1	8.9
	60.9	51.7	9.2
DIGITAL ABILITY			
Attitudes	50.3	35.2	15.1
Basic Skills	59.4	40.8	18.6
Activities	46.1	28.5	17.6
	52.0	34.8	17.2
DIGITAL INCLUSION INDEX	63.0	49.7	13.3

Source: Roy Morgan Single Source, March 2020.

The ADII results show that many older Australians are not able to use the internet as an alternative to the face-to-face social interactions that have been curtailed by COVID-19 physical distancing measures. This cohort is therefore at greater risk of suffering social isolation and loneliness. Although they are not the only digitally excluded group in this situation, two factors may further exacerbate the risks confronting older Australians. First, older Australians are much more likely to live alone⁴⁴ and thereby rely on the types of public social contact restricted by the COVID-19 measures. Second, because of their heightened vulnerability to COVID-19, this cohort has been encouraged to be particularly vigilant in reducing their physical social contact.

Low levels of digital inclusion for older Australians increase the risks of social isolation and loneliness

The ADII has reported on the low level of digital inclusion of older Australians since 2016 and age-based digital inequality in Australia was already well understood at that time⁴⁶. While a range of interventions have been developed and deployed to address this inequality, longitudinal data from the ADII reveals the high level at which it persists. In response to the amplified social impact of this digital disadvantage during the COVID-19 pandemic a number of new short-term government, telecommunications and community initiatives have been launched. While it is hoped that these initiatives provide some short term relief, there is clearly a need for more coordinated long-term investment in improving digital inclusion for older Australians.



Case study 2

Digital inclusion, low-income families, and online education in the wake of the COVID-19 pandemic

As schools physically closed around the country in response to the COVID-19 pandemic there were varied experiences of home-schooling from families with different levels of digital inclusion.

While the transition to online education was a significant change for most families, digitally excluded cohorts, such as low-income families with school-aged children, faced specific challenges to accessing their lessons online⁴⁷. These challenges will have ongoing consequences for many students.

There are just under four million primary and secondary students in Australia⁴⁷. Approximately 800,000 of these students, or 20%, are from households in the lowest income bracket (earning under \$35,000 per annum)⁴⁹. These households record an Index score of 52.9. This is 10.1 points lower than the national average (63), and 15.5 points lower than families with school-aged children in other income brackets (68.4).

Low-income families with school-aged children are relatively disadvantaged across all three digital inclusion dimensions. Low-income families lack access to appropriate devices, pay more for their digital services than others, and have

lower digital skills. When combined with what we know about educational inequality⁵⁰, digital exclusion will have an ongoing negative impact on the educational outcomes of students from these families. When students from lower socioeconomic families fall behind at any point, they are less likely than others to catch up again⁵¹.

Low-income families receive an Index score of 74.6 for Access, 1.7 points lower than the national average, and 7.3 points lower than all families with school-aged children.

Low-income families with school-aged children are also less likely to have access to individual devices adequate for online education during lockdown schooling⁵². These households have on average half as many desktop, laptop or tablet computers as middle-income households⁵³.

Although low-income families are much less likely than other Australian households to have internet access at home⁵⁴, they are likely to have access to more data than the national average. While low-income families are 7.2 points behind other families with school-aged children in terms of Internet Data Allowance (receiving an Index score of 59.3, compared with 66.5), the

national average is 58.7. This is likely because data access is perceived as essential for contemporary school, work, and leisure tasks⁵⁵. This access, however, comes at a high cost.

Affordability is the greatest barrier to digital inclusion for low-income families with school-aged children⁵⁶. These families spend 5.30% of their household income on internet access each month. This is in comparison to the 1.09% spent by families with school-aged children in other income quintiles, and the 1.16% spent nationally. Low-income families are highly reliant on mobile-only access⁵⁷. Where 19.9% of the Australian population are mobile-only internet users, this jumps to 33.5% of low-income families with school-aged children. As a consequence, low-income families score 35.6 for Affordability. This is a massive 29.8 points lower than other families with school-aged children, and 25.3 points lower than the national average.

Parents in low-income families are less likely than parents in other income quintiles to have the digital skills required to support their children’s online schooling⁵⁸. Although the ADII does not specifically capture the digital skills of students, there are significant known disparities based on socio-economic status. Low-income families record an ADII score of 48.5 for Digital Ability, 3.5 points lower than the national average (52), and 9.4 points lower than other households with school-aged children (57.9).

Students from low-income families report significantly lower scores in digital reading literacy⁵⁹. These students lack the more advanced digital skills that would allow them to work in the independent manner that online education during a pandemic requires⁶⁰. While the low Digital Ability scores received by parents in low-income families restricts their capacity to support school-aged children in their online education, they are also more likely to be an essential worker and therefore less likely to be able to work from home⁶¹. Furthermore, students with low levels of education attainment, not in paid work or employed in low skill occupations, Indigenous students, and those students from regional and remote areas report significantly lower Digital Ability scores than the national average⁶².

COVID-19 has been highly disruptive for students in low-income family households

Understanding the impact of COVID-19 and online education

Low-income families with school-aged children are highly likely to have experienced complex and compounded digital exclusion during COVID-19 lockdowns. These families lack access to both technology options and suitable devices, pay more of their household income for these digital services than others, and have lower digital skills, creating significant challenges for adapting to an online learning environment.

Table 12: Families with school age children (ADII 2020)

2020	Australia	Families with school age children	Low-income families with school age children
ACCESS			
Internet Access	87.9	92.5	83.6
Internet Technology	82.1	86.7	81.0
Internet Data Allowance	58.7	66.5	59.3
	76.3	81.9	74.6
AFFORDABILITY			
Relative Expenditure	54.7	58.9	6.8
Value of Expenditure	67.0	71.8	64.5
	60.9	65.4	35.6
DIGITAL ABILITY			
Attitudes	50.3	52.8	47.1
Basic Skills	59.4	68.0	54.2
Activities	46.1	53.0	44.2
	52.0	57.9	48.5
DIGITAL INCLUSION INDEX	63.0	68.4	52.9

Source: Roy Morgan Single Source, March 2020.

Low-income household families are differentially impacted by online learning depending on where they reside. Australian state authorities have ordered physical school closures at different times and for different durations, whilst (at the time of writing) schools in SA remained fully operational throughout.

As the pandemic progresses, states are modulating physical school closures within local government areas in response to community transmission rates⁶³. Those in affected areas

find themselves thrust into, or back into, fully online learning at short notice. The impact of COVID-19 on the education of children in low-income families is therefore not uniform. A range of government, telecommunications and community initiatives have been launched in the wake of the pandemic to try and address this digital inequity. However, there is clearly a need for more coordinated long-term investment in improving digital inclusion for low-income households.

The implications of these impacts are deeply concerning. Unless provided immediate and significant support, these 800,000 students are less likely than their counterparts to return to a successful educational pathway⁶⁴. Given the potential of ongoing lockdowns⁶⁵, mitigating the adverse effects of digital exclusion for students from low-income families will be critically important for the foreseeable future.

New South Wales

Findings

The 2020 ADII score for New South Wales (NSW) is 63.5. NSW is 0.5 points above the national average (63.0) and ranks third out of Australia's eight states and territories. NSW's score has increased steadily since 2015, rising 8.6 points.

Access scores in NSW have increased steadily since 2014, rising a total of 12.6 points. The NSW Access score aligned with the national average Access score between 2014 and 2018. The slight gap (0.6 points) that opened between the NSW score and the national average in 2019 has again closed. Between 2019 and 2020, the NSW Access score rose 1.3 points to 76.4, while the national average Access score rose 0.6 points to 76.3.

Since 2014 the NSW Digital Ability score has increased by 10.3 points (from 42.2 in 2014 to 52.5 in 2020). Between 2019 and 2020 the increase in Digital Ability registered in NSW was greater than that recorded nationally. As a result, the NSW Digital Ability score (52.5) now exceeds the national average Digital Ability score (52.0).

The Affordability score for NSW in 2020 is 61.7, increasing only 3.0 points since 2014. Following an annual decline in Affordability through the years 2014 to 2016, NSW's score on

this dimension has recovered slightly since 2016 as a result of a large increase in the Value of Expenditure component score which reflects an increase in the amount of internet data allowance obtained per dollar of expenditure. NSW's Relative Expenditure score continues to fall as people in the state spend a growing portion of household income spent on internet access. It is also 0.8 points higher than the national Affordability score (60.9).

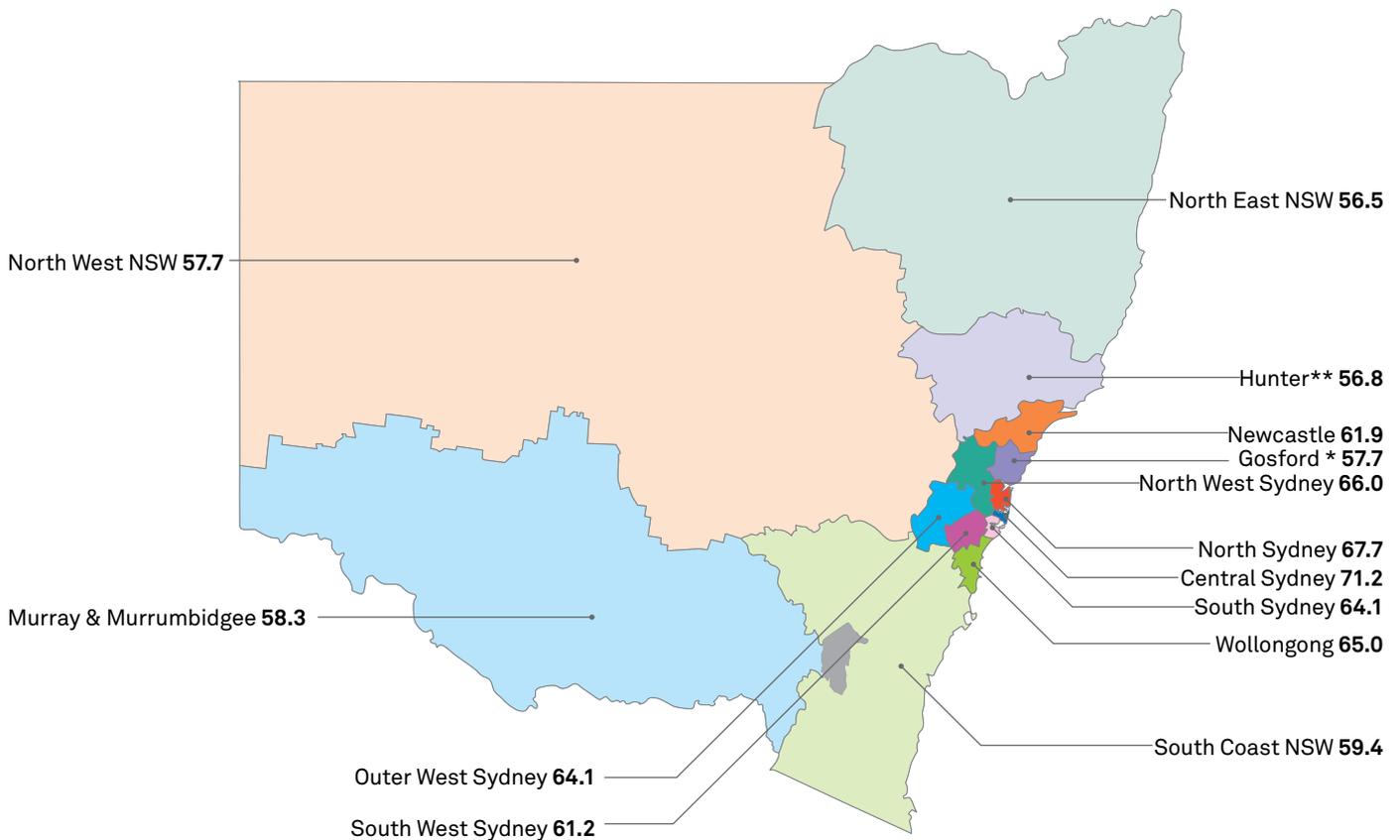
Geography

57.6 was recorded for rural NSW (outside Sydney and the regional cities). The Capital-Country Gap in NSW is 8.6 points. It has narrowed each year since 2016 when it was 10.5 points.

Wollongong recorded an ADII score of 65.0 in 2020, making it the most digitally included regional city in NSW. The ADII score for Wollongong increased 2.6 points between 2019 and 2020 as a result of gains in Affordability and Digital Ability. The 2020 ADII score for Wollongong (65.0) is 10.9 points higher than that recorded in 2014 (54.1), but it should be noted that the level of digital inclusion reported annually for this city has fluctuated considerably.

NSW Regions ADII scores

NSW ADII score: 63.5



*Sample size <150, exercise caution in interpretation.

**Sample size <75, exercise extreme caution in interpretation.

Source: Roy Morgan Single Source, March 2020.

Table 13: NSW – Digital Inclusion by geography (ADII 2020)

2020	Australia	NSW	Sydney	Rural NSW	Sydney Regions						Gosford & Wyong*	Newcastle	Wollongong	North East NSW	South Coast NSW	North West NSW	Murray & Murrumbidgee	Hunter**
					North	North West	South	Central	South West	Outer West								
ACCESS																		
Internet Access	87.9	87.9	89.3	84.9	90.5	91.1	86.9	92.3	84.8	86.7	84.8	88.8	86.9	83.8	87.2	82.7	88.2	82.9
Internet Technology	82.1	82.0	82.7	79.4	81.5	84.2	81.0	85.2	81.4	81.5	81.1	84.2	83.4	76.7	81.9	81.4	80.7	80.2
Internet Data Allowance	58.7	59.2	61.1	54.7	56.8	64.5	59.9	63.7	59.0	62.7	58.1	60.1	55.2	54.3	56.1	56.4	52.8	51.8
	76.3	76.4	77.7	73.0	76.3	79.9	75.9	80.4	75.1	77.0	74.6	77.7	75.2	71.6	75.1	73.5	73.9	71.6
AFFORDABILITY																		
Relative Expenditure	54.7	55.9	62.2	43.5	68.9	58.8	58.5	70.6	54.5	55.6	42.8	45.0	62.2	43.7	45.3	37.4	46.0	45.4
Value of Expenditure	67.0	67.4	68.7	63.6	69.7	70.1	64.7	70.8	65.9	72.0	61.9	68.0	72.5	60.7	67.7	68.2	61.5	63.0
	60.9	61.7	65.5	53.5	69.3	64.4	61.6	70.7	60.2	63.8	52.3	56.5	67.3	52.2	56.5	52.8	53.8	54.2
DIGITAL ABILITY																		
Attitudes	50.3	51.0	53.8	47.4	52.2	56.1	53.9	60.2	47.8	44.9	44.4	44.2	47.8	45.2	46.8	49.2	50.9	49.8
Basic Skills	59.4	59.9	62.7	52.3	67.2	58.8	62.0	69.5	54.3	63.3	54.8	62.1	62.6	53.2	52.9	51.8	50.7	49.3
Activities	46.1	46.7	49.9	39.2	53.4	46.4	48.0	58.2	43.0	46.1	39.4	48.1	47.0	38.9	40.0	39.5	40.6	34.4
	52.0	52.5	55.5	46.3	57.6	53.8	54.6	62.6	48.4	51.4	46.2	51.4	52.5	45.8	46.6	46.9	47.4	44.5
DIGITAL INCLUSION INDEX	63.0	63.5	66.2	57.6	67.7	66.0	64.1	71.2	61.2	64.1	57.7	61.9	65.0	56.5	59.4	57.7	58.3	56.8

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Newcastle, the second largest city in NSW, recorded an ADII score of 61.9 in 2020. Since 2014, Newcastle’s score has increased by 8.8 points, with increases across all three dimensions over the entire period. However, a fall in Affordability and only modest increases in Access and Digital Ability in the past year has led to a small overall decline in digital inclusion. The ADII score for Newcastle fell by 0.2 points, from 62.1 in 2019 to 61.9 in 2020.

The ADII score for Gosford in 2020 is 57.7. Digital inclusion in Gosford declined by 3.5 points between 2019 and 2020 as a result of a fall in scores recorded across all three dimensions. It should be noted that the small sample from which the 2020 data was derived may be responsible for some of this fluctuation.

Demographics

Reflecting the national figures, digital inclusion in NSW increases in line with income. In 2020 people in Q1 high-income households have an ADII score of 74.7. This is 11.2 points above the NSW state average (63.5) and 11.7 points above the national average (63.0), and 0.9 points above the national average for Q1 high-income households (73.8). Since 2014 the ADII score for NSW residents in Q1 high-income households has increased 8.0 points with gains across all three dimensions.

In 2020 people in Q5 low-income households in NSW recorded an ADII score of 42.0. This is 1.8 points lower than the national score for this income group. In the past year the ADII score for people from Q5 low-income households in NSW fell 1.3 points. The Access score recorded by those in Q5 low-income households in NSW rose marginally in the past year (up 0.5 points), but both Affordability and Digital Ability scores fell. The Affordability score for this group fell 4.0 points as a result of a decline in both Relative Expenditure (portion of household income spent on internet data) and Value of Expenditure

(the amount of internet data obtained per dollar of expenditure). Since 2014 the ADII score for people in Q5 low-income households in NSW has increased 7.4 points. This increase is lower than that recorded by those from Q1 high-income households in NSW (up 8.0 points). The Income Gap between those in high and low-income households in NSW has widened from 32.1 points in 2014 to 32.7 points in 2020.

Digital inclusion in NSW is linked to employment, education, and age. Employed people in NSW had steadily increasing ADII scores through each of the six years since 2014, with a total increase of 8.4 points (from 60.0 in 2014 to 68.4 in 2020). In the past year the ADII score of employed people in NSW rose 1.8 points. In 2020, people not in the labour force in NSW registered an ADII score of 54.5. Since 2014 the ADII score for those not in the labour force rose 6.9 points, although in the past year the score was essentially stagnant (up 0.1 points). In line with the national trend, the Employment Gap in NSW (between those in employment and those not in the labour force) has widened in the past six years (from 12.4 points in 2014 to 13.9 in 2020).

In 2020, tertiary educated people in NSW received a score of 68.0, which is 18.2 points higher than those who did not complete secondary school (49.8). Since 2014, residents of NSW who did not complete secondary school recorded a substantial increase in Access (up 16.1 points) and moderate increase in Digital Ability (up 10.2 points). However, these gains were offset somewhat by a decline in Affordability (down 4.4 points). Since 2014, the ADII score for those not completing secondary school has increased by 7.4 points. This was the same increase recorded by tertiary educated people in NSW (up 7.4 points), indicating that the Education Gap is not narrowing.

People in NSW aged below 50 recorded higher ADII scores (in the range of 66.0 to 69.4) than people aged over 50 (ranging from 51.1 to 63.0). In 2020, NSW residents aged 35-49 years are the most digitally included age group with an ADII score of 69.4.

Table 14: NSW - Digital Inclusion by demography (ADII 2020)

2020	NSW	Income Quintiles					Employment			Education			Age					Disability	Indigenous Australians**	CALD
		Q1	Q2	Q3	Q4	Q5	Employed	Unemployed*	NILF	Tertiary	Secondary	Less	14-24	25-34	35-49	50-64	65+			
ACCESS																				
Internet Access	87.9	93.8	92.5	90.0	82.9	72.2	92.9	85.9	79.4	91.4	86.1	74.6	91.5	92.0	92.4	88.1	75.7	72.1	77.9	88.8
Internet Technology	82.0	86.8	86.9	83.4	78.6	68.8	85.8	78.5	75.8	84.8	80.9	72.4	83.0	85.0	86.1	82.1	73.4	73.0	75.2	82.3
Internet Data Allowance	59.2	67.8	67.5	60.0	51.8	43.0	65.3	62.5	47.5	62.9	57.5	45.0	62.6	68.3	66.7	57.2	41.1	47.4	55.3	64.0
	76.4	82.8	82.3	77.8	71.1	61.3	81.3	75.6	67.6	79.7	74.9	64.0	79.0	81.8	81.7	75.8	63.4	64.2	69.5	78.4
AFFORDABILITY																				
Relative Expenditure	55.9	86.7	63.9	48.6	29.3	10.4	60.7	49.0	48.0	61.8	50.3	44.9	55.9	53.9	61.9	58.0	47.9	39.9	44.8	56.9
Value of Expenditure	67.4	72.1	71.8	69.2	63.5	50.7	70.1	65.7	62.4	69.9	66.6	56.0	70.1	67.8	71.4	67.7	58.0	60.4	61.7	64.9
	61.7	79.4	67.8	58.9	46.4	30.6	65.4	57.4	55.2	65.8	58.5	50.4	63.0	60.8	66.6	62.9	53.4	50.1	53.3	60.9
DIGITAL ABILITY																				
Attitudes	51.0	57.9	54.8	49.6	44.0	37.0	55.3	55.0	42.5	54.1	44.5	33.7	64.7	55.5	55.6	44.9	36.2	39.3	48.9	58.9
Basic Skills	59.9	71.4	68.7	61.9	49.8	37.9	67.4	64.6	45.5	68.2	54.6	40.8	55.5	67.8	70.3	61.0	42.7	39.5	45.5	64.0
Activities	46.7	56.2	53.6	47.5	38.4	27.5	52.6	56.6	34.4	53.2	39.1	30.0	47.3	56.0	53.9	45.4	30.3	34.0	34.6	53.5
	52.5	61.8	59.0	53.0	44.1	34.1	58.4	58.7	40.8	58.5	46.1	34.8	55.9	59.8	59.9	50.4	36.4	37.6	43.0	58.8
DIGITAL INCLUSION INDEX	63.5	74.7	69.7	63.2	53.9	42.0	68.4	63.9	54.5	68.0	59.8	49.8	66.0	67.5	69.4	63.0	51.1	50.6	55.3	66.0

*Sample size <150, exercise caution in interpretation.**Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Since 2014 this age group have registered consistent annual increases in digital inclusion (up 10.1 points). In 2020, the ADII score for those aged 14-24 years in NSW is 66.0. Since 2014 the ADII scores recorded by this age group has fluctuated, falling to a low of 58.1 in 2015 and reaching as high as 67.1 in 2018.

In 2020, the 50-64 age group in NSW has an ADII score of 63.0. Since 2016 this age group has recorded steady annual increases in digital inclusion across all three dimensions. However, the ADII score increase recorded by the 50-64 age group in NSW (up 1.3 points) in the past year did not keep pace with the state-wide increase (up 1.7 points).

NSW residents aged 65+ recorded an ADII score of 51.1 in 2020, an increase of 2.3 points over their 2019 score (48.8). This followed the 2.4 point rise recorded between 2018 and 2019, the largest annual increase recorded by this age group since ADII data collection began in 2014.

In 2020 the NSW Age Gap, the difference between the ADII score recorded by those aged 65+ and the age group reporting the highest ADII score (the 35-49 age group), is 18.3 points. This Age Gap is marginally narrower than it was in 2014 (by 0.2 points) but has widened in the past year (by 0.8 points). Since 2014 NSW residents aged 65+ recorded continuous annual increases in Access (up 18.1 points) and Digital Ability (up 14.9 points). Since 2014 the Affordability score for this group fell by 5.4 points, a consequence of a continuous decline in the Relative Expenditure component (the portion of household income spent on internet access) between 2014 and 2018.

In 2020, people with disability in NSW recorded an ADII score of 50.6. Despite some annual fluctuations, the ADII score for people with disability in NSW has trended up since 2014, with an overall increase of 7.7 points. In the past year digital inclusion increased for people with disability in NSW, although this increase (up 1.4 points) did not keep pace with the rise in the state average (up 1.7 points). Further, people with disability in NSW have a digital inclusion score 2.0 points lower than the national average for people with disability (52.6).

In 2020, CALD migrants in NSW recorded an ADII score of 66.0. This is above both the NSW score (63.5) and overall Australian score (63.0), and slightly higher than the national CALD migrant score (65.1). Although the ADII score for CALD migrants in NSW has fluctuated annually since 2014, the general positive trend has seen the ADII score for this cohort increasing 6.4 points over this period. It should be noted that the CALD migrant population is large and highly diverse and aggregate data may obscure some of the digital inclusion outcomes for distinct groups within that population.

Several sociodemographic groups in NSW are digitally excluded, with ADII scores substantially below the state average (63.5 points). These groups are: people in Q5 low-income households (42.0), people who did not complete secondary school (49.8), people with a disability (50.6), those aged 65+ (51.1), people in Q4 income households (53.9), and people not in the labour force (54.5).

Victoria

Findings

The 2020 ADII score for Victoria is 63.1. Victoria's ADII score is 0.1 points above the national average (63.0) and ranks fourth out of Australia's eight states and territories. Although digital inclusion rose in Victoria each year between 2014 and 2019 (from 54.3 in 2014 to 63.3 in 2019), it fell slightly (down 0.2 points) in the past year. This is a combination of a small fall in both Access (down 0.6 points) and Digital Ability (down 0.5 points) and a small rise in Affordability (up 0.4 points).

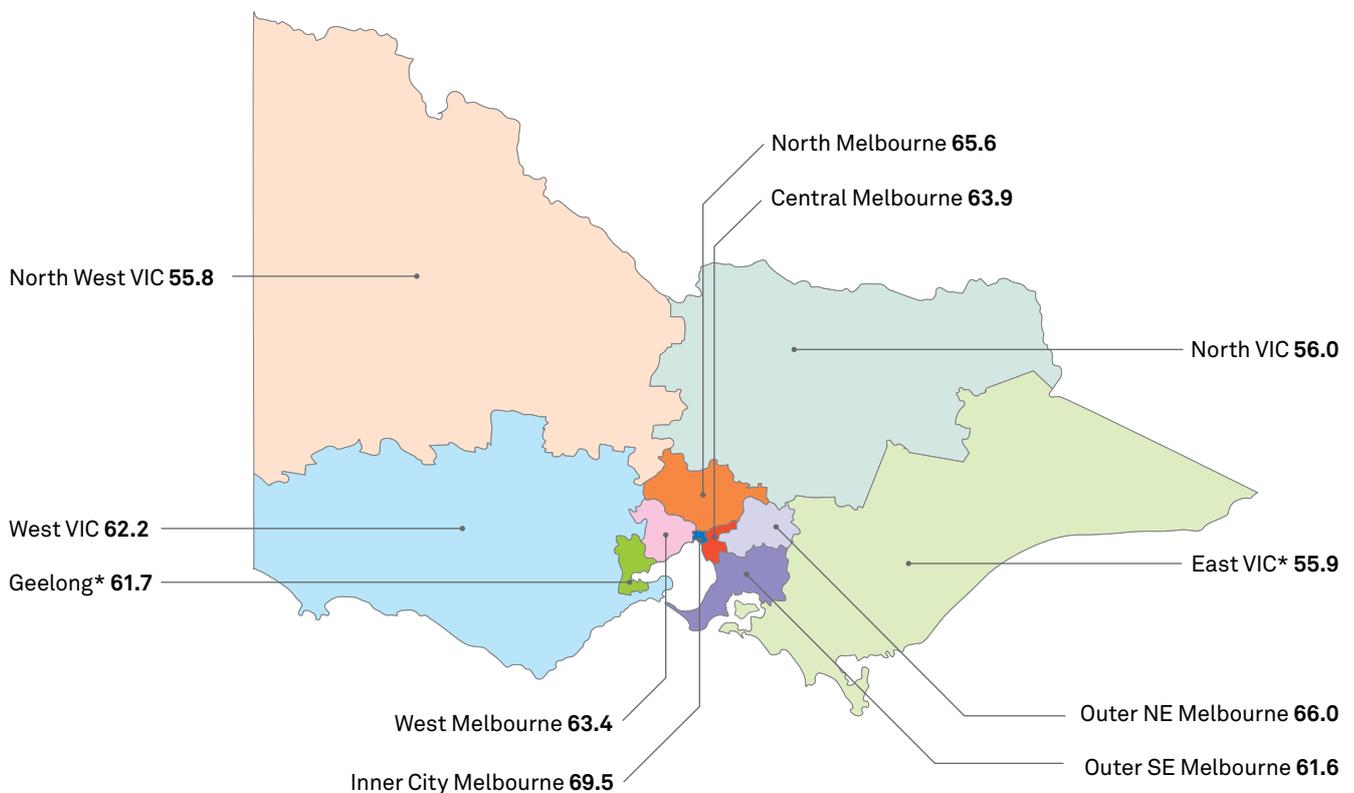
Between 2014 and 2019, Victoria's Access and Digital Ability scores rose annually and exceeded the national scores for these dimensions each year. The Access score increased 11.8 points over this period, (from 65.1 in 2014 to 76.9 in 2019), largely due to a steady growth in NBN service access and rising fixed and mobile data allowances. Victoria's Digital Ability score increased 10.1 points during this five-year period (from 42.6 points in 2014 to 52.7 in 2019). In the past year Victoria experienced a marginal decline in these two dimensions of digital inclusion. Victoria's Access score fell 0.6 points and the Digital Ability score fell 0.5 points. Both scores remain at or above the national average.

In 2020 Victoria's Affordability score (60.7) is slightly below the national average (60.9). Mirroring the national trend, Victoria has only made small gains in Affordability since 2014 (up 5.6 points from 55.1 in 2014 to 60.7 in 2020). After recording a fall in Affordability between 2014 and 2015, Victoria has recorded modest year-on-year growth to 2020. This increase is based on a rising Value of Expenditure component score (up 14.2 points between 2014 and 2020), which indicates that Victorians are getting more data allowance per dollar of expenditure. The Relative Expenditure component score for Victoria has been essentially stagnant since 2016 indicating there has been little change in the proportion of household income spent on internet access.

Geography

In 2020 Melbourne's ADII score is 64.4. This is 1.4 points above the national average (63.0), but 0.6 points below the average for capital cities (65.0). Melbourne's ADII score increased each year between 2014 and 2019. Mirroring the state results, Melbourne's ADII score fell slightly in the past year (down 0.5 points) as a result of a decline in both

VIC Regions ADII scores VIC ADII score: 63.1



*Sample size <150, exercise caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Table 15: Victoria - Digital Inclusion by geography (ADII 2020)

2020	Australia	VIC	Melbourne	Rural VIC	Melbourne Regions						Geelong*	West VIC	North West VIC	North VIC	East VIC*
					West	North	Inner City	Central	Outer NE	Outer SE					
ACCESS															
Internet Access	87.9	88.3	89.1	84.8	90.6	89.7	91.4	87.8	89.9	86.9	90.0	88.6	80.7	84.0	85.1
Internet Technology	82.1	82.0	82.6	79.6	84.2	82.0	81.1	81.7	82.5	83.5	81.0	83.6	76.7	78.7	78.5
Internet Data Allowance	58.7	58.5	59.5	54.6	55.6	60.7	65.6	59.8	57.9	59.6	57.7	58.7	50.4	55.3	53.1
	76.3	76.3	77.1	73.0	76.8	77.5	79.3	76.4	76.8	76.6	76.2	77.0	69.3	72.6	72.2
AFFORDABILITY															
Relative Expenditure	54.7	54.3	56.7	44.9	56.1	57.4	56.6	57.0	60.1	54.2	54.2	47.7	45.8	42.6	42.2
Value of Expenditure	67.0	67.1	68.4	62.5	66.5	67.8	69.6	65.8	72.5	70.5	65.7	68.1	62.0	59.4	58.7
	60.9	60.7	62.5	53.7	61.3	62.6	63.1	61.4	66.3	62.4	60.0	57.9	53.9	51.0	50.5
DIGITAL ABILITY															
Attitudes	50.3	51.2	52.6	45.9	53.4	53.7	60.3	53.0	53.1	46.2	52.2	50.1	43.8	42.3	46.2
Basic Skills	59.4	59.0	60.5	54.3	56.8	62.9	75.4	61.3	63.3	52.4	52.5	59.5	52.5	52.1	51.3
Activities	46.1	46.3	48.0	40.1	45.8	53.8	62.0	47.0	48.5	38.4	41.7	45.9	36.6	39.0	37.3
	52.0	52.2	53.7	46.8	52.0	56.8	65.9	53.8	55.0	45.6	48.8	51.9	44.3	44.5	45.0
DIGITAL INCLUSION INDEX	63.0	63.1	64.4	57.8	63.4	65.6	69.5	63.9	66.0	61.6	61.7	62.2	55.8	56.0	55.9

*Sample size <150, exercise caution in interpretation. **Source:** Roy Morgan, March 2020.

Access (down 0.7 points) and Digital Ability (down 1.1 points) and a small rise in Affordability (up 0.4 points). Since 2014, Melbourne's ADII score increased 7.7 points (from 56.7 in 2014 to 64.4 in 2020). It is ranked fourth of all state capitals.

Since 2014 the sample size for Geelong has declined and this has generated increasing volatility in this city's ADII score. In the 2019 report we cautioned that Geelong's ADII score of 67.2 may have been inflated and the 2020 data suggests this was the case – although we continue to treat the data with caution. The 2020 ADII score for Geelong is 61.7.

In 2020, rural Victoria has an overall digital inclusion score of 57.8. While this is 6.6 points lower than the Melbourne ADII score (64.4), the Capital-Country Gap in Victoria has narrowed each year since 2016 when it was 12.1 points.

Digital inclusion rose in two of Victoria's four regional areas in the past year. West VIC (62.4) recorded the largest rise (4.5 points) with increases across all three dimensions. It is the most digitally included region in Victoria. The ADII score for North VIC (56.0) has increased 2.1 points, adding to consistent annual increases since 2017. North VIC is now the second highest ranking regional area in Victoria. The 2020 ADII score for East VIC (55.9) is 1.4 points lower than that recorded in 2019 (57.3). North West VIC recorded an ADII score of 55.8. This is 0.1 points lower than the 2019 score recorded in this regional area (55.9).

Demographics

Reflecting the national pattern, digital inclusion in Victoria increases as income rises. In 2020, Victorians in Q1 high-income households had high scores on all three dimensions with an overall ADII score of 73.1. Every year since 2014 this group's ADII score has remained more than 10 points above the Victorian and Australian averages.

However, in the past year Victorians in Q1 high-income households recorded a decline in digital inclusion. The ADII score for this group fell (down 2.7 points), largely as a result of a decline in Access and Digital Ability. This contraction resulted in the digital inclusion score for Victorians in Q1 high-income households falling below the national Q1 high-income household score for the first time since 2014. In 2020, the ADII score for Victorians in Q1 high-income households (73.1) is 0.7 points lower than the national Q1 high-income household score (73.8).

In 2020, Victorians in Q5 low-income households recorded an ADII score of 45.3. This is 17.7 points below the national average, but slightly higher (1.5 points) than the national score for this household income group (43.8). The score for Victorians in Q5 low-income households rose 7.0 points between 2014 and 2020. Much of the increase in digital inclusion for this group over the past six years is related to Access and Digital Ability. While the digital inclusion gap between Victorians in Q5 low-income households and those in Q1 high-income households narrowed in the past year (down from 31.4 points to 27.8 points), this was mainly due to a decline in digital inclusion registered by those with high-incomes (down 2.7 points) rather than a substantial increase for Victorians in Q5 low-income households (up 0.9 points).

Mirroring the national pattern, digital inclusion in Victoria is linked to employment, education, and age. In 2020, employed Victorians have an ADII score of 67.3. This is 3.6 points higher than unemployed Victorians (63.7). Victorians not in the labour force have an ADII score of 54.8, some 12.5 points lower than employed Victorians. Since 2014, Victorians not in the labour force recorded increases in Access (up 13.9) and Digital Ability (up 10.3). These gains for those not in the labour force were offset slightly by a fall in Affordability (down 1.0 point). The Employment Gap between those not in the labour force and employed Victorians has widened slightly since 2014 (from 12.0 points in 2014 to 12.5 points in 2020).

Table 16: Victoria - Digital Inclusion by demography (ADII 2020)

2020	VIC	Income Quintiles					Employment			Education			Age					Disability*	Indigenous Australians**	CALD
		Q1	Q2	Q3	Q4	Q5	Employed	Unemployed*	NILF	Tertiary	Secondary	Less	14-24	25-34	35-49	50-64	65+			
ACCESS																				
Internet Access	88.3	94.4	94.4	90.8	82.3	76.2	92.7	87.0	80.4	91.3	86.2	78.3	88.8	91.7	94.2	89.7	75.1	77.8	94.3	88.7
Internet Technology	82.0	85.4	86.9	84.3	79.3	71.8	85.3	79.7	76.2	84.1	81.2	76.7	81.3	84.9	87.1	82.9	72.0	76.1	85.3	83.4
Internet Data Allowance	58.5	64.4	67.6	60.0	52.6	44.6	64.3	61.9	46.7	61.4	56.8	48.6	59.8	69.7	65.9	55.5	39.1	57.2	48.8	61.3
	76.3	81.4	83.0	78.4	71.4	64.2	80.8	76.2	67.8	78.9	74.8	67.9	76.6	82.1	82.4	76.1	62.1	70.4	76.1	77.8
AFFORDABILITY																				
Relative Expenditure	54.3	85.7	62.5	48.0	25.8	10.0	58.5	47.0	47.2	60.0	45.6	46.7	54.9	55.6	57.7	56.5	44.8	41.3	69.5	52.9
Value of Expenditure	67.1	71.8	71.8	67.6	63.5	58.1	69.0	69.0	62.9	69.9	65.0	62.5	64.8	70.9	71.3	68.0	58.2	64.3	71.0	67.1
	60.7	78.8	67.2	57.8	44.7	34.0	63.8	58.0	55.1	65.0	55.3	54.6	59.9	63.3	64.5	62.3	51.5	52.8	70.2	60.0
DIGITAL ABILITY																				
Attitudes	51.2	57.3	54.6	49.6	44.2	37.2	54.4	57.5	43.9	54.1	46.8	36.1	62.2	61.2	53.6	44.3	35.5	41.0	48.9	55.8
Basic Skills	59.0	66.6	69.9	60.4	50.5	44.5	65.6	61.5	46.2	65.9	55.7	40.9	58.2	69.5	67.4	57.4	40.0	44.5	56.5	56.2
Activities	46.3	54.0	54.8	47.6	37.5	31.6	51.6	52.1	35.0	53.1	39.2	28.4	47.4	59.1	53.4	41.3	28.2	32.6	37.0	43.8
	52.2	59.3	59.8	52.6	44.0	37.8	57.2	57.0	41.7	57.7	47.3	35.1	55.9	63.2	58.2	47.7	34.5	39.4	47.5	51.9
DIGITAL INCLUSION INDEX	63.1	73.1	70.0	62.9	53.4	45.3	67.3	63.7	54.8	67.2	59.1	52.5	64.1	69.5	68.4	62.0	49.4	54.2	64.6	63.2

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

In 2020, Victorians with a tertiary education have an ADII score of 67.2, while those who did not complete secondary school scored 52.5. Mirroring the national picture, tertiary educated Victorians had higher scores on all three dimensions than those Victorians who did not complete secondary school, with the largest gap evident in Digital Ability (22.6 points). In the past year Victorians who did not complete secondary school made significant increases across all three dimensions, generating an overall increase of 3.0 points (from 49.5 in 2019 to 52.5 in 2020). By contrast the ADII score for tertiary educated Victorians fell in 2020 (down 0.9 points). As a result, the Education Gap in Victoria narrowed 3.9 points in the past year and is now the narrowest it has been since ADII data collection began in 2014 (14.7 points).

Reflecting the national pattern, people in Victoria aged below 50 recorded significantly higher ADII scores in 2020 (ranging from 64.1 to 69.5) than older groups (ranging from 49.4 to 62.0). The most digitally included age group in 2020 are 25-34 year olds (69.5 points). This is despite a small decline in digital inclusion reported by this age group in the past year (down 1.3); a result of a reduction in Access and Digital Ability scores.

The 2020 ADII score for Victorians in the 50-64 age group is 62.0. This group recorded the largest increase in digital inclusion of any Victorian age group since 2014 (up 10.9 points), with substantial gains in Access (up 15.1 points) and Digital Ability (up 12.4 points). In 2020, Victorian residents aged 65+ recorded an ADII score of 49.4. Despite increases in Access (up 13.9 points) and Digital Ability (up 9.6 points) since 2014, a marked decline in Affordability (down 6.1 points) during this period limited overall digital inclusion gains made by Victorians aged 65+ to 5.9 points. The Age Gap in 2020, the difference between the ADII score recorded by Victorian residents aged 65+ and the age group reporting the highest ADII score in

Victoria (the 25-34 age group), is 20.1 points. The Age Gap in Victoria is wider than it was in 2014 (15.8 points), although it did contract in the past year (down 2 points).

In 2020, Victorians with disability recorded an ADII score of 54.2. This is 1.6 points higher than the national average ADII score recorded by people with disability (52.6). Victorians with disability recorded continuous annual increases in digital inclusion between 2015 and 2019, generating an overall ADII score rise of 14.6 points through this period. In the past year digital inclusion declined for this cohort - the ADII score fell 2.9 points as a result of a decline in Access and Digital Ability. Care should be exercised in interpreting the data for Victorians with disability given the limited sample size from which it is drawn.

The ADII score for CALD migrants in Victoria increased steadily between 2014 and 2019 (up 7.3 points, from 57.8 in 2014 to 65.1 in 2019). However, it declined slightly in the past year (down 1.9 points). In 2020, the score for this group is 63.2, which is just higher than the Victorian state average (63.1) but below the national CALD migrant score (65.1). Care should be taken in interpreting these findings as the CALD migrant population is large and highly diverse and aggregate data may obscure some of the digital inclusion outcomes for distinct groups within that population.

Several sociodemographic groups in Victoria are digitally excluded, with ADII scores substantially below the state average (63.1). These groups are: people in Q5 low-income households (45.3), people aged 65+ (49.4), people who did not complete secondary school (52.5), people in Q4 income households (53.4), people with disability (54.2) and people not in the labour force (54.8).

Queensland

Findings

Queensland's ADII score in 2020 is 62.2. This score is 0.8 points below the national average (63.0) and ranks fifth out of Australia's eight states and territories. Since 2014 Queensland's ADII score has risen by 9.1 points, just higher than the rise in the national average over this period (9.0 points).

Access scores in Queensland have increased steadily in the past six years, rising a total of 12.1 points from 64.0 in 2014 to 76.1 in 2020. This is largely the result of the uptake of new mobile and fixed broadband services (including NBN) and an increase in data allowances.

Since 2014 Queensland's Digital Ability score has increased 8.1 points (from 42.6 in 2014 to 50.7 in 2020). Queensland's scores on Attitudes, Basic Skills and Activities have all risen since 2014, although the increase in the Attitudes component has not been as substantial as that recorded for Basic Skills and Activities.

Mirroring the national picture, Queensland's Affordability score fell between 2014 and 2016, but has recovered since.

Overall, Queensland's Affordability score rose 7.0 points between 2014 and 2020. In 2014 Queensland's Affordability score was 52.7 and in 2020 it is 59.7. The recovery after 2016 has largely been a result of an increase in the Value of Expenditure component (up 14.3 points since 2016) which reflects an increase in the amount of Internet Data Allowance obtained per dollar of expenditure. There has been a slight increase in Relative Expenditure (up 1.8 points since 2016), reflecting a decrease in the proportion of household income spent on internet access.

Geography

In 2020, Brisbane's ADII score is 65.3. In the past year Brisbane's score rose 2.0 points. Only Sydney has a higher ADII score (66.2).

The Sunshine Coast has an ADII score of 63.5 in 2020 (up 4 points since 2019). This rise is underpinned by increases in Access and Affordability related to the uptake of NBN services, and now positions the Sunshine Coast as the most digitally included region in Queensland. Since 2014 the Sunshine Coast

QLD Regions ADII scores QLD ADII score: 62.2

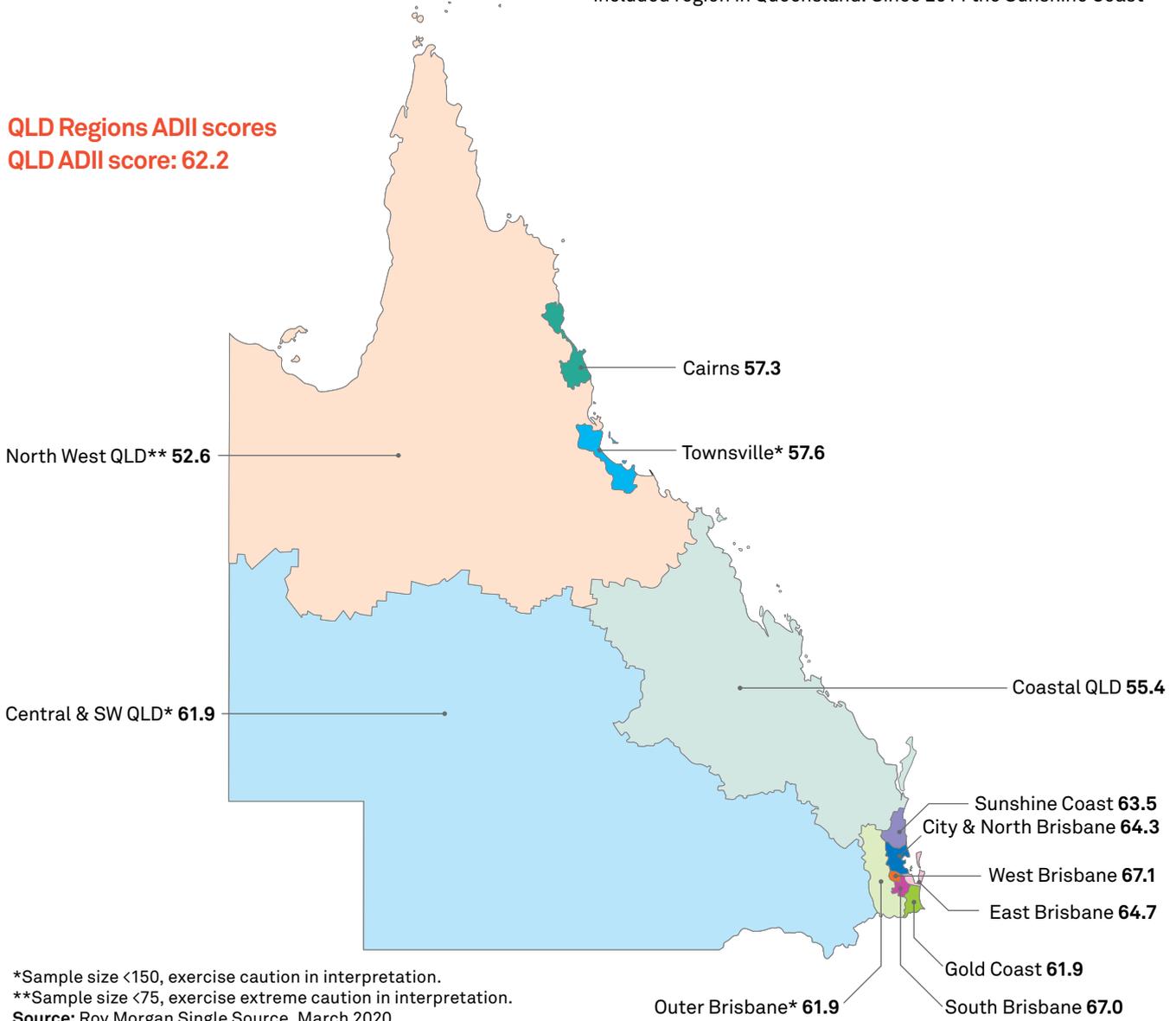


Table 17: Queensland - Digital Inclusion by geography (ADII 2020)

2020	Australia	QLD	Brisbane	Rural QLD	Brisbane Regions					Gold Coast	Sunshine Coast	Cairns	Townsville*	Central & SW QLD*	Coastal QLD	North West QLD**
					City & North	West	South	East	Outer*							
ACCESS																
Internet Access	87.9	87.5	88.5	85.1	88.6	90.4	88.8	88.7	84.0	89.8	87.7	84.7	84.3	86.4	84.5	85.1
Internet Technology	82.1	81.5	83.2	78.4	82.5	82.3	84.7	83.7	81.3	81.5	83.1	80.0	76.3	82.1	78.3	72.0
Internet Data Allowance	58.7	59.2	61.9	54.8	61.5	61.6	63.0	61.7	60.9	60.9	58.9	51.8	53.1	60.4	54.4	46.1
	76.3	76.1	77.9	72.8	77.5	78.1	78.8	78.1	75.4	77.4	76.5	72.2	71.2	76.3	72.4	67.7
AFFORDABILITY																
Relative Expenditure	54.7	53.8	57.9	46.2	55.0	63.2	59.7	59.5	52.8	52.3	55.8	47.4	52.8	50.8	41.8	56.2
Value of Expenditure	67.0	65.6	69.7	58.4	65.6	70.3	73.6	72.1	69.3	65.5	69.4	58.3	55.4	65.4	59.7	51.7
	60.9	59.7	63.8	52.3	60.3	66.7	66.6	65.8	61.1	58.9	62.6	52.9	54.1	58.1	49.3	54.0
DIGITAL ABILITY																
Attitudes	50.3	49.2	52.3	44.2	54.2	55.7	52.6	48.2	46.6	48.6	47.2	45.6	49.0	49.9	44.2	33.2
Basic Skills	59.4	58.2	61.7	52.2	61.9	65.0	63.9	57.3	57.8	57.1	60.6	54.9	53.0	58.4	50.9	45.7
Activities	46.1	44.8	48.4	39.1	49.5	48.5	50.3	45.6	43.0	42.9	46.0	39.9	40.3	45.2	38.7	29.4
	52.0	50.7	54.1	45.2	55.2	56.4	55.6	50.4	49.2	49.5	51.3	46.8	47.4	51.2	44.6	36.1
DIGITAL INCLUSION INDEX	63.0	62.2	65.3	56.8	64.3	67.1	67.0	64.7	61.9	61.9	63.5	57.3	57.6	61.9	55.4	52.6

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

has recorded sustained annual increases in Access – with an accumulated rise of 12.4 points between 2014 and 2020. In the six years since 2014 the Digital Ability score for the Sunshine Coast has risen 10.3 points and the region’s Affordability score has climbed 8.4 points.

The Gold Coast made substantial increases in digital inclusion between 2014 and 2019. The ADII score for this city increased 14.2 points over this period (from 49.1 in 2014 to 63.3 in 2019). In the past year the Gold Coast’s ADII score fell 1.4 points to 61.9 largely as a result of a decline in Affordability and Digital Ability.

With the exception of 2018, Central & South West QLD has recorded annual increases in digital inclusion over the period 2014 to 2020. The 2020 ADII score for Central & South West QLD is 61.9. This is 13.4 points higher than that recorded in 2014 (48.5). It should be noted that the 2020 sample size for Central & South West QLD is small and results should be treated with some caution.

Coastal QLD has an ADII score of 55.4 in 2020. This represents a decline of 1.3 points from 2019 (56.7), a result of a contraction in Affordability and Digital Ability. Between 2014 and 2020, the ADII score for Coastal QLD rose 3.9 points (from 51.3 in 2014 to 55.4 in 2020). This increase is much lower than the state average increase of 9.1 points.

The sample size for North West QLD is very small and this can generate volatility in ADII results which should be treated with caution. The digital inclusion score for North West QLD has fluctuated significantly since 2014. Each year it has recorded the lowest ADII score of QLD’s rural regions. In 2020 its ADII score is 52.6.

Overall, Rural Queensland’s ADII score rose 0.8 points in the past year compared to an increase of 2.0 points recorded by Brisbane. As a result, the Capital-Country Gap in Queensland has widened from 7.3 points in 2019 to 8.5 points in 2020.

Demographics

Mirroring patterns in the national figures, digital inclusion in Queensland increases as income, employment participation, and education levels rise.

In 2020, Queenslanders in Q1 high-income households have an ADII score of 73.1. This is 10.9 points above the average Queensland score (62.2), but 0.7 points below the national Q1 score (73.8). Queenslanders in Q5 low-income households record a 2020 ADII score of 43.6. This is 19.4 points below the national average and 0.9 lower than the national score for people in Q5 low-income households (43.8).

Queenslanders in Q1 high-income households recorded sustained annual increases in digital inclusion between 2014 and 2019 (up 8.5 points), but a slight decline in the past year (down 0.1 points). Overall, the ADII score for this income group rose 8.4 points since 2014. Queenslanders in Q5 low-income households registered a smaller gain over this period (up 7.6 points). The Income Gap between Queenslanders in the highest and lowest income households (29.5 points) is slightly lower than the comparable national figure (30.0) and for the first time since 2017 the gap between these two income groups has narrowed over the preceding year.

In 2020, the ADII score for Queenslanders in employment is 67.4, 14.5 points higher than that of Queenslanders not in the labour force (52.9). Since 2014 the Employment Gap has expanded. Queenslanders not in the labour force have recorded a 8.4 point increase (from 44.5 in 2014 to 52.9 in 2020) while Queenslanders in employment recorded a 9.4 point increase (from 58.0 in 2014 to 67.4 in 2020). Employed Queenslanders registered an increase across all three dimensions in this period, while those Queenslanders not in the labour force made substantial gains in Access and Digital Ability but only marginal increases in Affordability. In the past year, Queenslanders not in the labour force recorded a slight decline in digital inclusion. The ADII score for this group fell 0.3 points.

Table 18: Queensland - Digital Inclusion by demography (ADII 2020)

2020	QLD	Income Quintiles					Employment			Education			Age					Disability*	Indigenous Australians**	CALD*
		Q1	Q2	Q3	Q4	Q5	Employed	Unemployed*	NILF	Tertiary	Secondary	Less	14-24	25-34	35-49	50-64	65+			
ACCESS																				
Internet Access	87.5	93.2	94.4	90.1	83.4	72.4	93.1	89.1	77.8	92.5	87.2	75.8	89.9	93.9	93.4	86.5	73.4	78.4	82.6	89.4
Internet Technology	81.5	86.6	88.7	84.1	77.1	69.0	86.0	81.1	74.0	86.1	80.9	72.7	80.4	84.4	88.3	80.7	72.0	74.2	64.4	84.2
Internet Data Allowance	59.2	67.1	70.8	61.5	50.2	44.2	66.5	60.2	46.6	64.8	57.9	46.9	57.1	71.6	68.9	56.4	40.9	51.0	42.6	65.0
	76.1	82.3	84.6	78.6	70.2	61.9	81.8	76.8	66.1	81.1	75.3	65.2	75.8	83.3	83.5	74.5	62.1	67.9	63.2	79.5
AFFORDABILITY																				
Relative Expenditure	53.8	84.7	62.3	46.2	35.1	10.6	58.7	48.4	46.4	58.8	51.0	47.1	58.2	54.2	58.5	53.7	42.5	38.9	54.6	55.3
Value of Expenditure	65.6	68.0	74.2	67.7	61.1	55.5	69.2	70.1	58.0	70.3	60.9	60.0	62.1	73.8	70.7	63.5	56.3	57.7	35.4	71.5
	59.7	76.4	68.2	57.0	48.3	33.1	63.9	59.2	52.2	64.5	56.0	53.6	60.2	64.0	64.6	58.6	49.4	48.3	45.0	63.4
DIGITAL ABILITY																				
Attitudes	49.2	56.3	50.7	50.3	43.2	36.7	53.1	54.4	41.4	54.3	45.9	33.9	60.2	57.7	53.9	41.9	34.1	42.7	44.2	58.2
Basic Skills	58.2	69.9	67.0	58.6	52.2	40.1	65.6	59.3	45.7	67.2	58.4	38.9	55.8	71.8	69.4	53.8	39.3	46.3	38.9	61.4
Activities	44.8	55.5	50.0	44.5	40.8	31.2	50.5	50.1	33.7	52.0	44.8	27.2	46.9	53.6	55.0	40.4	27.0	34.3	31.4	49.5
	50.7	60.6	55.9	51.1	45.4	36.0	56.4	54.6	40.3	57.8	49.7	33.3	54.3	61.0	59.4	45.3	33.5	41.1	38.2	56.4
DIGITAL INCLUSION INDEX	62.2	73.1	69.6	62.2	54.6	43.6	67.4	63.5	52.9	67.8	60.3	50.7	63.4	69.4	69.2	59.5	48.3	52.4	48.8	66.4

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Queenslanders who did not complete secondary school recorded an ADII score of 50.7 in 2020, while those with a tertiary education scored 67.8 – a 17.1 point Education Gap. Both Queenslanders who did not complete secondary school and Queenslanders with a tertiary education experienced steadily rising ADII scores since 2014. Digital inclusion for tertiary-educated Queenslanders has risen by 9.8 points (from 58.0 in 2014 to 67.8 in 2020), and those who did not complete secondary school have gained 9.7 points (from 41.0 in 2014 to 50.7 in 2020).

Reflecting the national pattern, age is closely related to digital inclusion in Queensland. In 2020, people aged 25-34 years are the most digitally included age group in Queensland, with an ADII score of 69.4. They recorded the largest gain of any age group in Queensland in the past year (up 3.5 points), with an increase in Affordability (up 6.8 points). The Affordability score for this group increased due to a rise in both Relative Expenditure (up 6.7 points) and Value of Expenditure (up 6.8 points).

The 65+ group recorded the lowest ADII score (48.3) of all Queensland age groups in 2020. There is an Age Gap of 21.1 points between those aged 65+ and the state's most digitally included age group (25-34 year olds). The Age Gap in Queensland is the same as it was in 2014 (21.1 points), although it did contract in the past year - it was 22.0 in 2019.

Queenslanders aged 65+ recorded a 10.0 point rise in digital inclusion over the past six years (up from 38.3 in 2014 to 48.3 in 2020), outpacing the overall statewide increase over that same period (up 9.1 points). The strong gains made by Queenslanders aged 65+ on the Access (up 19.3 points) and Digital Ability (up 13.3 points) dimensions has been tempered slightly by a decline in Affordability (down 2.5 points). The drop in Affordability is

the result of a year-on-year decline in Relative Expenditure between 2014 and 2018 (a fall of 12.1 points in total) followed by only a slight recovery in the two years since (a 1.0 point rise) suggesting that this age group is spending an increasingly higher portion of their household income on internet access.

Queenslanders with disability have a relatively low level of digital inclusion, recording a 2020 ADII score of 52.4. This is 9.8 points below the state average (62.2). Queenslanders with disability achieved continuous annual increases in digital inclusion between 2015 and 2019, generating an overall increase of 10.6 points through this period. In the past year digital inclusion declined slightly for this cohort - the ADII score fell 0.3 points. Care should be exercised in interpreting the data for Queenslanders with disability given the limited sample size from which it is drawn.

The 2020 ADII score for CALD migrants in Queensland is 66.4, 4.2 points higher than the state score (62.2) and 1.3 points above the national CALD migrant score (65.1). ADII scores for CALD migrants in Queensland fell between 2014 and 2016 but have risen each year since. The CALD migrant population is large and highly diverse and it should be noted that aggregate data may obscure some of the digital inclusion outcomes for distinct groups within that population. Furthermore, care should be exercised in interpreting Queensland CALD migrant data given the limited sample size from which it is drawn.

Several sociodemographic groups in Queensland are more digitally excluded, with ADII scores substantially below the state average (62.2). These groups are: people in Q5 low-income households (43.6), people aged 65+ (48.3), people who did not complete secondary school (50.7), people with a disability (52.4), and people not in the labour force (52.9).

Western Australia

Findings

Western Australia's (WA) ADII score in 2020 is 64.1. In the past year the state's ADII score rose 2.8 points, an increase higher than that recorded nationally (1.1 points). As a result, WA now has an ADII score 1.1 points higher than the national average (63.0) and ranks second out of Australia's states and territories. The increase in WA's ADII score in the past year was the result of increases across all three digital inclusion dimensions. The rise in Access over the past year (up 2.3 points) was underpinned by a rise in fixed broadband (including NBN) connections and increased data allowances acquired for both mobile and fixed services. The 3.7 point increase in the Affordability score for WA in the past year was founded on greater value for money as West Australians on average received more data per dollar of expenditure than they had previously. While the increase in Digital Ability, up 2.6 points over the past year, reflects an increase in both Basic Skills and Activities.

The level of digital inclusion fluctuated in WA between 2014 and 2016 before beginning a pattern of sustained annual increases. The state's ADII score rose from 55.0 in 2014 to 56.4 in 2015, but

fell to 55.8 in 2016. From 2016, WA's ADII score rose to 57.4 in 2017, 59.8 in 2018 and 61.3 in 2019 before reaching its current level of 64.1.

Since 2014 WA has reported sustained annual increases in Access (up 14.0 points, from 63.5 in 2014 to 77.5 in 2020). This is underpinned by the take-up of NBN fixed broadband – more than 60% of West Australians now have NBN fixed broadband services. This has had an impact on the Internet Technology component of Access and is a factor in lifting the average fixed broadband data allowances available to West Australians to increase the Internet Data Allowance score.

By contrast, Affordability declined in each year between 2014 and 2017 due to a combination of factors, including an increase in spending on internet access at the same time average household income was falling due to the end of the mining boom. Since 2017, WA's Affordability score has risen. This is the result of sustained and large increases in the Value of Expenditure component score, which indicates that people are getting a larger data allowance per dollar of expenditure.

WA Regions ADII scores WA ADII score: 64.1

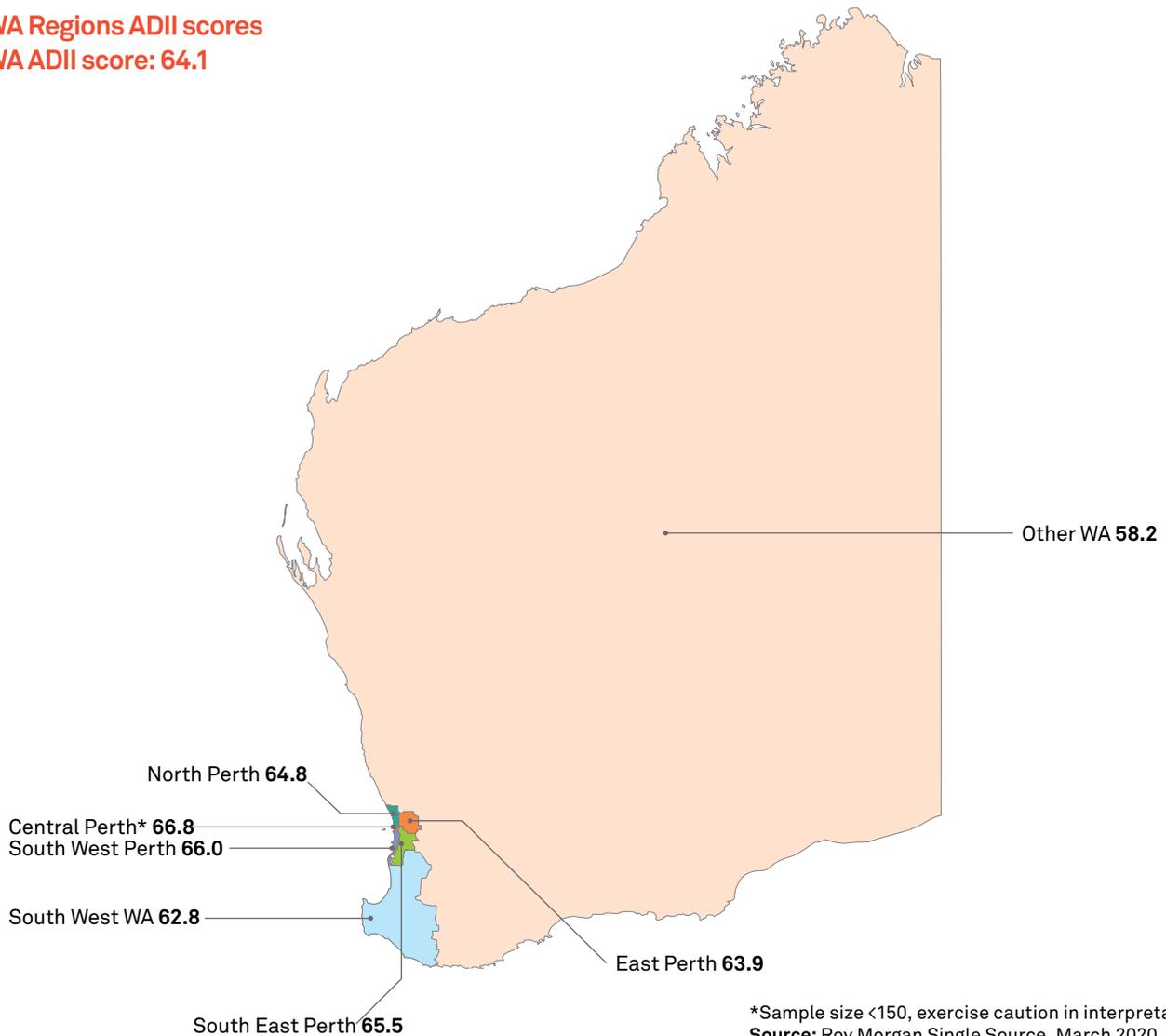


Table 19: WA - Digital Inclusion by geography (ADII 2020)

2020	Australia	WA	Perth	Rural WA	Perth Regions					South West WA	Other WA
					Central*	East	North	South West	South East		
ACCESS											
Internet Access	87.9	89.4	90.0	86.8	92.5	88.7	89.1	90.6	90.5	88.6	85.8
Internet Technology	82.1	84.3	84.6	83.2	83.4	82.5	84.2	86.1	85.1	85.3	82.0
Internet Data Allowance	58.7	59.0	60.1	54.5	57.1	58.2	59.8	60.8	62.2	58.9	52.1
	76.3	77.5	78.2	74.8	77.7	76.5	77.7	79.2	79.3	77.6	73.3
AFFORDABILITY											
Relative Expenditure	54.7	55.4	57.2	48.4	63.1	56.7	59.2	59.8	50.0	53.0	45.9
Value of Expenditure	67.0	67.5	68.8	62.3	63.8	65.1	68.3	69.3	73.4	64.1	61.4
	60.9	61.5	63.0	55.4	63.4	60.9	63.8	64.6	61.7	58.6	53.6
DIGITAL ABILITY											
Attitudes	50.3	49.5	49.9	47.9	50.7	50.5	49.5	50.5	49.0	53.2	45.1
Basic Skills	59.4	62.2	63.6	56.8	71.2	62.7	60.9	63.4	65.2	59.5	55.3
Activities	46.1	48.5	50.0	42.8	56.2	49.6	48.1	48.5	52.1	44.0	42.1
	52.0	53.4	54.5	49.1	59.4	54.3	52.8	54.1	55.4	52.2	47.5
DIGITAL INCLUSION INDEX	63.0	64.1	65.2	59.8	66.8	63.9	64.8	66.0	65.5	62.8	58.2

*Sample size <150, exercise caution in interpretation. **Source:** Roy Morgan Single Source, March 2020.

Smaller increases in the Relative Expenditure component score have also been recorded since 2017, indicating that the proportion of household income spent on internet access has fallen. WA's Affordability score in 2020 is 61.5. This is 3.1 points higher than that recorded by the state in 2014 (58.4). It is also 0.6 points higher than the national Affordability score (60.9).

WA's Digital Ability rose 10.4 points in the past six years, from 43.0 in 2014 to 53.4 in 2020. In the past year WA's Digital Ability score increased 2.6 points, reflecting an increase in both Basic Skills (up 3.4 points) and Activities (up 4.9 points).

Geography

In 2020, Perth's ADII score is 65.2, 1.1 points higher than the state score (64.1) and 2.2 points higher than the national average (63.0). In the past year Perth's score rose 2.8 points. Only Sydney (66.2) and Brisbane (65.3) have higher levels of digital inclusion.

Since 2014, Perth's ADII score has risen 8.0 points (from 57.2 in 2014 to 65.2 in 2020). This rise has been founded on consistent annual increases in Access through 2014 to 2020, generating a total rise of 13.1 points during this period. The increase in Access was largely a result of the take-up of NBN services. A consistent annual rise in Digital Ability was also recorded in Perth. Overall, the Digital Ability score rose 9.4 points between 2014 and 2020.

Declining household income after the end of the mining boom resulted in a sharp decline in Perth's Relative Expenditure score between 2014 and 2017. This reduced Perth's overall Affordability score from 61.4 in 2014 to 55.8 in 2017. A slow recovery in Affordability has taken place since. This is underpinned by a rise in Value of Expenditure. This year, for the first time, Perth's Affordability score (63.0) exceeded the city's 2014 Affordability score (61.4).

The 2020 ADII scores recorded by both South West WA (62.8) and Other WA (58.2) exceed the national rural average (57.4). Since 2014 both WA rural regions have experienced increases

in digital inclusion despite some annual fluctuations.

The ADII score for South West WA increased 12.1 points (from 50.7 in 2014 to 62.8 in 2020). The ADII score for Other WA increased 11.0 points over the past six years (from 47.2 in 2014 to 58.2 in 2020). Both regions recorded substantial increases in Access over this period as NBN connections and Internet Data Allowances rose. The Access score rose by 18.2 points for South West WA and by 14.1 points for Other WA.

In 2020 the Capital-Country Gap in WA (5.4 points) is the smallest of all states.

Demographics

In line with national trends, West Australians who have lower income, education, and employment levels tend to be less digitally included. In 2020, West Australians in Q1 high-income households recorded an ADII score of 73.9. This is 9.8 points above the WA average (64.1) and 28.3 points above the score recorded by West Australians in Q5 low-income households (45.3). Mirroring the statewide post-mining boom recovery, digital inclusion for West Australians in Q1 high-income households increased annually since 2016, rising 10.4 points (from 63.5 in 2016 to 73.9 in 2020). However, over the past year the increase registered by West Australians in Q1 high-income households (up 0.3 points) has not kept pace with the state average (up 2.8 points).

In 2020 West Australians in Q5 low-income households have an ADII score of 45.6. Although this is 17.4 points below the national average (63.0), and 18.5 points below the state average (64.1), it is 1.8 points higher than the national score of people in Q5 low-income households (43.8). While the level of digital inclusion recorded by West Australians living in Q5 low-income households rose a total of 9.2 points between 2014 and 2018 (from 32.6 in 2014 to 41.8 in 2018), this period was marked by annual fluctuations. Since 2018, the ADII score for West Australians living in Q5 low-income households has consistently risen each year – generating an overall increase of 3.8 points (from 41.8 in 2018 to 45.6 in 2020). In the past year

Table 20: WA - Digital Inclusion by demography (ADII 2020)

2020	WA	Income Quintiles					Employment			Education			Age					Disability**	Indigenous Australians**	CALD*
		Q1	Q2	Q3	Q4	Q5	Employed	Unemployed*	NILF	Tertiary	Secondary	Less	14-24	25-34	35-49	50-64	65+			
ACCESS																				
Internet Access	89.4	94.4	93.7	91.3	83.1	74.8	93.2	89.1	82.0	93.0	88.7	78.3	91.3	93.1	94.5	88.6	77.7	83.4	82.1	92.6
Internet Technology	84.3	89.5	87.5	85.5	80.4	71.6	86.6	84.2	79.9	86.8	84.2	75.2	83.1	87.3	90.3	82.1	76.6	79.8	75.7	85.9
Internet Data Allowance	59.0	67.7	63.9	60.8	50.5	41.7	64.2	60.6	48.5	61.8	59.0	48.1	61.0	68.1	68.8	53.7	41.1	53.3	46.7	64.6
	77.5	83.9	81.7	79.2	71.3	62.7	81.3	78.0	70.1	80.5	77.3	67.2	78.5	82.8	84.5	74.8	65.1	72.2	68.2	81.0
AFFORDABILITY																				
Relative Expenditure	55.4	85.5	62.9	48.1	27.8	12.5	51.3	39.6	47.5	62.2	50.8	44.9	52.9	55.8	60.5	59.4	44.8	39.9	64.0	53.4
Value of Expenditure	67.5	69.8	69.5	69.3	61.9	57.1	68.3	69.5	65.5	69.9	64.9	62.7	68.4	68.8	72.9	64.9	60.7	69.0	62.6	72.8
	61.5	77.7	66.2	58.7	44.8	34.8	64.8	54.6	56.5	66.0	57.8	53.8	60.7	62.3	66.7	62.1	52.8	54.5	63.3	63.1
DIGITAL ABILITY																				
Attitudes	49.5	54.4	53.9	49.1	42.3	36.2	53.7	55.1	40.0	48.9	50.2	39.0	59.2	58.8	51.2	44.1	35.8	42.5	51.0	54.5
Basic Skills	62.2	70.9	71.7	65.0	51.8	46.0	69.8	65.6	46.9	69.8	61.4	43.7	60.0	73.2	71.7	61.0	41.7	47.9	49.2	70.8
Activities	48.5	55.0	59.0	49.7	36.9	35.8	55.4	54.6	34.0	54.4	46.2	32.6	48.8	59.0	57.4	46.1	28.8	32.1	46.2	57.5
	53.4	60.1	61.5	54.6	43.7	39.3	59.6	58.4	40.3	57.7	52.6	38.4	56.0	63.7	60.1	50.4	35.4	40.9	48.8	60.9
DIGITAL INCLUSION INDEX	64.1	73.9	69.8	64.1	53.3	45.6	68.6	63.7	55.7	68.1	62.6	53.1	65.1	69.6	70.4	62.4	51.1	55.8	60.1	68.4

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

West Australians living in Q5 low-income households recorded a substantial increase in Affordability as both Relative Expenditure and Value of Expenditure scores rose. Overall, the digital inclusion gap between members of low- and high-income households in WA has narrowed since 2014, from 31.3 points in 2014 to 28.3 points in 2020.

In 2020, West Australians not in the labour force recorded an ADII score of 55.7. This is 12.9 points lower than that recorded by employed West Australians (68.6). Scores for both groups have fluctuated since 2014. Overall, the ADII score for employed West Australians rose 10.1 points (from 58.5 in 2014 to 68.6 in 2020), while West Australians not in the labour force recorded an ADII score increase of 8.4 points (from 47.3 in 2014 to 55.7 in 2020). Overall, the Employment Gap in WA has widened (from 11.2 points in 2014 to 12.9 points in 2020). However, over the past year it narrowed slightly (down 1.1 points).

Tertiary-educated West Australians recorded an ADII score of 68.1 in 2020, while those who did not complete secondary school scored 53.1 – an Education Gap of 15.0 points. The Education Gap narrowed each year between 2014 and 2017, recording a low of 13.1 points in 2017. It has fluctuated annually since, expanding to 17.2 points in 2019 before narrowing over the past year. West Australians who did not complete secondary school reported a significant ADII score increase (up 4.6 points) in the past year across all three dimensions.

Reflecting the national pattern, age is closely related to digital inclusion in WA. West Australians aged 65+ recorded the lowest ADII score (51.1) of all age cohorts in 2020. This is 19.3 points below WA's most digitally included age cohort for 2020 (35-49 year olds), and 13.0 points below the state average. Between 2014 and 2019, West Australians aged 65+ experienced a modest increase in digital inclusion (up 3.1 points from 43.1 in 2014 to 46.2 in 2019). During this period gains in Access experienced by this age group (up 14.5 points) and Digital Ability (up 10.9 points) were offset by a decline in

the Affordability (down 15.9 points). But in the past year West Australians aged 65+ experienced a substantial rise in digital inclusion (up 4.9 points from 46.2 in 2019 to 51.1 in 2020). This increase was underpinned by gains across all three dimensions. The Access score for West Australians aged 65+ rose 6.1 points in the past year, while the Affordability score for this group rose 4.9 points and the Digital Ability score increased 3.5 points.

In 2020, residents aged 35-49 years are most digitally included (70.4). This cohort recorded the largest ADII score increase of all age groups between 2014 and 2020 (up 13.2 points), underpinned by continuous annual increases in all dimensions between 2016 and 2020. In the past year the ADII score for West Australians aged 35-49 years rose 2.6 points.

West Australians aged 50-64 years recorded the largest ADII score increase of all age groups in the past year (up 5.0 points from 57.4 to 62.4). WA residents in this age group reported a substantial increase in Affordability (up 7.2 points), largely underpinned by an increase Value of Expenditure (up 10.2 points).

In 2020 CALD migrants in WA recorded an ADII score of 68.4, a substantially higher score than the state average (64.1) and the national CALD average (65.1). Since 2014 the ADII score for CALD migrants in WA has risen 11.8 points, outpacing the average rise for the whole state over that period (up 9.1 points). The CALD migrant population is large and highly diverse and it should be noted that aggregate data may obscure some of the digital inclusion outcomes for distinct groups within that population. Furthermore, care should be exercised in interpreting WA CALD migrant data given the limited sample size from which it is drawn.

Several sociodemographic groups in WA are more digitally excluded, with ADII scores substantially below the state average (64.1). These groups are: people in Q5 low-income households (45.6), people aged 65+ (51.1), people who did not complete secondary school (53.1), people in Q4 income households (53.3), and people not in the labour force (55.7).

South Australia

Findings

South Australia's (SA) ADII score in 2020 is 61.9. SA's ADII score is 1.1 points below the national average (63.0) and this ranks the state as the second least digitally included of Australia's eight states and territories. Despite this, SA has made substantial gains in digital inclusion, recording the largest overall ADII gain since 2014 (up 11.6 points) and closed the gap with the national score over that period from 3.7 points to 1.1 points. Over the past year, SA recorded the second largest increase in digital inclusion of all states (up 1.7 points) and exceeded the national rate of increase over this period (up 1.1 points). This followed the large annual increase SA recorded between 2018 and 2019 which was the largest increase of all states and territories in that year (up 2.7 points)

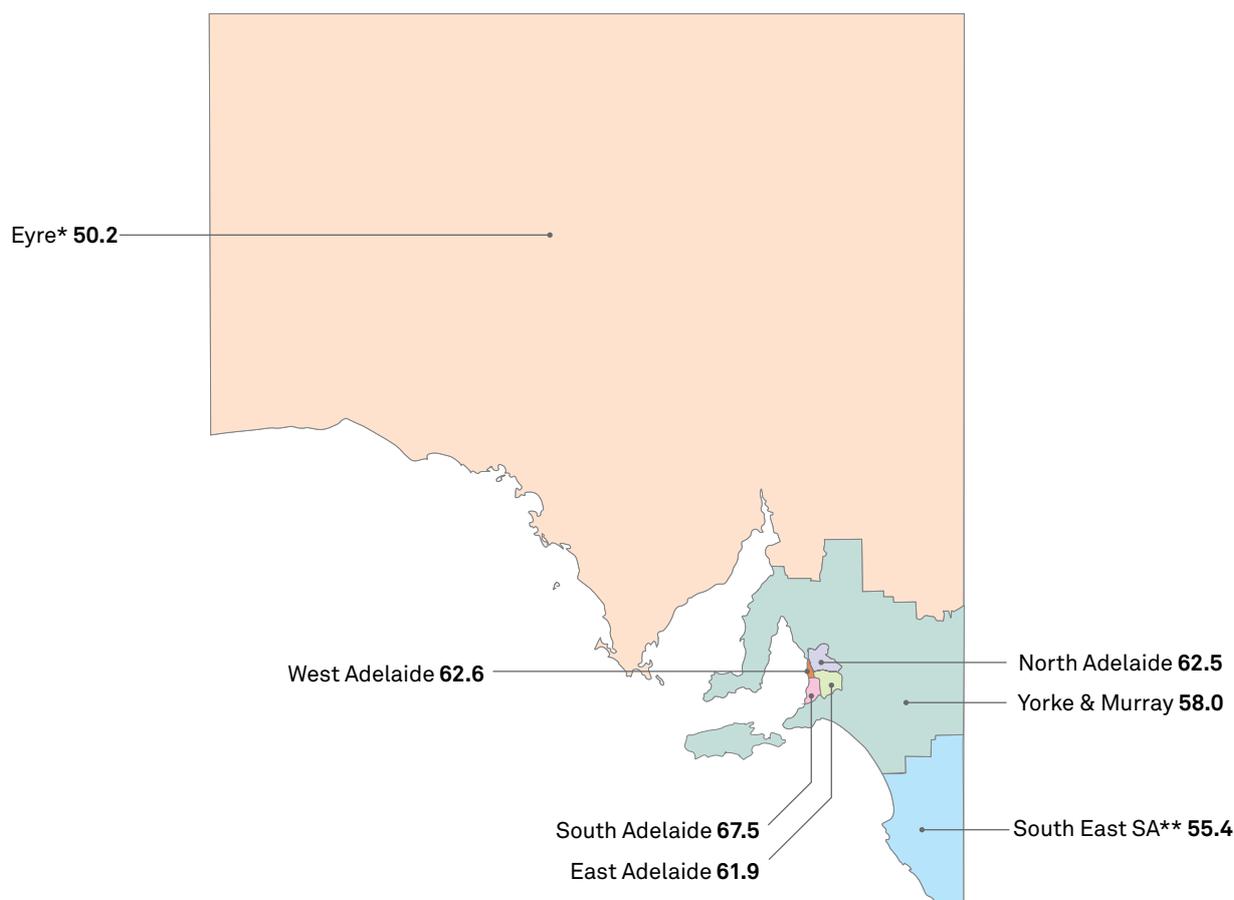
SA's Access score in 2020 is 75.3. Since 2014 Access has increased consistently in SA (up 14.0 points). Strong uptake of NBN services between 2018 and 2019 generated a large Access score increase (4.0 points) over that period. However, as the uptake of the NBN slowed in the past year, particularly in Rural SA, so too has the increase in Access. Between 2019 and 2020 SA's Access score increased by only 0.2 points.

SA's Affordability score in 2020 is 59.5. Mirroring the national picture, SA's Affordability score has fluctuated. Between 2014 and 2015 it fell from 52.1 to 48.3, before recovering since. It was not until 2018 that SA's Affordability score exceeded that recorded in 2014. Further increases in 2019 (up 2.7 points) and 2020 (up 2.4 points) have generated an overall rise of 7.4 points since 2014. The gains over this period have been concentrated on an increase in the Value of Expenditure component score (up 20.6 points), which indicates an increasing amount of Internet Data Allowance is being obtained per dollar of expenditure. By contrast, the Relative Expenditure component score has fallen from 57.3 in 2014 to 51.7 in 2020 (down 5.6 points), indicating that people are spending an increasing proportion of their household income on internet access.

SA's Digital Ability score in 2020 is 51.0 (up 13.3 points since 2014). SA's scores on each of the three components (Attitudes, Basic Skills and Activities) has increased since 2014.

SA Regions ADII scores

SA ADII score: 61.9



*Sample size <150, exercise caution in interpretation.

**Sample size <75, exercise extreme caution in interpretation.

Source: Roy Morgan Single Source, March 2020.

Table 21: SA - Digital Inclusion by geography (ADII 2020)

2020	Australia	SA	Adelaide	Rural SA	Adelaide Regions				Yorke & Murray	Eyre*	South East SA**
					North	West	East	South			
ACCESS											
Internet Access	87.9	86.9	88.7	80.6	88.4	86.9	86.8	91.5	83.8	76.6	77.4
Internet Technology	82.1	81.5	83.3	75.3	82.8	83.9	78.4	87.5	78.6	70.2	73.3
Internet Data Allowance	58.7	57.5	59.3	51.2	59.2	59.7	54.4	63.2	53.5	46.6	51.7
	76.3	75.3	77.1	69.0	76.8	76.9	73.2	80.7	72.0	64.5	67.5
AFFORDABILITY											
Relative Expenditure	54.7	51.7	52.7	47.6	48.3	51.7	55.7	56.4	50.5	41.3	47.3
Value of Expenditure	67.0	67.4	69.1	60.9	69.2	68.8	63.5	73.4	60.6	57.6	66.9
	60.9	59.5	60.9	54.2	58.8	60.3	59.6	64.9	55.6	49.5	57.1
DIGITAL ABILITY											
Attitudes	50.3	49.7	51.5	43.2	48.4	48.1	51.6	57.5	46.6	38.8	39.5
Basic Skills	59.4	59.0	62.0	48.8	60.2	59.6	62.6	65.4	53.3	40.1	48.9
Activities	46.1	44.3	46.5	36.7	47.3	44.2	44.9	48.2	39.7	30.8	36.9
	52.0	51.0	53.3	42.9	52.0	50.6	53.0	57.0	46.6	36.5	41.8
DIGITAL INCLUSION INDEX	63.0	61.9	63.8	55.4	62.5	62.6	61.9	67.5	58.0	50.2	55.4

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Geography

In 2020 Adelaide's ADII score is 63.8. Since 2014 Adelaide's score has increased by 11.6 points which outpaced the rise in the capital cities average (8.4 points) over this time.

In the past year Adelaide's ADII score increased by 2.1 points. This increase is based on a rise in Digital Ability (up 3.0 points), with increasing scores across Attitudes, Basic Skills and Activities and, to a lesser degree, Affordability (up 2.1 points), with a substantial increase in the Value of Expenditure component score. Adelaide's Access score rose 1.1 points in the past year. NBN connectivity increased since 2019 and this pushed up the Internet Technology score for Adelaide (up 2.1 points). The Internet Data Allowance component increased marginally (up 1.3 points), and the Internet Access component score was stagnant (down 0.2 points).

In 2020 the ADII score for Rural SA is 55.4. Since 2014 Rural SA recorded an overall ADII increase of 11.6 points, a larger rise than the national average (which increased 9.0 points over this period). A substantial rise in the ADII score for Rural SA between 2018 and 2019 (up 4.4 points) was not repeated in the past year. Between 2019 and 2020 the ADII score for Rural SA rose only 0.3 points. The limited increase in digital inclusion reported by Rural SA in the past year is based on a fall in Access (down 2.9 points) and stagnation in the Digital Ability score (up 0.5 points). Affordability rose 3.3 points in Rural SA in the past year with increases in both Relative Expenditure and Value of Expenditure.

In 2020 the Capital-Country Gap in SA is 8.4 points, up from 6.6 points in 2019.

Since 2015 the ADII score in Yorke & Murray has steadily increased (from 40.8 in 2015 to 58.0 in 2020). The sample sizes for the other regional SA areas, Eyre and South East SA, are low and generate some volatility in ADII results. Since 2014 both regions recorded fluctuating ADII scores, however the general trend has been an increase in digital inclusion.

This is based on a rise in Access, with a large take-up of NBN services, and a consequent rise in Affordability based on an increase in the Value of Expenditure component. In the past year NBN connectivity has fallen in both regions and the role of Access as a driver of increased digital inclusion has been diminished.

Demographics

Mirroring patterns in the national figures, digital inclusion in SA increases as income, education, and employment levels rise. In 2020 South Australians in Q1 high-income households have an ADII score of 72.8, 10.9 points above the SA average (61.9), but 1.0 point below the national Q1 score (73.8). South Australians in Q5 low-income households recorded an ADII score of 43.5 in 2020. This is 19.5 points below the national average (63.0), 18.4 points below the state average (61.9) and slightly below the national Q5 score (43.8).

Although the level of digital inclusion recorded by South Australians living in Q1 high-income households rose a total of 7.1 points between 2014 and 2020, the period has been marked by annual fluctuations. Since 2014 the ADII score for South Australians living in Q5 low-income households rose a total of 10.5 points (from 33.0 to 43.5). Overall, the digital inclusion gap between South Australians living in Q5 low-income households and those in Q1 high-income households has fallen from 32.7 points in 2014 to 29.3 points in 2020. Since 2016 South Australians living in Q5 low-income households have recorded continual annual increases in digital inclusion underpinned by increases in Access and Digital Ability.

The 2020 ADII score for South Australians in employment is 67.7. This is 5.3 points higher than unemployed South Australians (62.4) and 14.3 points above those South Australians that are not in the labour force (53.4). The Employment Gap between the employed and those not in the labour force in SA has fluctuated since 2014. It has been as wide as 14.7 points in 2018 and as narrow as 10.6 points in 2016. It currently stands at 14.3 points.

Table 22: SA - Digital Inclusion by demography (ADII 2020)

2020	SA	Income Quintiles					Employment			Education			Age					Disability*	Indigenous Australians**	CALD*
		Q1	Q2	Q3	Q4	Q5	Employed	Unemployed**	NILF	Tertiary	Secondary	Less	14-24	25-34*	35-49	50-64	65+			
ACCESS																				
Internet Access	86.9	93.6	93.6	90.0	82.3	72.4	93.0	88.1	77.9	91.6	86.6	75.5	91.2	93.0	93.7	87.0	72.4	79.3	83.1	89.4
Internet Technology	81.5	86.6	88.1	85.9	79.2	67.7	86.2	77.7	75.2	84.9	81.4	72.2	82.8	87.7	86.3	81.6	71.3	76.4	69.2	82.5
Internet Data Allowance	57.5	65.7	64.0	65.4	52.7	41.1	65.4	53.0	46.8	60.8	57.8	48.2	58.9	70.1	64.3	58.1	40.2	56.1	40.4	56.7
	75.3	82.0	81.9	80.4	71.4	60.4	81.5	72.9	66.6	79.1	75.3	65.3	77.6	83.6	81.4	75.6	61.3	70.6	64.3	76.2
AFFORDABILITY																				
Relative Expenditure	51.7	86.6	62.8	46.3	29.4	11.6	56.6	50.6	44.2	58.9	46.0	44.1	56.2	50.3	55.2	54.9	41.7	34.9	63.3	55.8
Value of Expenditure	67.4	69.0	73.7	70.0	66.0	53.4	70.9	62.1	62.6	69.1	62.7	62.0	72.1	73.2	70.1	67.4	56.0	67.5	44.0	74.0
	59.5	77.8	68.2	58.1	47.7	32.5	63.7	56.4	53.4	64.0	54.3	53.0	64.2	61.7	62.6	61.2	48.8	51.2	53.7	64.9
DIGITAL ABILITY																				
Attitudes	49.7	56.7	56.2	51.5	44.4	37.1	54.8	58.2	41.0	54.0	44.4	36.7	61.1	62.2	54.6	44.5	32.8	46.2	40.2	58.2
Basic Skills	59.0	69.4	66.6	66.1	50.7	41.8	67.8	59.6	46.3	67.2	60.3	42.2	58.4	75.5	70.9	56.1	39.1	47.6	30.4	56.0
Activities	44.3	49.9	52.1	47.7	36.9	33.9	50.8	55.6	33.2	50.6	44.1	29.1	46.2	56.6	55.6	40.1	27.0	37.8	22.6	40.0
	51.0	58.7	58.3	55.1	44.0	37.6	57.8	57.8	40.2	57.3	49.6	36.0	55.2	64.8	60.3	46.9	33.0	43.9	31.1	51.4
DIGITAL INCLUSION INDEX	61.9	72.8	69.5	64.6	54.4	43.5	67.7	62.4	53.4	66.8	59.7	51.4	65.7	70.0	68.1	61.2	47.7	55.2	49.7	64.2

**Sample size <50, exercise extreme caution in interpretation. *Sample size <100, exercise caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

In 2020, South Australians who did not complete secondary school recorded an ADII score of 51.4, while those with a tertiary education scored 66.8 – an Education Gap of 15.4 points. Between 2014 and 2018 the ADII score recorded by South Australians who did not complete secondary school fluctuated annually. Since 2018 this cohort has registered consistent annual increases in digital inclusion. Between 2018 and 2019 the ADII score for this cohort rose 6.1 points and in the past year has increased another 1.9 points (totalling an 8.0 point increase in two years). Tertiary educated South Australians have recorded consistent annual increases in digital inclusion since 2014. Over the past two years the ADII score for this group rose from 62.5 in 2018 to 64.3 in 2019 and 66.8 in 2020 (a total increase of 4.3 points in two years).

Reflecting the national pattern, age is an important factor influencing digital inclusion in SA. South Australians aged below 50 recorded higher ADII scores in 2020 than older residents. South Australians aged 25-34 years had the highest ADII score of all age groups in that state in 2020 (70.0). In the past year the ADII score for this age group increased by 5.2 points, with large gains in both Affordability and Digital Ability. SA residents aged 50-64 recorded significant increases in all three dimensions of digital inclusion between 2018 and 2019, resulting in an overall ADII score increase of 6.2 points (from 54.3 in 2018 to 60.5 in 2019). In the past year, the gains made by this age group have been more modest. The overall ADII score for this group increased 0.7 points (from 60.5 in 2019 to 61.2 in 2020).

SA residents aged 65+ recorded the lowest ADII score (47.7) of all SA age groups in 2020. Between 2014 and 2020 South Australians aged 65+ recorded continuous annual increases in Access and Digital Ability. The Access score for this age group rose a total of 18.6 points across this period, while the Digital Ability score rose 14.1 points. Affordability has been an area of key concern for this age group. The Affordability score declined between 2014 and 2016 and the recovery since that time has

been modest. The 2020 Affordability score for this age group (48.8) remains below that of 2014 (51.0). The Age Gap, the difference between the ADII score recorded by SA residents aged 65+ and the age group reporting the highest ADII score in SA (the 25-34 age group), is 22.3 points. Despite the increase in digital inclusion registered by those aged 65+ in SA since 2014, this increase has failed to keep pace with other age groups and the Age Gap has actually expanded (from 17.8 point in 2014 to 22.3 points in 2020).

In 2020, South Australians with disability have an ADII score of 55.2. This is 6.7 points below the state average (61.9) but 2.6 points above the national score for Australians with disability (52.6). Since 2014 digital inclusion scores for this group have fluctuated, some of this volatility may be due to the small sample upon which these scores are based. Care should be exercised in interpreting this data given the limited sample size.

CALD migrants in SA recorded an ADII score of 64.2 in 2020, above the state average (61.9) and the national average (63.0). Since 2014, the ADII score for CALD migrants in SA has risen 11.4 points, essentially matching the increases recorded by the state overall during this six-year period (up 11.6 points). The CALD migrant population is large and highly diverse and it should be noted that aggregate data may obscure some of the digital inclusion outcomes for distinct groups within that population. Furthermore, care should be exercised in interpreting SA CALD migrant data given the limited sample size from which it is drawn.

Several sociodemographic groups in SA are more digitally excluded, with ADII scores substantially below the state average (61.9). These groups are: people in Q5 low-income households (43.5), people aged 65+ (47.7), those who did not complete secondary school (51.4), people not in the labour force (53.4) people in Q4 income households (54.4) and people with disability (55.2).

Tasmania

Findings

Tasmania's ADII score in 2020 is 59.6. This is 3.4 points below the national average (63.0) and positions Tasmania as the least digitally included of Australia's eight states and territories.

Between 2014 and 2017 the level of digital inclusion in Tasmania remained essentially unchanged. Consequently, increases in digital inclusion at the national level over this period generated a greater digital inclusion gap between Tasmanians and other Australians. The gap between Tasmania's ADII score and the national average rose from 3.6 points in 2014 to 7.9 points in 2017.

Between 2017 and 2018 a substantial increase in digital inclusion in Tasmania reduced the gap to the national ADII score to 3.3 points. This increase was underpinned by gains in Access and Affordability scores related to the completion of the rollout of the NBN and the uptake of NBN services. Since then Tasmania's ADII increases have been more modest – up 1.2 points between 2018 and 2019 and 1.5 points in the past year. The gap to the national score is now 3.4 points.

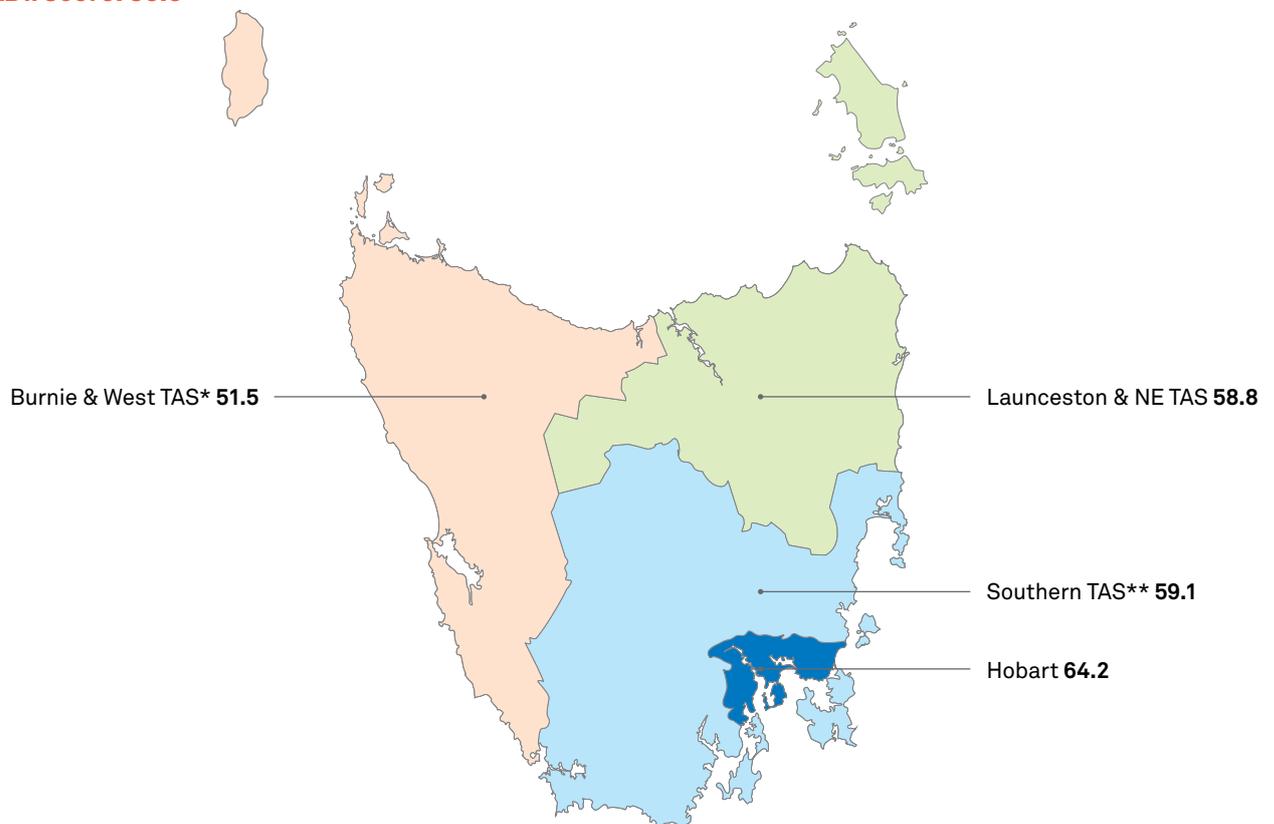
In 2020 Tasmania's Access score is 74. Since 2014 Tasmania has recorded sustained annual increases in Access (up 15.3 points). This has largely been generated by the take-up of NBN fixed broadband which has produced a rise in both the Internet Technology and Internet Data Allowance component scores. Increase in Access was mostly concentrated in 2018 when

NBN service connections doubled by approximately 30% of Tasmanians had an NBN service in 2017 and 60% in 2018. In the two years since NBN penetration has grown to around 70%.

Tasmania's Affordability score in 2020 is 57.9. While this is a 4.4 point gain on the score recorded in 2014 (53.5), there has been substantial annual fluctuations in the intervening period. Affordability in Tasmania declined between 2014-2016, falling to a low of 44.2 in 2016. The subsequent recovery has been modest in most years since, although a large increase was recorded in 2018 (up 8.0 points) as many Tasmanians took up NBN fixed broadband plans which generally carry a lower cost per gigabyte of data purchased. Since 2016, Tasmania's Value of Expenditure component score has increased, indicating that people are getting more data allowance per dollar of expenditure. The Relative Expenditure component score for Tasmania has also risen as a result of a Tasmanians spending a lower proportion of household income on internet access.

Since 2014 Tasmania's Digital Ability score has increased 8.1 points (from 39.0 in 2014 to 47.1 in 2020). Most of the increase was concentrated in 2018. In that year Tasmania's Digital Ability score increased 5.6 points. In the past year Tasmania's Digital Ability score rose 0.8 points – an increase that did not keep pace with the national increase (up 1.2 points).

TAS Regions ADII scores TAS ADII score: 59.6



*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

Table 23: Tasmania - Digital Inclusion by geography (ADII 2020)

2020	Australia	TAS	Hobart	Rural TAS	Launceston & NE TAS	Burnie & West TAS*	Southern TAS**
ACCESS							
Internet Access	87.9	84.8	88.9	81.5	86.1	75.5	81.9
Internet Technology	82.1	82.5	87.0	79.0	81.4	77.3	74.9
Internet Data Allowance	58.7	54.6	61.2	49.4	52.6	45.5	48.5
	76.3	74.0	79.0	70.0	73.4	66.1	68.4
AFFORDABILITY							
Relative Expenditure	54.7	48.6	52.2	45.8	46.3	42.2	54.1
Value of Expenditure	67.0	67.1	70.6	64.3	66.7	62.2	61.0
	60.9	57.9	61.4	55.1	56.5	52.2	57.5
DIGITAL ABILITY							
Attitudes	50.3	45.6	49.6	42.5	45.5	36.5	48.9
Basic Skills	59.4	54.7	60.5	50.2	53.9	42.3	59.1
Activities	46.1	41.0	46.1	36.9	39.7	30.1	45.9
	52.0	47.1	52.1	43.2	46.4	36.3	51.3
DIGITAL INCLUSION INDEX	63.0	59.6	64.2	56.1	58.8	51.5	59.1

*Sample size <150, exercise caution in interpretation.

**Sample size <75, exercise extreme caution in interpretation.

Source: Roy Morgan Single Source, March 2020.

Geography

Hobart recorded an ADII score of 64.2 in 2020. Between 2014 and 2020 Hobart's score has risen 10.3 points (up from 53.9). This gain is greater than the average capital city increase over that period (8.4 points). While Hobart had been steadily closing the gap with the other capitals between 2016 and 2019, in the past year the gap widened slightly (from 0.5 points in 2019 to 0.8 points in 2020).

Mirroring trends evident in the overall Tasmanian data, Hobart's digital inclusion gains since 2014 were largest between 2017 and 2018 and centred on a rise in Access as a consequence of the uptake of NBN services and some flow-on increases in Affordability. The ADII score for Hobart increased 6.0 points in that period, from 54.8 in 2017 to 60.8 in 2018. In 2019, the rate at which digital inclusion was rising in Hobart slowed - Hobart's ADII score increased by only 2.5 points to 63.3. In 2020, this rate of increase slowed even further. In the past year Hobart's ADII score rose by 0.9 points to 64.2. The majority of the increases in the past year were related to further uptake of NBN services.

In 2020, the ADII score for Rural Tasmania is 56.1. This is a rise of 8.7 points since 2014 (up from 47.4). Like Hobart, increases in digital inclusion in Rural Tasmania were concentrated between 2017 and 2018 and centre on a rise in the Access score related to NBN take-up. In 2019 Rural Tasmania's ADII score stagnated (rising just 0.1 points). In 2020 some gains have been recorded by Rural Tasmania across all three dimensions, resulting in an overall ADII score increase of 2.0 points.

In the past year the ADII score for Launceston & North East Tasmania rose 4.5 points, from 54.3 in 2019 to 58.8 in 2020. Launceston & North East Tasmania recorded increases across all three dimensions. The region's Access score rose 3.6 points, while Affordability increased 6.6 points. The further uptake of

NBN services was a key factor in these rises. The Digital Ability score for Launceston & North East Tasmania rose 3.3 points in the past year.

The sample sizes for the other regional Tasmania areas, Burnie & Western TAS and Southern TAS are low and generate some volatility in ADII results. The 2020 ADII score for Burnie & Western TAS is 51.5 and 59.1 for Southern TAS. Since 2014 both regions recorded fluctuating ADII scores, however the general trend has been an increase in digital inclusion. This is based on a rise in the Access associated with the take-up of NBN services, and some increases in Affordability based on rising fixed Internet Data Allowances which tend to increase Value of Expenditure.

Demographics

Mirroring the broad pattern of the national figures, Tasmanians with lower income, employment, and education levels are less digitally included.

Given the small number of surveys conducted with Q1 high-income household members in Tasmania, the following analysis focusses on those in Q5 low-income households, where the sample size is more robust.

Between 2014 and 2016 Tasmanians in the Q5 low-income households recorded extremely low and declining ADII scores. ADII scores for this group fell marginally between 2014 (37.4) and 2015 (36.6), before a more substantial drop in 2016 (down 4.2 points, to 32.4) due to a sharp decline in this group's Value of Expenditure and Relative Expenditure results. Since 2016, digital inclusion has increased annually for this group, rising a total of 10.9 points to 43.3 in 2020. The scores recorded by Tasmanians in Q5 low-income households rose for each of the three dimensions between 2016 and 2020 - Access up 13.1 points, Affordability up 11.6 points and Digital Ability up 8.1 points; although there were some annual fluctuations in the results.

Despite recent digital inclusion increases for low-income Tasmanians, the gap between Tasmanians living in Q5 low-income households and the Tasmanian population average remains higher in 2020 (16.3 points) than it was in 2014 (13.0 points). The substantial increase in the Tasmanian state average between 2017 and 2018 (up 6.8 points) was not matched by Tasmanians in Q5 low-income households, whose ADII score rose just 1.3 points in that year. The ADII increase recorded in Tasmania between 2018 and 2019 (up 1.2 points) was again not matched by the increase recorded by those in Q5 low-income households (up 1.0 points). This situation was reversed in the past year with the ADII score for those in Q5 low-income households rising 1.9 points and the Tasmanian average increasing 1.5 points.

The 2019 ADII score for Tasmanians in employment is 66.1 and 51.7 for Tasmanians not in the labour force, an Employment Gap of 14.4 points. Since 2014, the ADII score for employed Tasmanians increased 10.2 points (from 55.9 in 2014 to 66.1 in 2020), while the score of those not in the labour force rose 7.5 points (from 44.2 in 2014 to 51.7 in 2020). Since 2016, employed Tasmanians have recorded sustained annual increases in digital inclusion, including a rise of 1.9 points in the past year. Tasmanians that are not in the labour force matched this rising trend until 2019. In the past year the ADII score for this group fell 0.4 points.

In 2020, tertiary educated Tasmanians recorded an ADII score of 64.8, while those who did not complete secondary school scored 46.4 - an Education Gap of 18.4 points.

Table 24: Tasmania - Digital Inclusion by demography (ADII 2020)

2020	TAS	Income Quintiles					Employment			Education			Age					Disability**	Indigenous Australians**	CALD**
		Q1**	Q2**	Q3*	Q4	Q5	Employed	Unemployed**	NILF	Tertiary	Secondary	Less	14-24**	25-34**	35-49*	50-64	65+			
ACCESS																				
Internet Access	84.8	93.9	94.9	91.5	76.0	71.2	91.3	94.4	75.1	91.4	84.3	69.2	92.6	90.3	91.6	85.2	70.0	68.0	86.1	86.9
Internet Technology	82.5	91.6	90.8	90.7	74.1	69.6	89.7	89.2	73.6	88.5	81.6	69.1	87.7	89.4	89.9	81.1	70.0	68.6	82.8	85.6
Internet Data Allowance	54.6	64.5	65.7	66.0	45.1	40.6	63.9	60.2	43.5	61.1	51.7	40.3	61.2	65.8	66.9	50.6	36.6	47.2	46.7	57.5
	74.0	83.3	83.8	82.7	65.1	60.5	82.0	81.3	64.1	80.3	72.5	59.5	80.5	81.8	82.8	72.3	58.9	61.3	71.9	76.6
AFFORDABILITY																				
Relative Expenditure	48.6	86.1	65.1	48.8	32.7	11.3	55.2	41.8	41.7	51.1	44.1	41.7	65.2	44.6	51.5	45.3	40.3	36.2	45.5	53.0
Value of Expenditure	67.1	70.1	71.2	75.0	54.0	59.8	67.0	86.1	64.0	68.3	63.2	56.9	80.6	71.7	69.4	63.3	55.6	62.5	61.2	75.8
	57.9	78.1	68.2	61.9	43.4	35.6	61.1	64.0	52.9	59.7	53.7	49.3	72.9	58.1	60.4	54.3	47.9	49.4	53.3	64.4
DIGITAL ABILITY																				
Attitudes	45.6	52.3	54.0	49.9	36.0	35.8	52.5	49.6	37.5	51.3	43.8	27.0	58.0	53.0	49.7	43.2	32.1	35.7	41.1	50.7
Basic Skills	54.7	71.0	67.4	61.3	47.3	38.0	65.0	50.4	44.1	64.3	53.0	36.8	56.2	67.4	68.5	53.4	35.2	43.2	62.3	65.4
Activities	41.0	54.5	50.9	45.3	35.2	28.0	47.8	46.6	32.6	47.7	38.3	27.2	45.7	53.3	50.2	38.9	24.3	35.0	47.2	49.2
	47.1	59.3	57.4	52.1	39.5	33.9	55.1	48.9	38.1	54.5	45.0	30.3	53.3	57.9	56.1	45.1	30.6	38.0	50.2	55.1
DIGITAL INCLUSION INDEX	59.6	73.6	69.8	65.6	49.3	43.3	66.1	64.7	51.7	64.8	57.1	46.4	68.9	66.0	66.5	57.2	45.8	49.5	58.5	65.4

*Sample size <150, exercise caution in interpretation. **Sample size <75, exercise extreme caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

This gap is wider than that recorded in 2014 (16.1 points). Similar to the national picture, tertiary educated Tasmanians have higher scores on all three dimensions than those who did not complete secondary school. The gap in Digital Ability is 24.2 points, the gap in Access is 20.8 points and the gap in Affordability is 10.4 points.

As is the case nationally, age is closely related to digital inclusion in Tasmania. Given the limited sample sizes for the younger age cohorts in that state, this analysis focuses on those aged 50-64 and 65+.

Tasmanians aged 50-64 have an ADII score of 57.2 in 2020. This age group recorded significant annual ADII score increases in 2017 (up 5.4 points) and 2018 (up 6.3 points), with large increases across all three dimensions of digital inclusion – Access, Affordability and Digital Ability. But this trend has not continued since. Between 2018 and 2019 the ADII score recorded by this group rose just 0.8 points (from 56.4 in 2018 to 57.2 in 2019) and in the past year has not increased at all.

In 2020, Tasmanians aged 65+ recorded the lowest score (45.8) of all ADII age cohorts. The score for this age group is

13.8 points lower than the state average (59.6) and 3.9 points lower than the national 65+ age group average (49.7). Between 2018 and 2019 digital inclusion for Tasmanians aged 65+ increased (up 4.3 points), with gains in Access (up 2.6 points) and Affordability (up 9.7 points) over this period. This trend has not continued in the past year. The overall ADII score for Tasmanians aged 65+ rose 0.7 points between 2019 and 2020, from 45.1 to 45.8. Access was essentially stagnant (up 0.3 points) and Affordability fell slightly (down 0.6 points). There was little increase in NBN uptake amongst this age group in the past year and a slight fall in fixed broadband connections overall. These factors contributed to a small decline in fixed Internet Data Allowances and reduced the Value of Expenditure affordability component. Only Digital Ability continued to rise for this age group between 2019 and 2020 (up 2.3 points).

From the data available, there are several sociodemographic groups in Tasmania that are particularly digitally excluded, with ADII scores substantially below the state average (59.6). These groups are: people in Q5 low-income households (43.3), people aged 65+ (45.8), people who did not complete secondary school (46.4), members of Q4 income households (49.3) and people not in the labour force (51.7).

Australian Capital Territory

Findings

The Australian Capital Territory's (ACT) ADII score in 2020 is 67.5. The ACT's digital inclusion score is 4.5 points higher than the national average (63.0). The ACT is the most digitally included of the eight states and territories, a position it has held in each year of the ADII data collection period (2014-2020).

The level of digital inclusion in the ACT has fluctuated between 2014 and 2020. Annual increases in the ADII score recorded by the ACT in 2015 and 2016 (up 1.8 points and 0.2 points respectively) were followed by a small contraction in 2017 (down 0.7 points). In 2018, ACT's ADII score rose sharply (up 4.7 points) – largely a result of the uptake of fixed broadband and NBN services. This was followed by further increases in 2019, although more modest (up 1.3 points). In the past year the ACT's ADII score has fallen slightly (down 0.1 points).

Dimensions of digital inclusion: Access, Affordability, Digital Ability

The ACT's strong overall ADII results since 2014 have been underpinned by high scores across all three dimensions. The ACT has almost continuously led other states and territories on all the three dimensions in the past six years (Victoria recorded a slightly higher Access score in 2017 and WA recorded a slightly higher Access score in 2020).

The ACT's 2020 Access score of 77.0 is 0.7 points above the national average (76.3). Between 2017 and 2019 the ACT recorded a substantial increase in Access. The Access score rose 4.8 points between 2017 and 2018, and a further 3.0 points between 2018 and 2019. NBN and mobile internet connections were rising during this period, as were mobile and fixed broadband data allowances. These factors resulted in a 7.3 point rise in the Internet Technology component of the Access and a 12.5 point rise in the Data Allowance component across this period. In the past year the ACT's Access score has fallen 1.9 points (from 78.9 in 2019 to 77.0 in 2020). This was the result of a slight decline in the proportion of the population accessing the internet daily and accessing away from home, and also a reduction in the proportion of the population with mobile internet (a mobile phone with data or mobile broadband).

In 2020 the ACT recorded an Affordability score of 69.9. This is 9.0 points above the national average (60.9). Although the ACT's 2020 Affordability score is 7.8 points higher than that recorded in 2014, this is not the result of continuous annual increases through the period 2014-2020. The Affordability score for the ACT fell in two separate years – a 4.2 point decline in 2016 and a 0.4 point decline in 2019. The 2016 Affordability contraction was underpinned by a sharp decline in Relative Expenditure, as an increase in expenditure on internet access was not matched by an increase in household income. In contrast the smaller 2019 contraction was caused by a slight reduction in the Value of Expenditure, reflecting the amount of Internet Data Allowance obtained per dollar of expenditure. In the past year, the ACT registered a 3.1 point rise in Affordability. The Relative Expenditure component score increased 2.0 points as household incomes rose marginally while expenditure on internet access was slightly lower than that recorded in 2019. The ACT's Value of Expenditure component score also increased (up 4.2 points). This was due to the combination of a small increase in both mobile and fixed Internet Data Allowances and falling expenditure on internet access.

ACT ADII score: 67.5

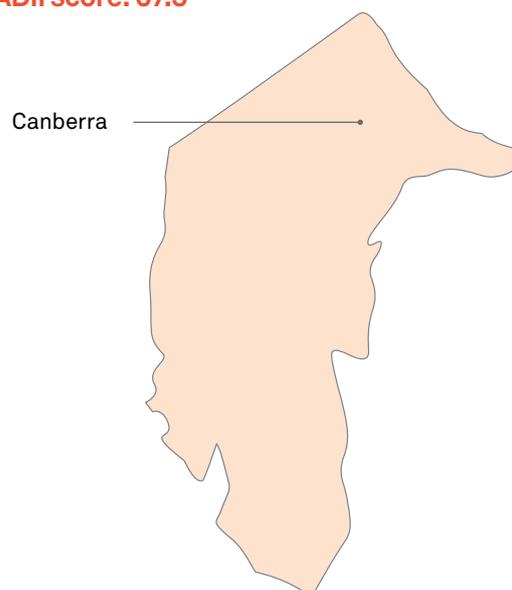


Table 25: ACT - Digital Inclusion (ADII 2020)

	Australia	ACT
2020		
ACCESS		
Internet Access	87.9	90.6
Internet Technology	82.1	82.7
Internet Data Allowance	58.7	57.7
	76.3	77.0
AFFORDABILITY		
Relative Expenditure	54.7	69.1
Value of Expenditure	67.0	70.1
	60.9	69.9
DIGITAL ABILITY		
Attitudes	50.3	51.9
Basic Skills	59.4	64.2
Activities	46.1	51.2
	52.0	55.7
DIGITAL INCLUSION INDEX	61.9	67.5

Source: Roy Morgan Single Source, March 2020

Since 2014 the ACT has recorded a higher Digital Ability score than other states and territories. In 2020, the ACT's Digital Ability score of 55.7 is 3.7 points above the national average (52.0) and 2.3 points above the next highest state, WA (53.4). Although registering some annual fluctuations, the ACT's Digital Ability score in 2020 (55.7) is 4.4 points higher than that of 2014 (51.3). The gap between the ACT and other states on Digital Ability is closing, with all other states and territories registering an increase of between 8.1 and 13.3 points since 2014.

The available data for ACT was not broken down into demographic or sub-regional categories, given the restricted sample size for the territory. This means our aggregated figures may not reflect the considerable variations that exist between different communities within the ACT population.

Northern Territory

Findings

The ADII score for the Northern Territory (NT) in 2020 is 57.5. It should be noted that the annual sample size for the NT have generally been small, and very small in the year 2017 in particular. Small samples generate volatility in the results. In particular there can be substantial fluctuations in some variables underlying the Affordability and Digital Ability. As such the focus of the following analysis is to draw out general trends experienced by the territory since 2014.

The NT ADII score for 2020 (57.5) is lower than the Australian average (63.0). This is just one of two years that the NT has not recorded a higher level of digital inclusion than the national average. Although the annual ADII score for the NT has fluctuated greatly since 2014, the general trend indicates an increase in digital inclusion over the past five years.

Dimensions of digital inclusion: Access, Affordability, Digital Ability

While the 2020 data shows a decline in Access over the past year in the NT (down 3.3 points), much of the increase in digital inclusion since 2014 has been driven by gains in Access. The NT's Access score rose annually between 2014 and 2019 (up 10.3 points from 64.0 in 2014 to 74.3 in 2019). The rollout of the NBN to parts of the NT underpinned some of this increase as is reflected in the upward trend in the Internet Technology and Internet Data Allowance component scores.

The NT's Affordability score has fluctuated each year between 2014 and 2020. Although the overall trend shows effectively no change in Affordability through this period, this obscures the distinct trajectories of the two underlying components. Since 2014 the Relative Expenditure component score for the NT has declined as the percentage of household income spent on internet access has increased. By contrast, the Value of Expenditure component score has risen as the amount of Internet Data Allowance Territorians acquired per dollar of expenditure has increased.

Since 2014 there have been significant annual fluctuations in the NT's Digital Ability scores. The general trend has been one of increases across all three components. Trend data for the variables underlying the Attitudes component indicate people in the NT have an increasing level of interest, confidence and empowerment in relation to digital technologies⁶⁶.

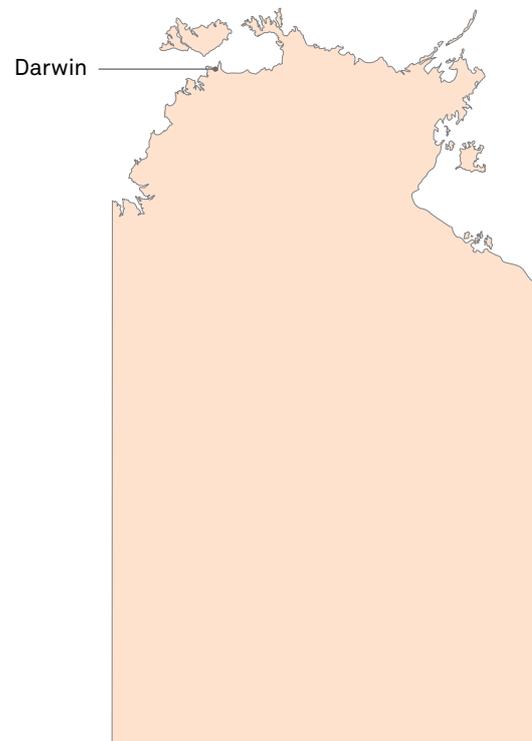
Given the restricted sample size for the NT, the available data for this territory was not broken down into demographic or sub-regional categories. This means our aggregated figures may not reflect the considerable variations that exist between different communities within the broader NT population. In particular, general ADII data collection did not extend to remote Indigenous communities, where high levels of geographic isolation and socioeconomic disadvantage pose real challenges for digital inclusion. In a bid to know more about digital inclusion in these communities, the ADII team conducted supplementary digital inclusion survey research in the remote NT Indigenous community Ali Curung in 2018⁶⁷. The results of this study were presented in the 2018 ADII Report, while data from the study of a remote Indigenous community in Queensland (Pormpuraaw) was included in the 2019 report⁶⁸. Generally, these studies show that the internet is an important lifeline for those in remote communities⁶⁹, however accessing it comes at a higher cost

Table 26: NT - Digital Inclusion (ADII 2020)

2020	Australia	NT*
ACCESS		
Internet Access	87.9	79.9
Internet Technology	82.1	78.4
Internet Data Allowance	58.7	54.8
	76.3	71.0
AFFORDABILITY		
Relative Expenditure	54.7	48.0
Value of Expenditure	67.0	61.7
	60.9	54.9
DIGITAL ABILITY		
Attitudes	50.3	49.4
Basic Skills	59.4	51.7
Activities	46.1	38.6
	52.0	46.5
DIGITAL INCLUSION INDEX		
	63.0	57.5

*Sample size <150, exercise caution in interpretation.
Source: Roy Morgan Single Source, March 2020.

NT * ADII score: 57.5



than it does for those in the cities and towns. A preference for prepaid mobile-only access by Indigenous Australians in remote communities is a response to affordability concerns. While these may reduce financial vulnerabilities by enabling more direct expenditure management than post-paid contracts⁷⁰, they exacerbate aspects of affordability related to Value for Expenditure.

Conclusion

The 2020 ADII results show continuing increases in digital inclusion in Australia, but the rate is slowing. Furthermore, the social and economic shocks caused by the COVID-19 pandemic may put at risk ongoing increases in the near future. The ADII clearly reveals the linkages between digital inclusion and socio-economic status, including income and employment. As the economic downturn pushes more people out of work and out of business, an increasing number of Australians will struggle to maintain effective and affordable access to the internet.

At the same time, the consequences of digital inequality have never been more acute. A range of economic, government, cultural and social systems have been digitally transformed in response to the COVID-19 restrictions, and many of these are likely to remain digitally mediated. For the digitally excluded - people lacking effective and affordable internet access and digital skills - there is a risk that this transition will deepen digital and social inequality. The pandemic has underlined the critical importance of digital inclusion for all Australians. While important progress has been made, initiatives to date have not been coordinated. Affordable broadband, together with investments in improving digital skills and abilities, now need to become an integral part of the nation's planning for the COVID-19 recovery, involving all levels of government, business and the community.

Digital inclusion across the three dimensions

The ADII measures three key dimensions of digital inclusion: Access, Affordability, and Digital Ability. It reveals how each dimension changes over time according to social and economic as well as geographic circumstances.

Access has increased steadily over the past six years, from 63.9 in 2014, to 76.3 in 2020 (up 12.4 points). Australians are accessing the internet more often, connecting an increasingly diverse range of devices, and are purchasing access to more data than ever before. In part, the rise in Access is underpinned by the rollout of new mobile and fixed telecommunication network infrastructure, particularly the NBN network.

The NBN rollout has had a positive effect on two ADII Access components in particular: Internet Technology and Internet Data Allowance. The impact of the NBN rollout on digital inclusion is multidimensional. First, it provides a higher quality connection than pre-NBN alternatives, given the capacity for higher speed and improved reliability. Second, the NBN rollout seems to have encouraged some households that previously were without fixed broadband to establish a connection. Third, the NBN rollout and subsequent switch-off of many non-fibre networks has generated a migration of existing fixed broadband customers from legacy plans onto newer NBN plans that tend to come with greater data allowances. Although the

ADII data does not directly trace out the impact of the NBN rollout on other digital inclusion dimensions such as increasing internet use, regularity of use, and changes to the nature and sophistication of online activity, this offers an opportunity for further exploration.

One key Access issue coming into clearer focus from the ADII time-series dataset is the fact that since 2014 the proportion of the population who are non-users has reduced very little. 13.5% of the population remain offline. This is reflected in the marginal increase and now stagnation of the Internet Access component. One of the reasons provided by non-users for not being online relates to perceived need. These responses demand further investigation. It will be interesting

to see whether the shift to the digital delivery of a wider range of economic, government, cultural and social services resulting from the COVID-19 restrictions change this perception and leads to an increase in the user population.

Affordability declined in

Australia from 2014 to 2016 while making a modest recovery in the four years since (2017-2020). In 2020 the national Affordability score is 60.9, this is just 4.9 points above the 2014 level (56.0). While the value of internet services has increased overall, from 2014 to 2019 households were spending a growing proportion of their income on them (up from 1.0% in 2014, to 1.18% in 2019). In the past year, this proportion has fallen slightly to 1.16% with household incomes rising at a rate slightly higher than internet expenditure.

Aggregate Affordability results obscure the hardships faced by those households on low or fixed incomes seeking to remain digitally connected. The ADII reveals that the proportion of household income spent on internet access by those living in the lowest household income quintile has increased every year since 2014 and now exceeds 4%. Given the slowdown in the Australian economy caused by the COVID-19 pandemic it is likely that the number of low-income households will rise over the coming year. While a range of important initiatives were implemented by telecommunication providers and governments to help those on low-income either get online or remain online during the COVID-19 restrictions, addressing affordability issues will require longer term interventions.

Since 2014 the national **Digital Ability** score has risen by 9.8 points (from 42.2 in 2014 to 52.0 in 2020). The score for the Basic Skills component has risen 12.8 points, and the Activities component 11.9 points over the past six years. While the Attitudes component of the Digital Ability rose annually between 2014 and 2019 it fell slightly in the past year. Overall, the Attitudes result for 2020 is 4.4 points higher than that recorded in 2014.

Digital Ability remains a critical area for interventions that seek to increase digital inclusion. A range of stakeholders from the government, community and commercial sectors are currently engaged in funding, developing and delivering training to

Affordable broadband, together with investments in improving digital abilities, should be an integral part of the nation's planning for the COVID-19 recovery

enhance digital skills in the community. These organisations have been particularly important in addressing digital skill shortages for older people, a cohort the ADII identifies as having very low levels of Digital Ability.

This has been a key challenge in the context of the COVID-19 crisis. Older Australians are less likely to have the digital abilities that would enable them to use the types of online services other members of the community draw upon to reduce the hardships generated by physical isolation such as online retail, telehealth, video calling and accessing cultural content. Many organisations have continued to support digital skill building for older people during the crisis. Where physical isolation restrictions have eased this has been easier to facilitate, but even during the most severe lockdown some organisations introduced telephone services and some simplified online learning tools.

The COVID-19 restrictions are likely to have encouraged some people to become new users as well as expanding the range and intensity of activity undertaken by existing users. The benefits of internet use have certainly become more obvious during the crisis, but rapid acceleration of the digital economy has also presented an opportunity for hackers and scammers. Having the knowledge and skills to confidently and safely use the internet is fundamental to digital inclusion and it is important that cyber safety skills continue to be central to the delivery of digital skills training.

The COVID-19 restrictions are likely to have encouraged some people to become new users as well as expanding the range and intensity of activity undertaken by existing users

Regional variations

The ADII highlights the link between geography and digital inclusion. In 2020, the ACT continues to be the highest-scoring state or territory (67.5, or 4.5 points above the national average), followed by WA (64.1). In the past year WA has experienced the largest rise in digital inclusion (up 2.8 points).

Australia's big cities record high levels of digital inclusion. Indeed, the ADII score for each of the state capitals exceeds the national average. Australia's regional cities have higher digital inclusion than country areas, but generally do not score as well as the capital cities. A substantial increase in 2020 has pushed the ADII score for Wollongong (65.0) above Melbourne (64.4), Hobart (64.2), and Adelaide (63.8).

The digital inclusion score for Rural Australia in 2020 is 57.4, while the average capital city score is 65.0. This Capital-Country gap of 7.6 points is slightly lower than that recorded in 2019 (8.1 points) and reflects the general trend of a narrowing of this divide since 2015 when it was 9.6 points. This trend is underpinned by increases in Access largely related to the rollout schedule of the NBN, which prioritised rural Australia. NBN fixed broadband uptake is currently higher in rural Australia than in the capital cities. While rural Australia has made significant gains in Access over the past six years, it has not fared as well as the capital cities in increases to the Affordability and Digital Ability dimensions of digital inclusion.

Addressing the needs of particular communities

The ADII helps us identify and understand digital inequality in Australia. A number of groups have very low levels of digital inclusion with scores substantially below the 2020 national average (63.0). In ascending order, these groups are: those in Q5 low-income households (43.8), Australians aged 65+ (49.7), people who did not complete secondary school (51.0), people with disability (52.6), those in the Q4 low to moderate household income bracket (53.8), and people not in the labour force (54.3).

Indigenous Australians living in urban and regional areas also have relatively low levels of digital inclusion (55.1). While the gap between Indigenous Australians and the national average (7.9 points) is narrower than it was in 2014 (8.8 points), it has

expanded over the past two years (from 6.1 points in 2018 to 7.9 points in 2020). ADII general data collection does not extend to remote Indigenous communities, however in 2018 and 2019 the ADII research team conducted supplementary face-to-face digital inclusion surveys in two

such communities (Ali Curung 2018 and Pormpuraaw 2019). Although we cannot generalise the results of these surveys to all remote communities, the Ali Curung and Pormpuraaw data suggests digital inclusion for Indigenous Australians further diminishes with remoteness, particularly in relation to Access and Affordability. Overall, both communities recorded a very low level of digital inclusion.

In 2020, the federal government revised the Closing the Gap Agreement which lays out a strategy for overcoming the entrenched inequality faced by Aboriginal and Torres Strait Islander people. The National Agreement on Closing the Gap⁷¹ includes 16 target outcomes and a commitment to developing an Access to Information target by the end of 2020 that:

...will measure Aboriginal and Torres Strait Islander people's access to the information and services that can enable participation in informed decision-making about their lives. This will require data development to measure digital inclusion, including ability to use the internet at home and in the community; accessibility of different online services; and the availability and use of culturally relevant media.

This is a welcome policy development, although the results from the ADII indicate that Affordability is an also an important barrier to digital inclusion that should be investigated, measured and addressed.

Appendix

Methodology

Data collection

The data used to compile the ADII originates from Roy Morgan’s ongoing Single Source face-to-face survey of 50,000 Australians annually⁷². For each 12-month period, ADII calculations are based on a sub-sample of approximately 15,000 respondents who have also completed a product poll booklet. In the extensive face-to-face interviews and product poll, Roy Morgan collects data on internet and technology products owned, internet services used, attitudes relating to technology and the internet, and demographics.

To conduct the Single Source survey, an Australia-wide sample is selected from 514 sampling areas of approximately equal population size. Using strict sampling protocol, each weekend Roy Morgan’s trained researchers interview people in their homes, and directly enter the resulting data into tablets, using computer assisted personal interviewing (CAPI)⁷³.

All ADII scores are subject to ‘margins of error’, depending mainly on the sample sizes on which they are based⁷⁴. A full set of data tables for the ADII can be viewed at www.digitalinclusionindex.org.au

Structure of the Index and dimensions

To determine the degree of overall digital inclusion in Australia, we measured the level of access to the internet and related products, services, and activities. To help clarify the many factors in play, the ADII is made up of three dimensions:

Access **Affordability** **Digital Ability**

Each of these three dimensions is made up of a number of components, which have themselves been calculated from numerous variables. These variables are either sourced directly from the Roy Morgan Single Source database, or derived from the data according to the formulas outlined below.

Variables come in two levels: ‘headline variables’ are thematic composites of ‘underlying variables’ (individual survey questions), and are generally calculated as simple averages.

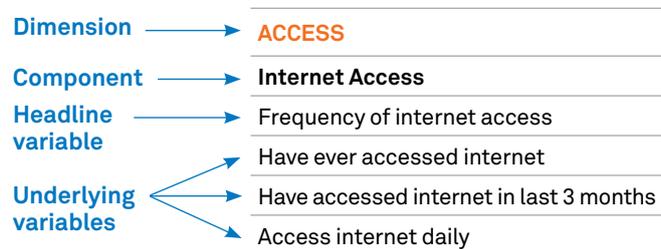
For example, the underlying variable ‘Have ever accessed internet’ (see Figure A1) feeds into the headline variable ‘Frequency of internet access’, which then feeds into the

‘Internet access’ component, and so on. Conversely, the ‘Frequency of internet access’ headline variable is the average of its three underlying variables (see Figure A1).

Similarly, components are simple averages of headline variables. For example, the ‘Internet access’ component is the average of the ‘Frequency of internet access’, ‘Places of internet access’, and ‘Number of internet products’ headline variables. Moving upwards through the hierarchy of the ADII’s structure, the dimensions and the overall ADII itself are also calculated as simple averages.

The structure of the ADII, with a full list of variables, is detailed in Tables A1, A2, and A3. The following diagram is an example of how the dimensions are structured, with the various elements labelled.

Figure A1: Example of dimension structure, ADII



Access

The Access dimension consists of three components:

- **Internet Access**, measured by frequency of access, places of access, and the number of access points.
- **Internet Technology**, including variables related to computers, mobile phones, mobile broadband, and fixed broadband.
- **Internet Data Allowance**, which measures mobile and fixed internet data in terms of whether there is any access at all, relative to a minimum threshold of useful data allowance⁷⁵, and benchmarks set proportional to national averages⁷⁶.

Table A1: Access dimension: structure and variables

Internet Access	Internet Technology	Internet Data Allowance
<ul style="list-style-type: none"> • Frequency of internet access: <ul style="list-style-type: none"> - Have ever accessed internet - Have accessed internet in last three months - Access internet daily • Places of internet access: <ul style="list-style-type: none"> - Have accessed internet from home - Have accessed internet away from home • Number of internet products: <ul style="list-style-type: none"> - One or more internet products - Two or more internet products 	<ul style="list-style-type: none"> • Computer technology: <ul style="list-style-type: none"> - Have personal computer or tablet computer in household • Mobile internet technology: <ul style="list-style-type: none"> - Own or use mobile phone - Have mobile internet • Fixed internet technology: <ul style="list-style-type: none"> - Have fixed broadband - Have cable or nbn fixed broadband 	<ul style="list-style-type: none"> • Mobile internet data: <ul style="list-style-type: none"> - Have mobile internet - Have mobile internet data allowance over 1GB - Mobile internet data allowance relative to benchmark • Fixed internet data: <ul style="list-style-type: none"> - Have fixed broadband - Have Fixed Broadband data allowance over 10GB - Fixed Broadband data allowance relative to benchmark

Affordability

Affordability is a key aspect of digital inclusion, and is made up of two components:

- **Relative Expenditure**, measured as the share of household income spent on internet access (mobile phone, mobile broadband, and fixed broadband), and then related to benchmarks set to national Relative Expenditure quintiles⁷⁷. Those without internet connections are excluded from this measure. Affordability increases as this share decreases. Note that Affordability increases as the share of household income spent on Access decreases.
- **Value of Expenditure**, calculated as total Internet Data Allowance (mobile phone, mobile broadband, and fixed broadband) per dollar of expenditure on internet access, and then related to benchmarks set to national Value of Expenditure quintiles⁷⁸. Those without internet connections are excluded from this measure. Note that Affordability rises as the amount of Internet Data Allowance received per dollar increases.

Table A2: Affordability: structure and variables

<p>Relative Expenditure</p> <ul style="list-style-type: none"> • Share of household income spent on internet products relative to benchmark 	<p>Value of Expenditure</p> <ul style="list-style-type: none"> • Internet data allowance per dollar of expenditure relative to benchmark
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Digital Ability

Digital Ability captures both the confidence with which we use the internet and associated technologies, and the extent to which they are integrated into our lives. As such, the Digital Ability consists of three components:

- **Attitudes**, measured by responses to five survey questions related to notions of control, enthusiasm, learning, and confidence⁷⁹.
- **Basic Skills**, consisting of six categories: general⁸⁰, mobile phone⁸¹, banking⁸², shopping⁸³, community⁸⁴, and information skills⁸⁵.
- **Activities**, which mirror the six categories of Basic Skills, but are more advanced: accessing content⁸⁶, communication⁸⁷, transactions⁸⁸, commerce⁸⁹, media⁹⁰, and information⁹¹.

Table A3: Digital Ability: structure and variables

<p>Attitudes</p> <ul style="list-style-type: none"> • Computers and technology give me more control over my life • I am interested in being able to access the internet wherever I am • I go out of my way to learn everything I can about new technology • I find technology is changing so fast, it's difficult to keep up with it (negative) • I keep my computer up to date with security software 	<p>Basic Skills</p> <ul style="list-style-type: none"> • General internet skills • Mobile phone skills • Internet banking skills • Internet shopping skills • Internet community skills • Internet information skills 	<p>Activities</p> <ul style="list-style-type: none"> • Streamed, played, or downloaded content online • AV communication via the internet • Internet transaction or payment • Purchased or sold a product online • Created or managed a site or blog • Searched for advanced information
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Data collection – ADII supplementary survey

In 2017/18 the ADII team developed the ADII Supplementary Survey. This online digital inclusion survey can be used to derive digital inclusion index scores (including dimension and component scorers) comparable to the ADII. The ADII Supplementary Survey consists of the specific questions from the Roy Morgan Single Source survey used to compile the index. The vast majority of these questions are directly transposed. Some questions have minor modifications to ensure they work in an online environment in a manner which produces comparable results to the Single Source method. In-field testing, using a Roy Morgan national representative online panel, confirms that the composition of the ADII Supplementary Survey does not bias results when compared to the ADII. Survey data is captured through an online interface. As this interface runs on mobile devices there is flexibility in how the survey is administered. For instance, it can be administered face-to-face with respondents in outdoor spaces. It should be noted that sample selection will impact results.

Notes

- 1 Expenditure on internet services is derived from survey questions that capture data on total monthly outlays on fixed broadband and pre-paid and post-paid mobile phone and mobile broadband. A model is used to extract and estimate of the expenditure on these services where a consumer purchases a telecommunications bundle that might include non-internet services such as home phone and pay television.
- 2 Roy Morgan Single Source (March 2020), shows that 4.17 million Australians aged 14+ are mobile only.
- 3 The ABS Household Use of Information Technology 2016–2017 survey (ABS 2018b) indicates 2.58 million Australians aged 15 years and over did not access the internet in the past 3 months.
- 4 Digital inclusion has become an increasingly important marker of broader human progress, framed in terms of wellbeing in the United Nations 2000 Millennium Development Goals and sustainable development in the United Nations Sustainable Development Goals. For a discussion of the former see Eardley et. al. (2009), for the latter, see ITU (2017a) and ITU (2019).
- 5 ITU (2009) and Bruno et. al. (2011).
- 6 ITU (2017b).
- 7 EIU (2020).
- 8 Park & Jae Kim (2014).
- 9 Lloyds Bank (2020).
- 10 The ABS has discontinued the Household Use of Information Technology survey as a result of a shift in data collection priorities and has decided not to recommend inclusion of an internet access question on the 2021 Census of Population and Housing (ABS 2018c).
- 11 Australian Bureau of Statistics (2018b).
- 12 See: Rennie et. al. (2019) for a detailed examination of digital inclusion data collected through the ABS Census of Population and Housing since 2001.
- 13 ACMA (2020a).
- 14 EY Sweeney (2017).
- 15 Swinburne Institute for Social Research, Centre for Social Impact, Telstra Corporation Ltd (2015).
- 16 Culturally and Linguistically Diverse (CALD) is a term commonly used in Australian research, practice and policy to distinguish members of the population for which English is not the main language and/or for whom cultural norms and values differ from the English-speaking Anglo-Saxon/Celtic majority (Sawrikar and Katz, 2008). In this report CALD migrants are identified in the Roy Morgan Single Source as respondents born in non-main English speaking countries that speak a language other than English at home. The ABS (2018a) notes that the Main English-speaking countries (MESCC) generally comprise Australia, United Kingdom (England, Scotland, Wales, Northern Ireland), Republic of Ireland, New Zealand, Canada, United States of America and South Africa. All other countries are defined as non-main English speaking countries (NMESCC).
- 17 ABS (2018b)
- 18 The ABS Household Use of Information Technology 2014–2015 survey (ABS 2016a) shows that 62.9% of those households without internet access at home do not have this access due to a perceived lack of need.
- 19 Blank & Dutton (2019) report that 69% of non-users in Britain are “just not interested” in being online, while the Lloyds Bank (2020) UK Consumer Digital Index 2020 found that 48% of non-users indicate that “nothing” would encourage them to get online.
- 20 The ABS Household Use of Information Technology 2016–2017 survey (ABS 2018b) found the mean number of devices used to access the internet at home per household increased from 5.8 in 2014-15 to 6.2 in 2016-17. A 2019 ACMA-commissioned survey indicates that 37% of online Australians accessed the internet in the last six months using five or more devices up from 23% in 2017 (ACMA 2020b). The Australian IoT@Home Market Study (Telsyte 2019) found more than half of Australian households had at least one IoT home product installed by the end of 2018, while Australian Digital Consumer 2020 Study (Telsyte 2020) found that the average number of connected devices per household in 2019 was 18.9, up from 17.0 in 2018.
- 21 Roy Morgan Single Source, March 2020, indicates that 72% of Australians went online every day in 2014 and 87% of Australians went online every day in 2020.
- 22 The ACMA Communications Report series (cf ACMA 2020b) provides an overview of annual fixed and mobile infrastructure investment.
- 23 This reflects assumptions as to the general performance of the NBN, notwithstanding cases of poor NBN performance and complaints concerning NBN consumer experiences. The ACCC’s Measuring Broadband Australia program produces performance data comparing NBN with ADSL services (ACCC 2020).
- 24 Roy Morgan Single Source, March 2020, indicates that 5.6% of those with NBN connections did not have fixed broadband 12 months prior. This ‘conversion rate’ is higher than that for ADSL and other fixed-broadband (3.7%).
- 25 Roy Morgan Single Source, March 2020, indicates that the average data allowance for NBN plans is 700GB and 650GB for ADSL and ‘other’ fixed broadband plans.
- 26 One proxy indicator of this may be the relationship between length of time with current Internet Service Provider and average data allowance. Roy Morgan Single Source, March 2020, shows that the average data allowance increases as the length of time with the ISP decreases.
- 27 See Note 1 for a description of internet services expenditure captured in the ADII.
- 28 The Australian Communications Consumer Action Network (ACCAN, 2020) has created a portal identifying the range of support packages and initiatives being made available by telecommunication providers and Australian governments.
- 29 See ACCC (2020); ASIC (2020).
- 30 ABS (2020).
- 31 Roy Morgan Single Source, March 2020 indicates 4.2 million Australians have a mobile phone or mobile broadband device with a data allowance but do not have a fixed internet connection.
- 32 Roy Morgan Single Source, March 2020.
- 33 The most digitally included age group in each year is: 2014 (25-34 years), 2015 (25-34 years), 2016 (14-24 or 25-34 years), 2017 (25-34 years), 2018 (25-34 years), 2019 (25-34 years), 2020 (35-49 years).
- 34 DPM&C (2020).
- 35 For a definition of CALD see note 16.
- 36 See: FECCA (2015).
- 37 A 2018 study by Relationships Australia (RA 2018) found that the prevalence of social isolation among those aged 65+ was slightly lower than the average. This study also found that the rate of loneliness among those aged 65+ was very similar to the average.
- 38 Duckett & Stobart (2020) and Grattan Institute (2020) track the measures implemented by Australian governments.
- 39 See AIHW (2019) for a discussion of the definition of social isolation and loneliness and the connection between these states.
- 40 Holt-Lunstad et al. (2015).
- 41 Esafety Commissioner (2020).
- 42 Dickers (2020).
- 43 They have not used the internet in the past 3 months – a standard measure of defining internet users (ABS 2016a).
- 44 ABS (2016a).
- 45 ABS Census figures from 2016 show that 26.6% of those age 65+ live alone compared to 13.1% of those aged 18-64 (ABS 2016b).
- 46 NSPAC (2011).
- 47 Flack et. al. (2020); Robinson et al., (2020).
- 48 ABS (2019).

- 49 ABS (2019); Drane et. al. (2020).
- 50 Australian Council for Educational Research (2020); Bonnor & Shepherd (2016); Cassells et. al. (2017); Chesters (2019); Noble et. al. (2020); Perry & McConney (2010).
- 51 Brown et. al. (2020); Clinton (2020); Doyle (2020); Drane et. al. (2020); Duffy & Kent. (2020); Education Endowment Fund (2020); Lamb et. al. (2015); Markham, Smith, & Morphy (2020).
- 52 Rapid Research Information Forum (2020); Flack et al. (2020); Drane et al. (2020).
- 53 Rapid Research Information Forum (2020); Australian Bureau of Statistics (2018b).
- 54 Australian Bureau of Statistics (2018b); Noble (2020); The Smith Family (2020); The Smith Family (2013).
- 55 Ogle & Musolino (2016).
- 56 Ogle (2017).
- 57 Ogle & Musolino (2016).
- 58 Flack et al. (2020).
- 59 Thomson & De Bortoli (2012).
- 60 Fraillon (2019); Fraillon. (2020).
- 61 Noble et al. (2020).
- 62 Australian Curriculum, Assessment and Reporting Authority (2018).
- 63 Flack et al. (2020).
- 64 Noble. (2020); Flack et al. (2020).
- 65 Chowdhury et. al. (2020).
- 66 These positions are based on proxy indicators from the Roy Morgan Single Source, March 2019., as follows: Interest - I am interested in being able to access the Internet wherever I am and I go out of my way to learn everything I can about new technology; Confidence - I find technology is changing so fast, it's difficult to keep up with it (DISAGREE); and Empowerment - Computers and technology give me more control over my life.
- 67 See Appendix 1 for a description of the ADII Supplementary Survey.
- 68 Thomas et al. (2018); Thomas et al. (2019).
- 69 This is supported by existing qualitative research, which finds that the internet is an important point of social connection and vital conduit for accessing information and services for those living in remote areas.
- 70 Rennie et. al. (2016).
- 71 DPM&C (2020).
- 72 Roy Morgan (2019).
- 73 Roy Morgan adheres to the Code of professional behaviour of ESOMAR and the Australian Market and Social Research Society, the Federal Privacy Act and all other relevant legislation. Roy Morgan is certified to the AS/NZS ISO9001 Quality Management Systems standard, the AS ISO 20252 Market, Opinion and Social Research standard and the ISO27001 Information Security standard
- 74 As the ADII scores originate from survey data, and are estimates, in each case there will be a margin of error that is dependent on the size of the sample. See Roy Morgan's Margin of Error Reference Table for a general explanation of how margins of error typically relate to survey estimates, based on sample sizes (Roy Morgan 2020).
- 75 1GB was chosen for mobile phone and mobile broadband, and 10GB was chosen for fixed broadband, as these were the lowest quanta in the survey data.
- 76 The benchmark was set at 20% above the nationwide average data allowances (recalibrated for each year in the dataset), and respondents with data allowances greater than the benchmark scored 100. For mobile internet data allowance the 2020 benchmark was 18.1GB, while for fixed internet data allowance it was 621GB.
- 77 Respondents without internet connections are excluded from the affordability component of the index. A percentage of household income expended on internet connections is derived for all others. Using the 2016 (April 2015-March 2016) dataset, respondents were ranked using this percentage and divided into five equal groups with the bottom and top percentage recorded for each group establishing the range. The five ranges are 0.01–73%; 0.74–1.13%; 1.14–1.65%; 1.66–2.75%; 2.75% or more. Respondents receive an index score based on the range they fall within as follows: 0.01–73% (100); 0.74–1.13% (75); 1.14–1.65% (50); 1.66–2.75% (25); 2.75% or more (0). Changes in affordability over time are measured against the base year of 2016.
- 78 Respondents without internet connections are excluded from the affordability component of the index. A data allowance per dollar of expenditure is derived for all others. Using the 2016 (April 2015-March 2016) dataset, respondents were ranked using this value and divided into five equal groups with the bottom and top value recorded for each group establishing the range. The five ranges are 0.01–0.1 GB/\$; 0.11–0.7 GB/\$; 0.71–2.6 GB/\$; 2.61–6.8 GB/\$; 6.81 GB/\$ or more. Respondents receive an index score based on the range they fall within as follows: 0.01–0.1 GB/\$ (0); 0.11–0.7 GB/\$ (25); 0.71–2.6 GB/\$ (50); 2.61–6.8 GB/\$ (75); 6.81 GB/\$ or more (100). Changes in affordability over time are measured against the base year of 2016.
- 79 Respondents should agree with these statements to score 100, except for the statement 'I find technology is changing so fast, it's difficult to keep up with it', which should be disagreed with in order to score 100.
- 80 General browsing and email; scores for each of these activities are averaged to arrive at the basic internet skills score.
- 81 Using a mobile phone to access the internet and download an app; scores for each of these activities are averaged to arrive at the mobile phone skills score.
- 82 Checking bank account balance, or viewing online bank statements (either/or).
- 83 Researching a product or services to buy, reading ratings/reviews of products or services, using price comparison websites, or reading online catalogues/classified ads (either/or).
- 84 Social networking (e.g. Facebook, Twitter), business networking (e.g. LinkedIn), online dating (e.g. RSVP), chat rooms, online forums, or reading/commenting on online newspaper articles or blogs (either/or).
- 85 Accessing news/weather/sport, reading newspapers/magazines/celebrity news, searching for maps or directions, traffic or public transport information, travel information and services, or entertainment/restaurants/what's-on information (either/or).
- 86 Streaming, playing, or downloading games, music, radio, video, TV, movies, podcasts, or software/programs.
- 87 Instant messaging (e.g. Google Hangouts), making telephone calls via internet (e.g. Skype, VoIP), or business video conferencing (either/or).
- 88 Conducting banking transactions online, paying bills online, using online payment/money transfer system (e.g. PayPal, BPAY), paying for purchases using a credit card (either/or).
- 89 Purchasing or selling a product online.
- 90 Creating or managing an online journal or blog, registering a website, or creating/managing own website (either/or).
- 91 Searching online for jobs/employment, government information and services, health or medical information, or IT information, or participating in online education (either/or).

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About the project partners

The following partner organisations worked together to create the Australian Digital Inclusion Index and produce this research:

The Digital Ethnography Research Centre, RMIT

The Digital Ethnography Research Centre (DERC) at RMIT focuses on understanding a contemporary world where digital and mobile technologies are increasingly inextricable from the environments and relationships in which everyday life plays out. DERC excels in both academic scholarship and in applied work with external partners from industry and other sectors. DERC's research is incisive, interventional and internationally leading. Going beyond the call of pure academia, DERC combines academic scholarship with applied practice to produce innovative research, analysis and dissemination projects.

www.digital-ethnography.com

Telstra

Telstra is Australia's leading telecommunications and technology company, offering a full range of communications services and competing in all telecommunications markets. In Australia, Telstra provides 18.8 million retail mobile services and 3.8 million retail fixed bundles and standalone data services. Telstra's purpose is to build a connected future so everyone can thrive, which recognises the fundamental role the company plays in enabling social and economic inclusion. Telstra has provided products, services and support to enhance digital inclusion for more than a decade through its Access for Everyone and Everyone Connected programs, reducing the barriers to inclusion such as age, income, skill level and location.

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Centre for Social Impact, Swinburne University of Technology

The Centre for Social Impact (CSI) is an independent, not-for-profit research and education collaboration between three of Australia's leading universities: UNSW Sydney, Swinburne University of Technology, and The University of Western Australia. CSI acts as a catalyst for social change through research, education, and leadership development. CSI Swinburne's focus is on developing leaders, organisations, and policy conditions that support progressive social change in the areas of: social innovation; social investment and philanthropy; business and social impact; and measuring and demonstrating social value.

www.swinburne.edu.au/research/social-impact

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