



Measuring Queensland's Digital Divide

The Australian Digital Inclusion Index 2017: Queensland

Powered by Roy Morgan Research



Contents

Foreword	03
Acknowledgements	04
Executive summary	05
Introduction	06
Queensland state overview	08
Case studies	
Case Study 1: A tale of four regions	14
Case Study 2: Remote communities	18
Case Study 3: Education and low-income families	20
Conclusion	24
Appendix	
1. Methodology	25
2. References	28
Who we are: the project partners	29

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.

Suggested citation: Dezuanni, M, Burgess, J, Thomas, J, Barraket, J, Marshall, A, Wilson, C, Ewing, S, MacDonald, T, 2017, *Measuring Queensland's Digital Divide – The Australian Digital Inclusion Index 2017: Queensland*, RMIT University, Melbourne, for Telstra.

DOI: www.dx.doi.org/10.4225/50/59b762ab75714

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

Email us: info@digitalinclusionindex.org.au

Follow us on Twitter: @digInclusionAU

Join the conversation: #digitalinclusionAU

The text in this report (except the back-cover text, and any logos) is licensed under the Creative Commons Attribution – Non Commercial – Share Alike 4.0 International licence as it exists on 20 July 2017. See: <https://creativecommons.org/licenses/by-sa/4.0> All other rights reserved.

Foreword

Telstra



Telstra has a long history of supporting digital inclusion through our Access for Everyone and Everyone Connected programs. Considering the recent findings of the *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2017*, it's clear that this support has never been more important.

In today's world, digital technologies play a central and empowering role in our lives. Being connected is no longer an added extra, but an increasingly integral part of daily life – from managing our finances to simply communicating with family and friends.

Building on the 2017 findings, we commissioned this research to provide some further insight into digital inclusion in Queensland.

Queensland is Australia's second largest state geographically, with the third largest population. Queensland's population is proportionally higher in regional, rural and remote areas compared with other states. Remote and very remote Queensland is also home to a significant number of Indigenous Australians with 16 Indigenous shire councils.

These unique features of Queensland create particular challenges and opportunities for digital inclusion. With the potential of technology to deliver better health, education, social and economic outcomes, it has never been more important that no one gets left behind.

Telstra is pleased to be a part of the digital inclusion conversation. Along with our partners RMIT University, Queensland University of Technology, Swinburne University of Technology, and Roy Morgan Research, we hope this report will provide some useful further detail to inform action on digital inclusion in Queensland.

Tim O'Leary

Executive Director, Sustainability and Regional Affairs



Acknowledgements

The research team would like to thank the many people and organisations that have made the Queensland Digital Inclusion Index, and its parent report, the Australian Digital Inclusion Index (ADII), possible. Understanding digital inclusion in Queensland and Australia more broadly is an ongoing project. We look forward to exploring the full potential of the ADII in collaboration with all our community partners.

We wish to acknowledge and thank our project partners. We thank Telstra for supporting and enabling this research – in particular, Nancie-Lee Robinson, Robert Morsillo, Abigail Brydon, and Heather Rea for sharing their knowledge, expertise, and good advice. We also thank Queensland University of Technology, RMIT University, and Swinburne University of Technology for their ongoing support, and our colleagues at Roy Morgan Research for working so hard to make the ADII a reality.

The research team was supported by a highly experienced Research Advisory Committee. We thank the members for the valuable insights and guidance they brought to the project:

Teresa Corbin, CEO, Australian Communications Consumer Action Network (ACCAN)

Dr Lisa O'Brien, CEO, The Smith Family

Brendan Fitzgerald, GM Digital Inclusion, Infoxchange

Linda Caruso, Executive Manager, Australian Communications and Media Authority (ACMA)

Sue McKerracher, CEO, Australian Library & Information Association (ALIA)

Roland Manderson, Deputy CEO, Anglicare Australia

Tim O'Leary, Chief Sustainability Officer, Telstra

We also wish to thank our colleagues Hannah Withers and Yee Man Louie for their hard work and expertise, and acknowledge their ability to handle multiple deadlines with grace and humour. Finally, we thank our colleagues at the Digital Ethnography Research Centre (RMIT University), the Digital Media Research Centre (QUT), and the Centre for Social Impact (Swinburne University of Technology) for their advice and valuable support.

The research team

The ADII research team was led by Professor Julian Thomas at RMIT University. This Queensland report has been prepared with the following researchers:

Associate Professor Michael Dezuanni,
Queensland University of Technology

Professor Jean Burgess, Queensland University of Technology

Professor Jo Barraket, Swinburne University of Technology

Dr Chris Wilson, RMIT University

Dr Scott Ewing, Swinburne University of Technology

Dr Amber Marshall, Queensland University of Technology

Executive Summary

This special report enables us to explore the unique challenges for digital inclusion in Queensland. Queenslanders and other Australians go online to access a growing range of education, information, government, and community services. Increasingly, they also participate in online communities and create digital content. But some Queenslanders are missing out on the benefits of connection. Digital inclusion is based on the premise that everyone 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.

Digital inclusion is based on the premise that everyone should be able to make full use of digital technologies

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 vital 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. Scores are allocated to particular geographic regions and sociodemographic groups, over a four-year period (2014, 2015, 2016, and 2017). Higher scores mean greater digital inclusion.

Digital inclusion is slowly improving

Digital inclusion in Queensland has improved moderately in 2017 to reach 55.3. However, Queensland's results lag behind the gains made in many other states and territories, with a widening gap between Queensland and New South Wales and Victoria. The state ranks sixth out of the eight states and territories and is positioned slightly below the national average of 56.5.

Access, Affordability, and Digital Ability have all increased

Queenslanders' uptake of new digital technologies, coupled with an increase in internet data allowances, has led to gains in 2017 across the three sub-indices: Access, Affordability, and Digital Ability. From 2014 to 2017 the state's Access score increased from 62.1 to 69.0, while Digital Ability increased from 42.7 to 45.3. However, Queensland's Affordability score has fluctuated over the four years, declining between 2014 and 2016, before making a slight recovery to reach its current level of 51.6.

There is a 'Capital-Country gap'

There are significant differences between rural and urban areas in Queensland when it comes to digital inclusion. The ADII score for rural Queenslanders in 2017 is 51.7, compared with 56.8 for people living in the state capital Brisbane (a 'Capital-Country gap' of 5.1 points).

Indigenous digital inclusion is low, but improving

Indigenous people living in Queensland recorded an ADII score 2.1 points below the national Indigenous average in 2017, with a score of 47.4*. This is 7.9 points below the overall state average, and 9.1 points below the Australian average. There has been an improvement for Indigenous Queenslanders of 3.6 points since 2014, which slightly outpaces the state increase of 3.2.

Families on low incomes are increasingly being left behind

The Affordability sub-index score for low income Queensland families is 32.7, compared to 64.7 for high income families (gap of 32.0). This result is underpinned by a significant gap in the Relative Expenditure score recorded by low income families (16.4) and high income families (65.7). Many Queensland families on low incomes are likely to be missing out on the benefits of digital connection, including for education, work, and social inclusion. The digital inclusion gap between high and low income families has widened since 2014.

For Queenslanders with disability, digital inclusion is low, but improving

In 2017, Queenslanders with a disability have an ADII score of 48.6, some 6.7 points below the state average. However, there has been an improvement of 5.7 points for this group since 2014, compared with the overall state improvement of 3.2 points. Of some concern, there has been an increase in the proportion of household income spent on network access for this group.

Being employed is a clear advantage

There is a clear 'employment gap' in digital inclusion. In 2017, the digital inclusion score for unemployed Queenslanders is 49.2, whereas for full-time workers the figure is 60.1 (gap of 10.9).

There is an 'education gap'

Education levels are an important aspect of differences in digital inclusion. Queenslanders who did not complete secondary school have an ADII score of 47.3 in 2017, compared to 60.8 for those who completed tertiary education (gap of 13.5).

The 'age gap' is substantial and widening

In 2017, people aged 35–49 are the most digitally included age group in Queensland, with a score of 61.6. By comparison, the 50–64 age group scored significantly less with 52.4 (gap of 9.2); and those aged 65+ scored 41.3 (gap of 20.3). This overall 'age gap' has steadily widened in Queensland since 2015.

*Sample size <100, exercise caution in interpretation.

Introduction

What is digital inclusion?

As more of our daily interactions and activities move online, digital technologies bring a growing range of important benefits – from the convenience of online banking, to accessing vital services, finding information, and staying in touch with friends and family.

At its heart, digital inclusion is about social and economic participation

However, these benefits are not being shared equally: some groups and individuals still face real barriers to participation. In recent years, the digital divide has narrowed, but it has also deepened. The latest ABS data (2016)¹ shows around three million Australians

are not online. These Australians are at risk of missing out on the advantages and assistance digital technology can offer.

As the internet becomes the default medium for everyday exchanges, information-sharing, and access to essential services, the disadvantages of being offline grow. Being connected is fast becoming a necessity, rather than a luxury. Digital inclusion is about bridging this 'digital divide'. It's 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. At its heart, digital inclusion is about social and economic participation: using online and mobile technologies to improve skills, enhance quality of life, educate, and promote wellbeing across the whole of society.

Measuring digital inclusion at national and state levels

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, it is the Australian Digital Inclusion Index (ADII), launched in 2016, that marks the first substantive effort to combine these findings into a detailed measure of digital inclusion across Australia.

The ADII was created through a partnership between RMIT University, Swinburne University of Technology, and Telstra. It uses data collected by Roy Morgan Research to measure the level of digital inclusion across the Australian population, and to monitor this level over time. Our national report on the 2017 data and findings, *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2017* (available at www.digitalinclusionindex.org.au), provides the most detailed snapshot yet of digital inclusion in Australia and its constituent states and territories.

Examining digital inclusion in Queensland

The 2016 and 2017 national ADII reports reveal substantial differences in the level and nature of digital inclusion in each of Australia's states and territories, and between city and country residents. When it comes to digital inclusion, geography and socio-economic status are important factors. Nowhere is this more evident than Queensland, which has the most diverse pattern of human settlement of all states and territories. Queensland is the second largest state by territory and third largest by population. Its 4.7 million people are distributed across a large capital city (2.27 million) and four substantial regional cities/centres (each 230,000+), with the remainder (1 million) residing in rural townships, remote communities, and on agricultural properties.²

This special report enables us to explore the unique challenges for digital inclusion in Queensland, as well as a range of important initiatives aimed at addressing these challenges. Case Study 1 (p. 14) provides an examination of digital inclusion in Queensland's four major regional centres: Townsville, Cairns, the Sunshine Coast, and the Gold Coast. Case Study 2 (p. 18) highlights the digital inclusion challenges faced by remote Queenslanders, but also underscores the potential for digital technologies to transform economic and social capital in rural and remote areas. Case Study 3 (p. 20) explores how digital inclusion is a significant issue for Queensland's low income families, particularly as digital literacy and digital technologies become increasingly relevant in educational settings.

By presenting an in-depth analysis, identifying gaps and barriers, and highlighting the social impact of digital engagement, we aim to inform policy, community programs, and business efforts to boost digital inclusion in Queensland.

Methodology in brief

Digital inclusion is a complex, multi-faceted issue that includes such elements as access, affordability, usage, skills, and relevance. To inform the design of the ADII, a Discussion Paper was publicly released in September 2015, and responses from a wide range of organisations were received.³

Feedback showed a clear desire for highly detailed geographic and demographic data. In response, we have worked with Roy Morgan Research to obtain a wide range of relevant data from their ongoing, weekly Single Source survey of 50,000 Australians. Calculations for the ADII are based on a sub-sample of approximately 16,000 responses in each 12-month period. In these extensive face-to-face interviews, Roy Morgan collects data on internet and technology products owned, internet services used, personal attitudes, and demographics.

This rich, ongoing data source 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 1: Methodology (p. 27).

The Digital Inclusion score

The ADII was designed to measure three key aspects, or dimensions, of digital inclusion: Access, Affordability, and Digital Ability. These dimensions form the basis of three sub-indices, each of which is built up from a range of variables (survey questions) relating to internet products, services, and activities. The sub-indices 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
- owns multiple internet products, including a PC or tablet
- owns a mobile phone, with data, on the 4G network
- has a fixed broadband connection (cable or NBN)
- 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 1: ADII and sub-index score ranges: Low, Medium, High

	Low	Medium	High
ACCESS	< 50	55-65	> 70
AFFORDABILITY	< 40	45-55	> 60
DIGITAL ABILITY	< 40	45-55	> 60
DIGITAL INCLUSION INDEX	<45	50-60	> 65

Source: Roy Morgan Research, April 2016–March 2017

The sub-indices

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

The **Access sub-index** 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.

The **Affordability sub-index** has *two components*:

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

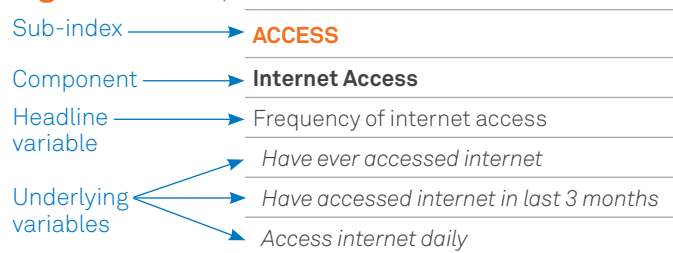
The **Digital Ability sub-index** has *three components*:

- **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 sub-index is structured, with the various elements labelled.

Figure 1: Example of sub-index structure, ADII



Source: Roy Morgan Research, April 2016–March 2017

Our full research methodology, including an explanation of the underlying variables, the structure of the sub-indices, and the margins of error, is outlined in Appendix 1: Methodology (p. 27). 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 four years to date: 2013–2014, 2014–2015, 2015–2016, and 2016–2017. 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 <100, treat with caution; **Sample size <50, treat with extreme caution.
- **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, regional centres and rural areas within that state.
- **Sociodemographic groups:** nationally and for each state, data is presented according to income, employment, education, and age. Data is also provided for people with disability, Aboriginal and Torres Strait Islanders (listed as 'Indigenous Australians' in the tables), and people who speak a language other than English at home (LOTE).
- **Income** is presented in five household income 'quintiles' (brackets), from highest (Q1) to lowest (Q5). The ranges 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:** the group 'people not in paid employment' (listed in the tables as 'Employment: None') includes, ranked in order of prevalence, people who are retired, unemployed, non-working students, engaged in home duties, and other non-workers.
- **Age:** scores are captured across five different age brackets, from people aged 14–24 years to people aged 65+.
- **Disability:** in the ADII data, people with disability are defined as those who receive either the disability support pension (DSP) from Centrelink, or a disability pension from the Department of Veterans' Affairs.
- **Education** is divided into three levels: Tertiary (degree or diploma), Secondary (completed secondary school), and Less than Secondary (did not complete secondary school).
- **Relative Expenditure:** this component of the Affordability sub-index is based on the share of household income spent on internet access. Since Affordability improves as this share decreases, counterintuitively, the Relative Expenditure measure will *increase* when that occurs. And vice versa: an *increase* in the share of income spent on internet services corresponds to a decrease in the Relative Expenditure measure.

Queensland: state overview

Findings

Queensland's ADII score has improved since 2014 (up 3.2 points, from 52.1 to 55.3)

The 2017 ADII provides new information about digital inclusion in Queensland and how it compares to national trends. Queensland's ADII score has improved since 2014 (up 3.2 points, from 52.1 to 55.3). In particular, the state

has made gains in the Access and Digital Ability sub-indices, which can be attributed to Queenslanders' appetite for new digital technologies, coupled with an increase in internet data allowances across the state. These sub-indices are discussed in greater detail below.

Despite these increases, Queensland's ADII score remains below the national average (56.5), placing the state sixth out of Australia's eight states and territories for digital inclusion. Since 2014, three other states have also lagged behind the nationwide ADII increase (up 3.8): Western Australia (WA, up 3.3), the Australian Capital Territory (ACT, up 1.8), and Tasmania (up 0.9). In contrast, digital inclusion in four states or territories has improved more quickly than the national average: New South Wales (NSW, up 4.2), Victoria (up 4.2), the Northern Territory (NT, up 3.9), and South Australia (SA, up 3.9). This indicates a widening gap between Queensland and the better performing states, particularly NSW and Victoria.

The ADII confirms that digital inclusion is unevenly distributed across Queensland and that the digital divide in the state is widening. In general, wealthier, younger, more educated, and urban Queenslanders are more likely to be digitally included. Particular groups of Queenslanders are disproportionately disadvantaged. For Queensland families on low incomes (in the lowest household income quintile – Q5). The Affordability sub-index score is 32.7, compared with 64.7 for the high income families (in the highest household income quintile – Q1). This result is influenced by a significant gap in the Relative Expenditure score recorded by low income families (16.4) and high income families (65.7). Many low income Queensland families are likely to be missing out on the benefits of digital connection, including for education, work, and social inclusion. Over the period since 2014, the gaps for low income families and certain other groups discussed in this report have increased.

Table 2: Ranked scores for Australian states and territories (ADII 2017)

Rank	State/Territory	ADII Score	Points change since 2016	Ranking change since 2016
1	ACT	59.9	+0.1	–
2	Victoria	57.5	+1.7	–
3	New South Wales	57.4	+2.5	–
4	Northern Territory*	56.9	+2.4	–
5	Western Australia	56.2	+2.1	–
6	Queensland	55.3	+1.8	–
7	South Australia	53.9	+2.4	–
8	Tasmania	49.7	+1.6	–
	Australia	56.5	+2.0	–

* Sample <100, treat with caution. **Source:** Roy Morgan Research, April 2016–March 2017

Access, Affordability, and Digital Ability

Overall ADII scores are calculated from three equally weighted sub-indices that measure Access, Affordability, and Digital Ability. Queensland made improvement across all three sub-indices between 2014 and 2017, particularly in Access (up from 62.1 to 69.0) and Digital Ability (up from 42.7 to 45.3). The third sub-index, Affordability, has fluctuated over the four years, declining between 2014 and 2016 (from 51.4 to 49.6), before making a slight recovery to reach its 2017 level (51.6). While Queensland's improvement in Affordability over 2014–2017 (up 0.2) outstripped that of the national average (down 0.8), the state's improvements in Access and Digital Ability (up 6.9 and 2.6 respectively) have not kept pace with the national average for these sub-indices (up 7.4 and 4.9 respectively).

Access

Queensland experienced improvements across all three Access components between 2014 and 2017: Internet Access (up 1.1), Internet Technology (up 9.7), and Internet Data Allowance (up 10.1). These gains can be attributed to improvements to mobile and fixed network infrastructure; the proliferation of connected consumer devices, especially smartphones; and growing demand for data as Queenslanders spend more time, and do more things, online. Despite these gains, Queensland's 2017 scores across all three Access components remain lower than the national average. In addition, it is only the Internet Data Allowance component where Queensland has narrowed the gap with the national average (from 0.8 in 2014 to 0.3 in 2017).

Affordability

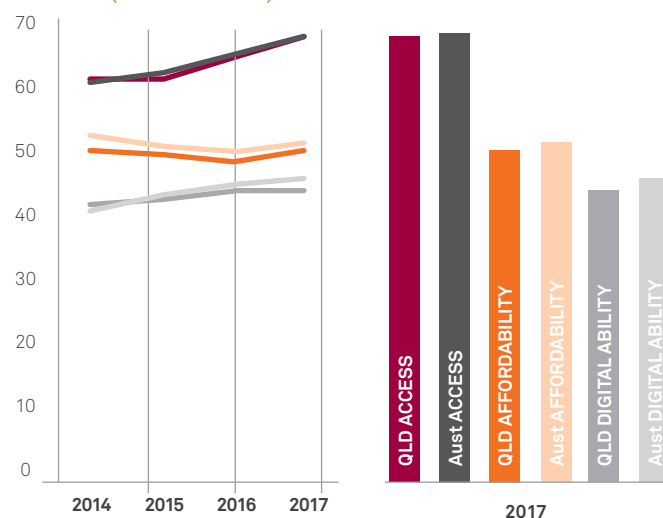
The uneven gains made in the Affordability sub-index mirrors the national experience, with an interim decline between 2014–2016 (down 1.8), before the increase seen in 2017 (up 2.0). The interim decline in Affordability does not simply reflect rising costs. In fact, internet services are becoming less expensive on a per gigabyte basis. This is captured in the Value of Expenditure component, which has steadily increased over the four years (up 7.6). Instead, it is the fact that Queenslanders are spending a greater proportion of their household income on internet services that has caused the Affordability issue. This is captured in the Relative Expenditure measure, which decreased between 2014 and 2016 (down 7.8) before recovering slightly in 2017 to account for the overall Affordability improvement recorded in that year.

Digital Ability

The digital abilities of Queenslanders have improved over the four years 2014–2017, although not to the same extent as they have for Australians as a whole. As a result, the Digital Ability score for Queensland, which was slightly above the national score in 2014 (up 0.3), is now below it (down 2.0). Each of the three components that make up the Digital Ability sub-index have registered below national average scores in 2017: Attitudes (48.5, 1.6 below the national score of 50.1), Basic Skills (50.9, 2.4 below the national score of 53.3), and Activities (36.6, 1.8 below the national score of 38.4).

These results reflect continuous and rapid change in digital technologies, the emergence of new applications, and the proliferation of new devices and online services, creating ongoing challenges for people in understanding, embracing, and effectively using them. The data shows that while Queenslanders report high interest in using the internet, they also find it hard to keep up with new technologies, and relatively few users engage in more advanced activities. This suggests significant scope to further improve Digital Ability in Queensland.

Figure 2: Queensland and Australia sub-index trends (2014–2017)



Source: Roy Morgan Research, April 2016–March 2017

Table 3: Queensland and Australia sub-index trends over time (2014–2017)

2017	Queensland				Australia			
	2017	2016	2015	2014	2017	2016	2015	2014
ACCESS								
Internet Access	84.5	84.2	83.1	83.4	85.3	84.4	83.3	82.7
Internet Technology	71.7	68.2	63.5	62.0	72.1	68.6	64.7	62.3
Internet Data Allowance	50.9	45.7	41.3	40.8	51.2	45.5	42.4	41.6
	69.0	66.0	62.7	62.1	69.6	66.2	63.5	62.2
AFFORDABILITY								
Relative Expenditure	46.2	45.7	51.6	53.5	46.8	47.9	53.4	56.0
Value of Expenditure	56.9	53.4	49.6	49.3	58.5	54.5	50.6	51.0
	51.6	49.6	50.6	51.4	52.7	51.2	52.0	53.5
DIGITAL ABILITY								
Attitudes	48.5	48.3	47.1	45.7	50.1	49.0	47.8	46.0
Basic Skills	50.9	50.8	49.7	47.8	53.3	51.6	49.9	47.2
Activities	36.6	36.0	35.4	34.6	38.4	37.3	36.2	34.2
	45.3	45.0	44.1	42.7	47.3	46.0	44.6	42.4
DIGITAL INCLUSION INDEX	55.3	53.5	52.4	52.1	56.5	54.5	53.4	52.7

Source: Roy Morgan Research, April 2016–March 2017

Geography

Geography plays a critical role in the uneven distribution of digital inclusion within the Queensland population, with differences particularly evident between rural and urban areas

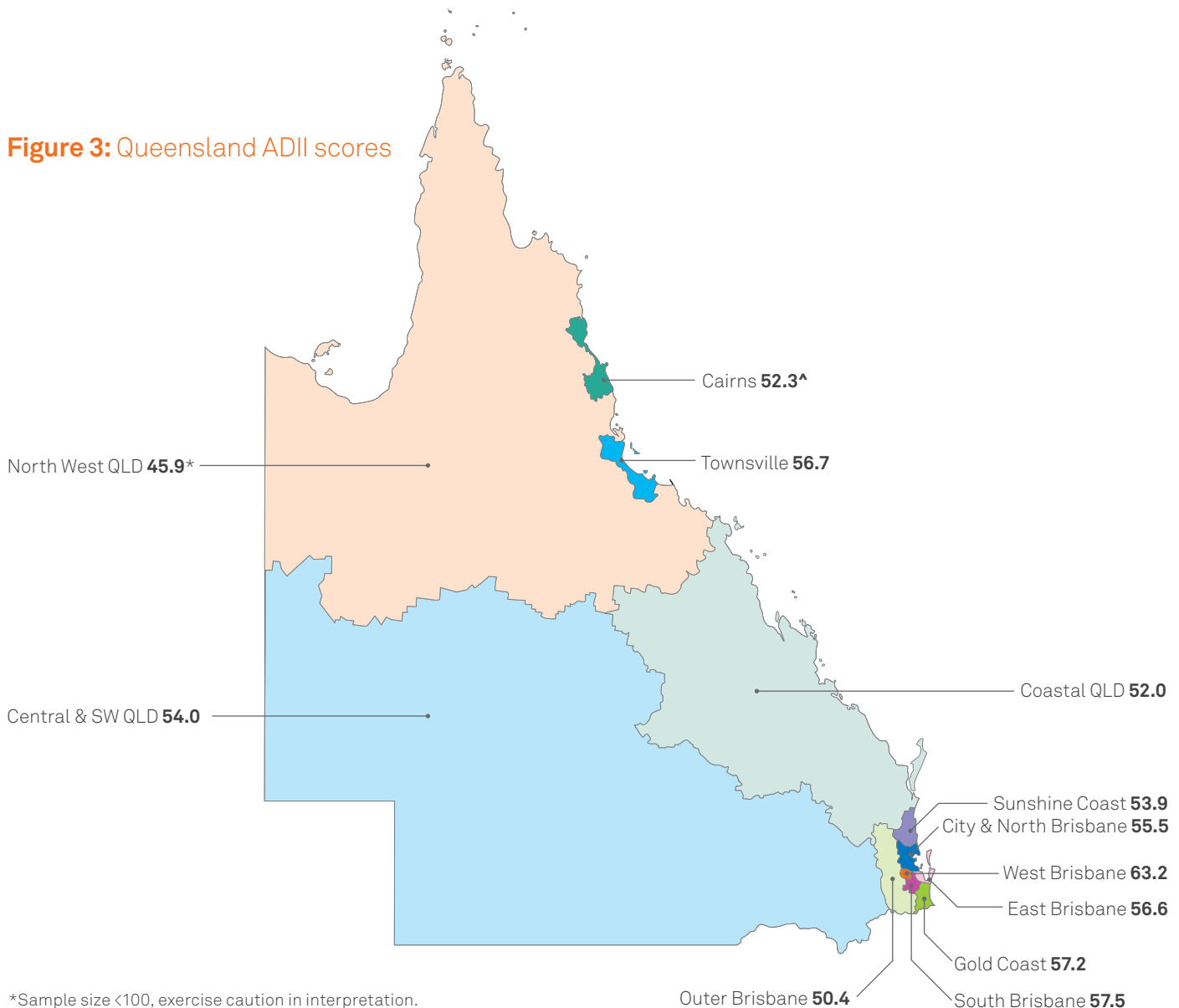
The ADII score for rural Queenslanders is 51.7, compared with 56.8 for people living in the state capital Brisbane, a Capital-Country gap of 5.1 points. This gap occurs across all three sub-indices: Access (gap of 3.3), Digital Ability (gap of 5.4), and Affordability (gap of 6.7). The difference between the Affordability scores for rural Queenslanders (46.9) versus those in the capital city (53.6), is underpinned by

rural Queenslanders both spending a greater proportion of their income on network access (Relative Expenditure) and receiving less network data access per dollar spent (Value of Expenditure) than those in the state capital. Of some concern is that while the Capital-Country gap narrowed over the period 2014-2017 in relation to Access and Digital Ability, it has actually widened for Affordability.

Digital inclusion varies widely across the three rural areas of Queensland for which ADII data is available. While Central and South West Queensland (54.0) and Coastal Queensland (52.0) both record 2017 ADII scores within 3.5 points of the state average, North West Queensland* (45.9) falls 9.4 short. North West Queensland (45.9) is the second least digitally included region for which ADII data is available (after Burnie and Western Tasmania* on 44.1).

As discussed in detail in Case Study 1 of this report (p. 14), there is substantial variation in the level and nature of digital inclusion in Queensland's four major regional centres. With an ADII score of 57.2, the Gold Coast's ADII score not only exceeds that of its regional centre counterparts, but also the state average (55.3) and Brisbane (56.8). Townsville recorded the second highest ADII score of the regional centres (56.7), followed by the Sunshine Coast (53.9) and Cairns (52.3). Both the Gold Coast and Townsville registered significant improvements in digital inclusion over 2014-2017, while improvements in Sunshine Coast and Cairns have been modest at best.

Figure 3: Queensland ADII scores



*Sample size <100, exercise caution in interpretation.
 ^Due to sample size limitations, 2017 data for Cairns is the result of a 2-year aggregation (April 2015-March 2017)
 Source: Roy Morgan Research

Table 4: Urban, rural and regional Queensland sub-index scores 2017

2017	Queensland	Brisbane	Rural Queensland	Brisbane Regions					Gold Coast	Sunshine Coast	Central & SW Queensland	Coastal Queensland	Cairns [^]	Townsville	North West Queensland*
				City & Northern	Western	Southern	Eastern	Outer							
ACCESS															
Internet Access	84.5	84.5	83.2	82.3	92.0	87.1	83.6	76.6	86.5	82.7	85.5	84.2	82.4	88.2	74.7
Internet Technology	71.7	72.8	69.7	73.3	74.5	73.5	72.2	66.2	73.0	67.8	71.5	70.5	65.6	75.8	62.5
Internet Data Allowance	50.9	52.3	47.0	51.5	57.3	52.1	54.1	44.1	52.9	48.7	47.8	48.1	44.9	54.6	40.8
	69.0	69.9	66.6	69.0	74.6	70.9	69.9	62.3	70.8	66.4	68.3	67.6	64.3	72.8	59.4
AFFORDABILITY															
Relative Expenditure	46.2	47.9	41.4	48.2	48.7	46.8	46.9	51.0	50.4	48.8	43.6	40.4	44.1	43.7	41.3
Value of Expenditure	56.9	59.4	52.4	59.6	68.6	57.9	58.6	49.5	59.1	52.3	57.8	51.9	50.4	59.4	44.1
	51.6	53.6	46.9	53.9	58.7	52.4	52.7	50.2	54.8	50.5	50.7	46.2	47.2	51.6	42.7
DIGITAL ABILITY															
Attitudes	48.5	49.8	43.9	46.5	59.4	52.6	49.7	40.1	54.0	48.8	47.2	43.6	45.8	48.3	38.8
Basic Skills	50.9	53.1	47.1	49.7	63.4	54.1	54.0	46.5	49.0	49.4	47.3	49.2	51.7	51.2	37.4
Activities	36.6	37.8	33.6	34.3	46.1	41.1	38.1	29.6	34.7	36.0	34.2	34.1	38.9	37.6	30.6
	45.3	46.9	41.5	43.5	56.3	49.3	47.3	38.7	45.9	44.7	42.9	42.3	45.5	45.7	35.6
DIGITAL INCLUSION INDEX	55.3	56.8	51.7	55.5	63.2	57.5	56.6	50.4	57.2	53.9	54.0	52.0	52.3	56.7	45.9

*Sample size <100, exercise caution in interpretation. ^ Due to sample size limitations, 2017 data for Cairns is the result of a 2-year aggregation (April 2015–March 2017) **Source:** Roy Morgan Research, April 2016–March 2017

Demographics

Echoing patterns in the national figures, digital inclusion in Queensland tends to improve as income, employment participation, and education levels increase

Income, employment and education

The ADII highlights the social and economic aspects of differences in digital inclusion for Queensland. Echoing patterns in the national figures, digital inclusion in Queensland tends to improve as income, employment participation, and education levels increase.

In 2017, Queenslanders in the top household income quintile (Q1) have an ADII score of 65.6, some 10.3 points above the state average (55.3). Queenslanders in the lowest household income have a much lower score (40.7), 14.6 points below the state average and 24.9 points below their high household income counterparts. This digital inclusion ‘income gap’ has widened slightly between 2014–2017, with the improvement achieved by the low household income group (up 2.5) outpaced by the high household income group (up 3.0). The implications of the digital divide for Queensland’s low-income families are outlined in Case Study 3 (p. 20).

The ADII scores for employed Queenslanders have improved steadily since 2014. Being employed is a clear advantage for digital

inclusion, with those employed full-time recording an ADII score of 60.1 in 2017 (up 3.2 since 2014) and those employed part-time scoring 59.1 (up 2.3 since 2014). By contrast, Queenslanders with no employment recorded a 2017 score of only 49.2: an ‘employment gap’ of 10.9 points when compared with full-time workers. Nevertheless, the score for those with no employment has improved slightly faster than the score for both part and full-time workers since 2014, indicating that the ‘employment gap’ is slowly closing (up 3.4).

Education also plays a key role. In 2017, there is a 13.5 point gap between Queenslanders who completed university (60.8) and those who didn’t finish secondary school (47.3). Nevertheless, the latter group (up 4.0 since 2014) is closing the gap with their tertiary-educated counterparts (up 3.3 since 2014). The components that make up the Digital Ability sub-index provide a particularly revealing insight into the Queensland ‘education gap’. While those with a tertiary education scored 54.0 on Attitudes, 61.8 for Basic Skills, and 45.6 for Activities, those who didn’t complete secondary school scored 39.2 on Attitudes (gap of 14.8), 35.6 on Basic Skills (gap of 26.2), and 24.5 on Activities (gap of 21.1).

The digital inclusion scores recorded by Queenslanders who didn’t complete secondary school indicate they have fewer of the skills needed to effectively use digital technologies for employment, leisure, and educational purposes. The data also suggest this group has less positive attitudes about the advantages of digital technologies. On the other hand, Queenslanders who have been engaged with formal education for longer are more positive about the role of digital technologies in society and have developed the knowledge and skills to use them for a range of purposes.

Table 5: Queensland ADII household income, employment, and education indicators 2017

2017	Queensland	Income Quintiles					Employment			Education		
		Q1	Q2	Q3	Q4	Q5	Full-Time	Part-Time	None	Tertiary	Secondary	Less
ACCESS												
Internet Access	84.5	92.7	90.4	88.6	81.3	69.6	89.5	89.4	77.8	91.2	84.4	75.7
Internet Technology	71.7	78.2	76.6	75.1	68.0	58.3	76.2	76.3	65.6	76.2	72.2	65.3
Internet Data Allowance	50.9	61.1	56.7	55.0	46.3	35.1	57.7	55.9	42.5	56.5	53.9	40.9
	69.0	77.3	74.5	72.9	65.2	54.3	74.5	73.8	61.9	74.6	70.2	60.6
AFFORDABILITY												
Relative Expenditure	46.2	66.7	54.1	40.0	29.8	26.3	50.7	41.1	44.6	46.2	43.9	48.4
Value of Expenditure	56.9	62.9	62.2	60.5	53.0	42.3	60.4	63.5	50.8	62.0	59.6	47.9
	51.6	64.8	58.1	50.3	41.4	34.3	55.5	52.3	47.7	54.1	51.7	48.1
DIGITAL ABILITY												
Attitudes	48.5	57.0	51.6	50.6	42.6	36.1	52.3	53.2	42.9	54.0	50.6	39.2
Basic Skills	50.9	62.6	59.1	54.9	42.0	37.7	58.1	57.9	41.2	61.8	51.9	35.6
Activities	36.6	44.4	41.3	39.8	28.8	26.8	40.7	42.8	29.9	45.6	36.6	24.5
	45.3	54.7	50.7	48.4	37.8	33.5	50.4	51.3	38.0	53.8	46.4	33.1
DIGITAL INCLUSION INDEX	55.3	65.6	61.1	57.2	48.1	40.7	60.1	59.1	49.2	60.8	56.1	47.3

Source: Roy Morgan Research, April 2016–March 2017

Age and gender

Queenslanders aged 35–49 have recorded the greatest gain of all age groups since 2014 (up 6.4), with improvements across all three sub-indices. They are now the most digitally included age group in Queensland, with a score of 61.6 in 2017. This score is only marginally higher than that of younger Queenslanders (25–34 years: 60.8; 14–24 years: 59.0). However, digital inclusion drops away sharply for older age groups, particularly for Queenslanders aged 65+ (41.3), but also for the 50–64 age group (52.4). It should be noted that the pattern of declining digital inclusion with age is also evident for sub-age cohorts within the broad 65+ age group, with Queenslanders aged 80+ recording an ADII score of 31.2.

The ADII score increased for Queenslanders aged 65+ between 2014–2017 (up 3.6), narrowing the gap with the state average. Since 2014, those aged 65+ recorded strong gains on the Access sub-index (up 10.6) and Digital Ability (up 6.7), however these improvements were largely offset by a decline in the Affordability sub-index (down 6.6), due to a substantial increase in the proportion of household income spent by those aged 65+ on network access.

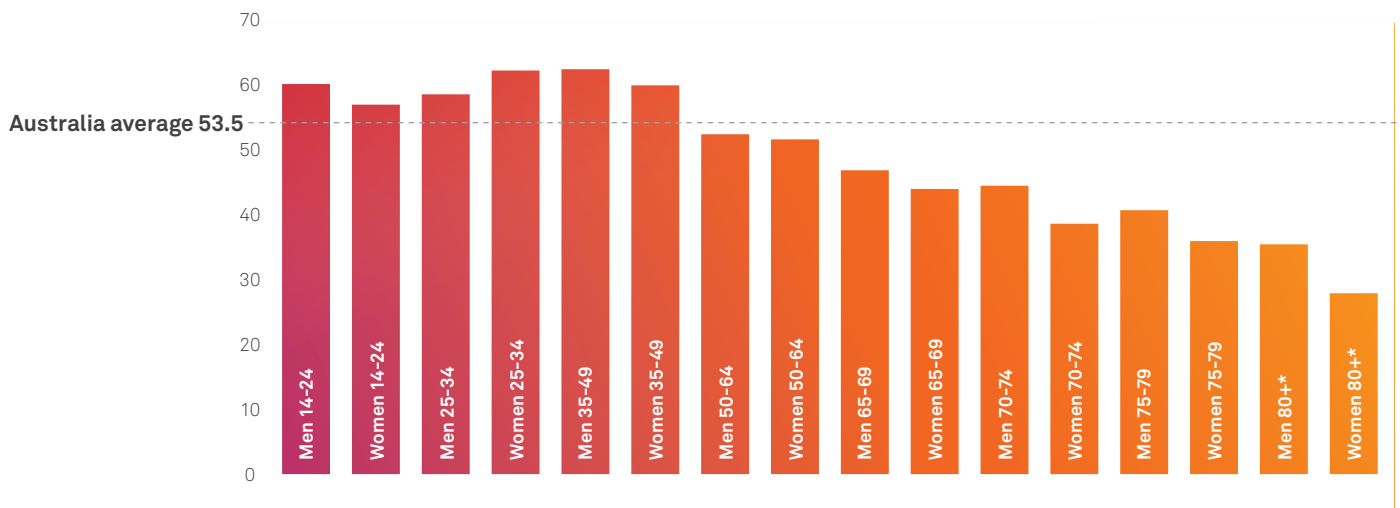
At an aggregate level, only small differences in digital inclusion are evident between Queensland women and men (gap of 1.8 in favour of men). However, more significant fluctuations appear when gender is disaggregated on the basis of age. In the 14–24 age range, there is a 3.2-point gap in favour of men. In the 25–34 age range, this is reversed, with a 3.7-point gap in favour of women. For all older age cohorts, men are more digitally included than women, particularly for those aged 70+ and peaking at 80+ (gap of 7.6 in favour of men).

Table 6: Queensland ADII by gender and age 2017

2017	Queensland	Gender		Age				
		Men	Women	14-24	25-34	35-49	50-64	65+
ACCESS								
Internet Access	84.5	85.1	84.0	88.1	90.1	91.0	83.8	67.6
Internet Technology	71.7	73.0	70.4	75.0	75.8	77.5	70.6	58.0
Internet Data Allowance	50.9	53.1	48.9	53.1	61.6	59.3	47.5	31.4
	69.0	70.4	67.8	72.1	75.8	75.9	67.3	52.4
AFFORDABILITY								
Relative Expenditure	46.2	47.7	44.9	50.3	41.2	47.1	45.9	46.3
Value of Expenditure	56.9	58.6	55.3	59.6	62.0	63.6	55.5	42.2
	51.6	53.2	50.1	55.0	51.6	55.4	50.7	44.2
DIGITAL ABILITY								
Attitudes	48.5	51.3	45.7	61.9	55.5	53.9	39.5	32.1
Basic Skills	50.9	49.0	52.7	48.5	63.1	62.4	47.2	30.5
Activities	36.6	35.2	37.9	39.8	46.9	44.7	30.6	19.8
	45.3	45.2	45.4	50.0	55.2	53.6	39.1	27.4
DIGITAL INCLUSION INDEX	55.3	56.2	54.4	59.0	60.8	61.6	52.4	41.3

Source: Roy Morgan Research, April 2016–March 2017

Figure 4: Queensland ADII by gender and age 2017



Queenslanders with a disability

In 2017, Queenslanders with a disability have an ADII score of 48.6. While the score is 6.7 points below the state average, the gap is narrowing: Queenslanders with a disability have recorded a 5.7-point improvement since 2014, versus the state average improvement of 3.2 points. However, strong gains in Access (up 9.0) and Digital Ability (up 12.1) since 2014 have been partly offset by a decrease in Affordability (down 3.9). The Relative Expenditure sub-index is particularly concerning for Queenslanders with a disability (down 14.7), indicating an increase in the proportion of household income spent on network access.

It is important to note that the ADII defines people with a disability as those who receive either the Disability Support Pension (DSP) or the Department of Veteran's Affairs disability pension, and therefore only represents a subset of the wider community of Queenslanders with a disability.

Indigenous Queenslanders

In 2017, the national digital inclusion score for Indigenous Australians (49.5) is 7.0 points lower than the overall Australian score (56.5), although the gap has narrowed over the past three years (down from 9.2 points in 2015). Access and Ability have improved significantly for Indigenous Australians since 2015, while Affordability has improved only slightly, with value of expenditure a major concern (12.7 points below the national average). The latter reflects the very high incidence of mobile-only users amongst Indigenous Australians – some 49% compared to 21.3% for the Australian population. Mobile connections carry higher per cost per data unit than fixed connections.

In 2017, Indigenous Queenslanders have an ADII score of 47.4* (7.9 points below the state average). There has been an improvement for Indigenous Queenslanders of 3.6 points since 2014, which slightly outpaces the state increase of 3.2 points during this time. This indicates that the digital inclusion gap between Indigenous Australians and others living in Queensland has narrowed. While it should be noted that the sample size for Indigenous Queenslanders is below 100 and should therefore be treated with caution, these state trends match national level data where the sample size is larger.

Queenslanders who speak a Language Other Than English at home (LOTE)

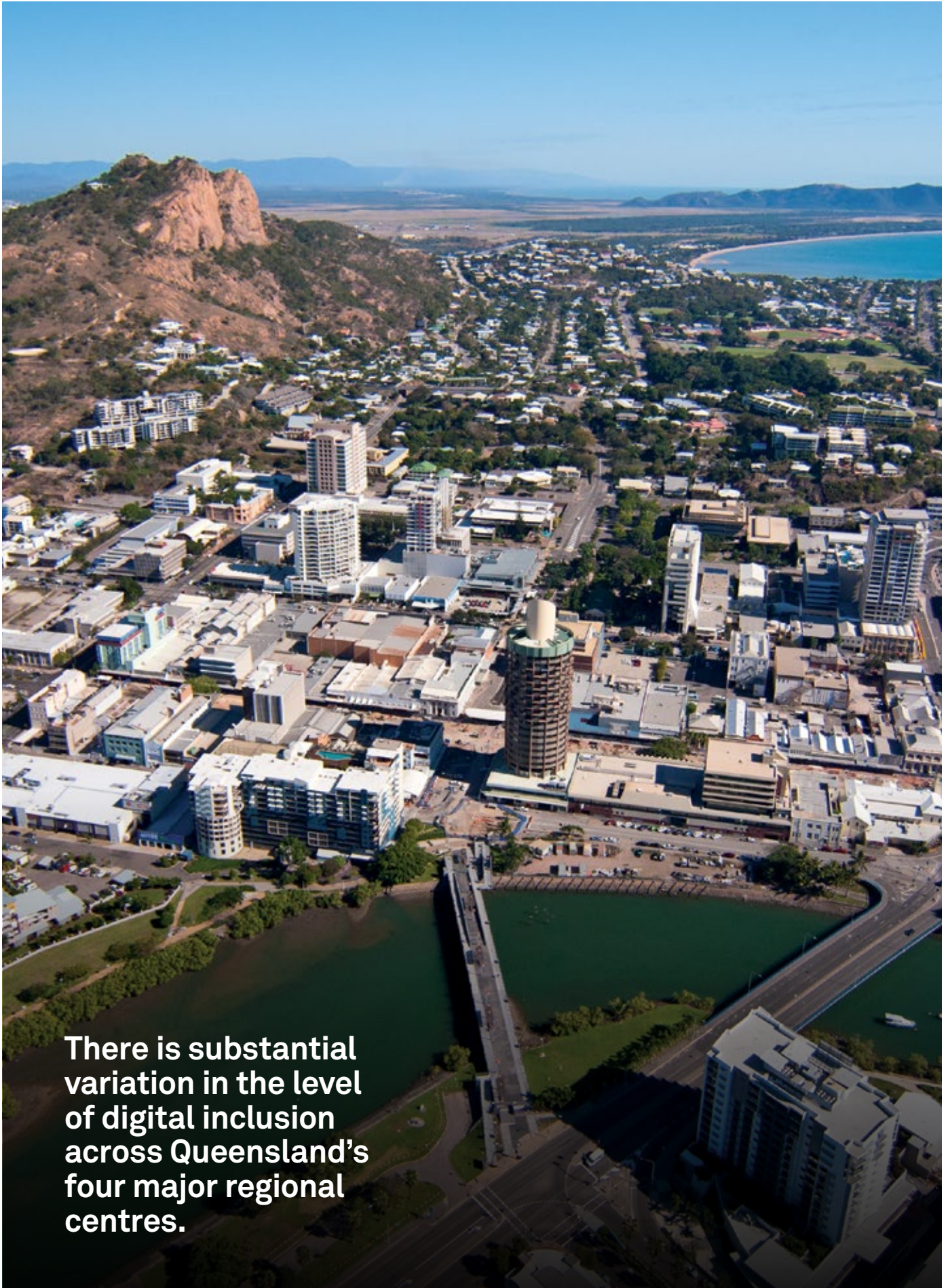
LOTE Queenslanders have an ADII score of 56.6 in 2017 (1.3 points above the state average), and scores for this group have risen consistently since 2015. Of course, Queenslanders who speak languages other than English represent a highly diverse group of people and it should not be assumed that all LOTE Queenslanders experience high levels of digital inclusion.

Table 7: Queensland selected population groups 2017

	Queensland	Disability	Indigenous*	LOTE	Australia	Disability	Indigenous	LOTE
2017								
ACCESS								
Internet Access	84.5	73.8	75.0	88.1	85.3	73.0	76.4	87.7
Internet Technology	71.7	64.8	59.5	73.5	72.1	63.3	64.1	74.3
Internet Data Allowance	50.9	43.9	40.0	53.3	51.2	42.4	44.4	56.5
	69.0	60.8	58.2	71.6	69.6	59.6	61.7	72.8
AFFORDABILITY								
Relative Expenditure	46.2	33.8	53.4	46.7	46.8	37.1	45.5	49.0
Value of Expenditure	56.9	54.1	42.8	57.3	58.5	51.6	45.8	62.2
	51.6	44.0	48.1	52.0	52.7	44.3	45.7	55.6
DIGITAL ABILITY								
Attitudes	48.5	43.3	43.3	54.5	50.1	40.7	51.2	56.2
Basic Skills	50.9	46.0	37.8	45.6	53.3	41.2	41.4	52.5
Activities	36.6	33.6	27.2	38.2	38.4	29.5	30.9	39.9
	45.3	41.0	36.1	46.1	47.3	37.1	41.2	49.6
DIGITAL INCLUSION INDEX	55.3	48.6	47.4	56.6	56.5	47.0	49.5	59.3

*Sample size <100, exercise caution in interpretation.
Source: Roy Morgan Research, April 2016–March 2017

Case Study 1



There is substantial variation in the level of digital inclusion across Queensland's four major regional centres.

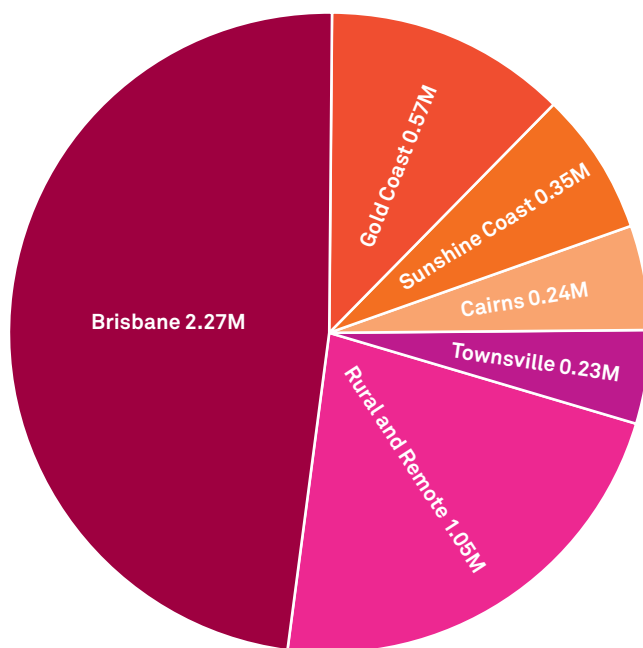
Cairns, Townsville, the Sunshine Coast, and the Gold Coast: a tale of four regions

Queensland is Australia's most decentralised state, with the population spread between Brisbane (2.27 million people), four major regional centres (1.39 million), and rural and remote areas (1.05 million).⁴ There are also local variations between the regions in terms of economic activity, demography, and socio-cultural attributes, which contribute to distinct digital inclusion outcomes.

This case study provides an examination of digital inclusion in Queensland's four major regional centres: Townsville, Cairns, the Sunshine Coast, and the Gold Coast. Drawing on an analysis of the detailed components that comprise the ADII index, and economic, demographic, and socio-cultural trends from external sources⁵,

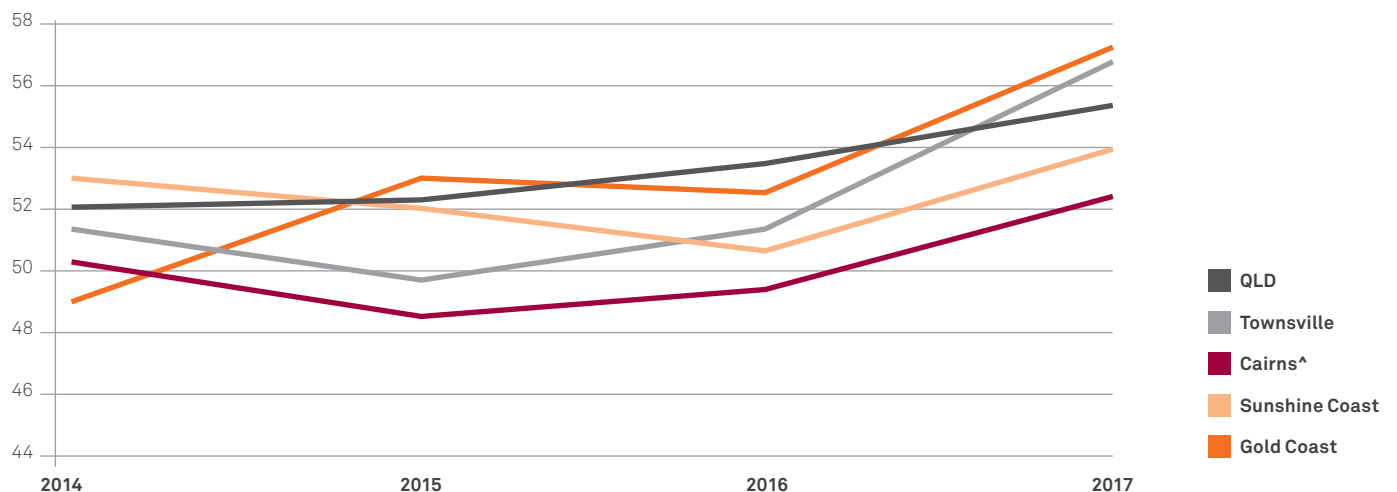
Figure 5: Queensland population distribution 2016

Queensland Population: 4.7 million people



Source: Australian Bureau of Statistics, Census of Population and Housing 2016

Figure 6: Townsville, Cairns, Sunshine Coast and Gold Coast digital inclusion over time (2014–2017)



[^]Due to sample size limitations, 2017 data for Cairns is the result of a 2-year aggregation (April 2015–March 2017).
Source: Roy Morgan Research, April 2016–March 2017

the case study highlights some of the digital inclusion challenges faced by each of the regional centres and points to current or potential interventions.

The regional centres

There is substantial variation in the level of digital inclusion across Queensland's four regional centres. In 2017, Gold Coast has the most digitally included population; its score (57.2) exceeds both the state average (55.3) and Brisbane's score (56.8). Townsville recorded the second highest score (56.7) of the regional centres in 2017, followed by the Sunshine Coast (53.9) and Cairns (52.3).⁶

Both the Gold Coast (up 8.2) and Townsville (up 5.3) registered significant improvements in digital inclusion over 2014–2017. Improvements in the Sunshine Coast (up 1.0) and Cairns (up 2.1) have been more modest.

Table 8: Townsville, Cairns, Sunshine Coast, and Gold Coast sub-index trends 2017

	Queensland	Brisbane	Rural Queensland	Townsville	Cairns [^]	Sunshine Coast	Gold Coast
2017							
ACCESS							
Internet Access	84.5	84.5	83.2	88.2	82.4	82.7	86.5
Internet Technology	71.7	72.8	69.7	75.8	65.6	67.8	73.0
Internet Data Allowance	50.9	52.3	47.0	54.6	44.9	48.7	52.9
	69.0	69.9	66.6	72.8	64.3	66.4	70.8
AFFORDABILITY							
Relative Expenditure	46.2	47.9	41.4	43.7	44.1	48.8	50.4
Value of Expenditure	56.9	59.4	52.4	59.4	50.4	52.3	59.1
	51.6	53.6	46.9	51.6	47.2	50.5	54.8
DIGITAL ABILITY							
Attitudes	48.5	49.8	43.9	48.3	45.8	48.8	54.0
Basic Skills	50.9	53.1	47.1	51.2	51.7	49.4	49.0
Activities	36.6	37.8	33.6	37.6	38.9	36.0	34.7
	45.3	46.9	41.5	45.7	45.5	44.7	45.9
DIGITAL INCLUSION INDEX	55.3	56.8	51.7	56.7	52.3	53.9	57.2

[^]Due to sample size limitations, 2017 data for Cairns is the result of a 2-year aggregation (April 2015–March 2017).
Source: Roy Morgan Research, April 2016–March 2017

Table 9: Selected population characteristics
(Townsville, Cairns, Sunshine Coast and Gold Coast)

2017	ADII	Population	Median age (years)	% population aged 65+	Median household income (\$/weekly)	Unemployment Rate*	Labour force participation Rate*	Did not complete school ^{#,^^}	Degree or higher qualification [#]
Townsville	56.7	229,031	36	13.7%	1,346	11.3%	60.7%	43.9%	12.6%
Cairns [^]	52.3	240,190	39	15.2%	1,216	7.3%	62.6%	43.1%	12.3%
Gold Coast	57.2	569,997	39	16.5%	1,397	5.3%	68.2%	38.8%	14.4%
Sunshine Coast	53.9	346,522	44	20.9%	1,254	5.0%	58.4%	43.4%	14.2%
QUEENSLAND	55.3	4,703,193	37	15.3%	1,392	6.2%	66.1%	40.5%	15.9%

All data *ABS Census of Population and Housing 2016* unless indicated

*ABS Census of Population and Housing 2016 (15+ population) and Australian Government Department of Employment, Small Area Labour Markets, March 2017 (labour force).

#Census of Population and Housing 2011 (% of applicable population)

^^ % of applicable population

Townsville

After a slight decline between 2014–2015, Townsville recorded a steady annual improvement to reach an ADII score of 56.7 in 2017. This places Townsville second only to the Gold Coast in a cross-region comparison and on par with Brisbane (56.8). Townsville's Access score (72.8) is also 3.8 points above the state average. This result is largely underpinned by household uptake of National Broadband Network (NBN) services. By 2017, 58,000 Townsville premises were NBN connected and more than one third of the population had an NBN internet service.⁷

While Townsville's overall Affordability sub-index result matches the state average, it does not perform well on the relative expenditure dimension of the ADII. Since 2014, Townsville residents have been spending more on online services, while real (inflation-adjusted⁸) household incomes have fallen, largely due to the downturn in the mining sector.

The Digital Ability score for Townsville (45.7) is slightly above the state average (45.3), in part due to the relatively young population of the city (digital ability levels tend to be lower for those aged 50+). However, it is lower than the Australian average (47.3). Townsville has a high unemployment rate (11.3% in March 2017 versus the state average of 6.2%), and digital upskilling can help unemployed residents adjust to the changing nature of economic activity. A sharp decline in labour force participation suggests many people there have simply given up the process of looking for work.⁹

While Townsville has benefitted from the early rollout of NBN infrastructure, a decline in economic conditions in the region since 2014 has put pressure on the affordability aspects of digital inclusion. Maintaining high levels of digital access in the face of these pressures may be difficult and should be closely monitored. Programs aimed at improving digital skills and encouraging digital entrepreneurialism will be important in diversifying local economic activity in response to changes in the mining sector. Current interventions in this space include the locally developed Mixhaus Digital Participation Project and the state government's *Digital Skills for all Queenslanders Roadshow and Advance Queensland Community Digital Champions program*.¹⁰

Cairns

Similar to Townsville, Cairns recorded a slight decline in its ADII score between 2014–2015, before steady annual growth to reach 52.3 in 2017. Despite this improvement, Cairns' score is 3.0 points below the state average (55.3).

The Access sub-index score for Cairns (64.3) is lower than the state average (69.0). This result is influenced by a number of factors. First, Cairns residents are less likely than the average Queenslanders to access the internet daily. Second, when compared to the state average, Cairns residents are less likely to have fixed or mobile data connections, or to own the internet enabled devices that make use of such connections (including computers, tablets, and mobile phones). Third, those with access maintain smaller data plans than the average Queenslanders. Although it is not possible to clearly identify causes for this lower level of connectivity, lower levels of confidence vis-à-vis technology use may be a factor.

Another issue that may be influencing the rate of connectivity in Cairns is cost: Cairns' Affordability score (47.2) is 4.4 points below the state average. Both the value of expenditure component (which measures the cost per megabyte of data access) and the relative expenditure component (which measures the proportion of household income spent on access) contribute to Cairns' lower Affordability score. Relative expenditure is largely an issue of lower income – Cairns has a median household income 13% below the state average. Consistently high levels of unemployment over the past five years and shrinking labour force participation have contributed to these lower income figures.¹¹ Recent job growth across a range of industries points to local economic diversification and the likely household income growth.¹²

Overall, digital inclusion in Cairns is lower than the Queensland average due to poor Access and Affordability. Recent improvements in local economic conditions point to the potential for job and household income growth, which will positively affect digital inclusion. Furthermore, state government and local programs such as the Cairns and Tropical North Queensland Digital Enterprise Scheme and D:HIVE (an Indigenous-led digital inclusion and innovation incubator), should not only directly increase levels of digital confidence and skills, but also create new jobs.¹³ Cairns has had some success already, with a greater density of start-ups per capita than South East Queensland.¹⁴

Sunshine Coast

Since 2014, there has been an overall ADII score increase of only 1.0 point in the Sunshine Coast. The region's score declined over 2014–2016, and despite an increase in 2017 (up 3.3 to 53.9), the Sunshine Coast remains 1.4 points below the state average and is the second lowest of Queensland's major regional centres. In 2017, the region reports below state average scores for all of the ADII sub-indices, and since 2014, only the Access sub-index has improved.

It is at this fundamental level of Access that the Sunshine Coast records its poorest result compared with the rest of the state (66.4, or 2.7 points below the state average). On average, fewer Sunshine Coast residents regularly use the internet than other Queenslanders, and a large number have never accessed the internet at all. Despite the rollout of the NBN in late 2016, the proportion of Sunshine Coast residents with NBN or fixed data connections remains substantially below the state average.¹⁵ What's more, those with fixed connections tend to have smaller data plans than the Queensland average.

The key factor contributing to the Sunshine Coast's lower ADII score is the high proportion of its residents aged 65+ (up from 16.5% to 20.9% in the decade to 2016, compared with 15.3% of all Queenslanders).¹⁶ While sample size limitations preclude us from deriving specific ADII scores for this group, our state and national data indicate that overall levels of digital inclusion for this group are substantially below average.

Although there has been significant policy work and investment on innovation, infrastructure, and skills for developing a local digital economy in this region (through the *Digital Sunshine Coast plan*¹⁷), it is important that a broader approach to digital inclusion for an ageing resident base is also promoted. Initiatives such as Tech Savvy Seniors, a collaboration between Telstra and the Queensland government, seek to address issues of digital skills for seniors. Encouraging the deployment of digital infrastructure in the Sunshine Coast's increasing stock of aged care facilities may also enable better digital access.¹⁸

Gold Coast

The ADII score for the Gold Coast has increased substantially since 2014 – it now has the highest ADII score of Queensland's major four regional centres (57.2). This is higher than both the state average (55.3) and Brisbane (56.8). This result is largely underpinned by continuous improvements in the Access sub-index. An increasing proportion of Gold Coast residents have become regular internet users, signing up to the NBN (launched in 2014)¹⁹, and taking up larger mobile and fixed data plans. Increasing connectivity has been accompanied by rising levels of interest and confidence in using technology, reflected in the region's high Attitudes score (5.5 points above the state average and 4.2 points above Brisbane).

In 2017, the Gold Coast's Affordability score (54.8) is 3.2 points above the state average. The Gold Coast outperforms the state average in terms of lower cost per megabyte of network access (value for expenditure) and lower household income expended on network access (relative expenditure). Improvement in the latter is underpinned by strong household income growth. Between 2011–2016 the Gold Coast's median household income rose by 19.9% (10.1% in real terms) and now exceeds the Queensland average.

There is a strong relationship between household income, employment/labour force participation, and levels of educational attainment. As such, it is no surprise that the Gold Coast outperforms its regional city counterparts on all of these measures. However, the region's success is also underpinned by an array of local policy and program initiatives aimed at meeting a range of needs. For example, the Helensvale Library's Media Lab provides digital tools and training to the public, while Able Australia's Southport location conducts digital literacy programs via Ablelink, an e-communications centre for people with deaf-blindness.²⁰

For further consideration

The distinct level, nature, and trajectory of digital inclusion in each of Queensland's four major regional centres points to a clear need for policy and program initiatives that are locally-oriented

The distinct level, nature, and trajectory of digital inclusion in each of Queensland's four major regional centres points to a clear need for policy and program initiatives that are locally-oriented, even if they are coordinated at the state or federal level. In the northern cities of Townsville and Cairns, which have suffered from a downturn in the resources sector, digital inclusion strategies might

be best targeted at improving digital confidence and skills, as well as encouraging digital entrepreneurialism. While this type of production-oriented digital economy strategy is clearly being pursued on the Sunshine Coast, it is important that the benefits of digital participation on the consumption side are also promoted in the region, particularly to the growing retiree community. The latter might extend beyond skills training to consider digital infrastructure provision in existing and proposed retiree housing. Enthusiasm for digital participation is clearly on the rise among Gold Coast residents and this should be leveraged to build better digital skills across the community.

Case Study 2

Remote communities

Queensland is second only to Western Australia for the number of residents living remotely or very remotely²¹: almost 140,000 or 3% of Queenslanders live in remote or very remote locations.²² Because of the state's sheer size, and the importance of mining, energy, and beef cattle production, remote Queenslanders will continue to play a vital role in Queensland's diverse economy. In addition, remotely located Indigenous communities contribute to the state's rich and varied cultural life and heritage and so understanding and addressing the challenges of digital inclusion in these areas is essential.

Digital participation has the potential to reshape connections between remote Queenslanders and the rest of the world; with implications for employment, business, education, and community development. This opportunity for digital technologies to transform economic and social capital in rural and remote areas is well recognised, but distance remains a significant barrier to digital transformation for the outback economy.

The ADII confirms that the more remote your location, the more digitally excluded you are likely to be. In the 2016 ADII, North West Queensland (NWQ) was in the bottom three regions across the country, with a score of just 43.3. While NWQ's score rose to 45.9 in 2017 (up 2.6), it remains significantly lower than the state average (55.3 – 9.4 below), as well as the score for NWQ's closest regional centre Cairns (52.3 – 6.4 below). The disparity between digital inclusion for NWQ and the rest of the state is evident across all three sub-indices. Of particular note are: lower Internet Data Allowances (40.8 in NWQ compared with 50.9 across Queensland), lower Value of Expenditure (44.1 in NWQ compared with 56.9 across Queensland), and lower Basic Skills (37.4 versus 50.9 across Queensland).

Table 10: North West Queensland and comparator sub-index scores 2017

2017	North West Queensland*	Queensland	Brisbane	Rural Queensland	Cairns [^]
ACCESS					
Internet Access	74.7	84.5	84.5	83.2	82.4
Internet Technology	62.5	71.7	72.8	69.7	65.6
Internet Data Allowance	40.8	50.9	52.3	47.0	44.9
	59.4	69.0	69.9	66.6	64.3
AFFORDABILITY					
Relative Expenditure	41.3	46.2	47.9	41.4	44.1
Value of Expenditure	44.1	56.9	59.4	52.4	50.4
	42.7	51.6	53.6	46.9	47.2
DIGITAL ABILITY					
Attitudes	38.8	48.5	49.8	43.9	45.8
Basic Skills	37.4	50.9	53.1	47.1	51.7
Activities	30.6	36.6	37.8	33.6	38.9
	35.6	45.3	46.9	41.5	45.5
DIGITAL INCLUSION INDEX	45.9	55.3	56.8	51.7	52.3

[^]Due to sample size limitations, 2017 data for Cairns is the result of a 2-year aggregation (April 2015–March 2017).

*Sample size <100, exercise caution in interpretation
Source: Roy Morgan Research, April 2016–March 2017

Remote Queensland is home to a substantial number of Indigenous Australians who face particular digital inclusion challenges.

Indigenous Queenslanders are more likely to live remotely than non-Indigenous Queenslanders – 7% live in remote areas and 12% in very remote areas.²³ Other research provides insight into factors underlying inequities in Access, Affordability, and Digital Ability in remote Indigenous communities, including their experiences with NBN.²⁴ For example, most remote Indigenous communities, like other remote settlements, fall within the 'final 3%' of the population receiving improved satellite broadband services rather than FTTN or fixed mobile. Furthermore, a high proportion of Indigenous Queenslanders – around 40,000 or 20% – live in remote and discrete communities.²⁵ There are approximately 40 discrete communities which range in size from around 50 to just over 2,700 people. This presents a significant challenge to the provision of internet services and other opportunities for remote Indigenous Queenslanders to access digital literacy programs.

Table 11: Indigenous sub-index scores 2017

2017	Indigenous Australians	Australia	Rural Australia	Queensland	Queensland Rural	North West Queensland*
ACCESS						
Internet Access	76.4	85.3	80.8	84.5	83.2	74.7
Internet Technology	64.1	72.1	67.1	71.7	69.7	62.5
Internet Data Allowance	44.4	51.2	44.5	50.9	47.0	40.8
	61.7	69.6	64.1	69.0	66.6	59.4
AFFORDABILITY						
Relative Expenditure	45.5	46.8	43.2	46.2	41.4	41.3
Value of Expenditure	45.8	58.5	49.8	56.9	52.4	44.1
	45.7	52.7	46.5	51.6	46.9	42.7
DIGITAL ABILITY						
Attitudes	51.2	50.1	44.7	48.5	43.9	38.8
Basic Skills	41.4	53.3	46.9	50.9	47.1	37.4
Activities	30.9	38.4	33.0	36.6	33.6	30.6
	41.2	47.3	41.5	45.3	41.5	35.6
DIGITAL INCLUSION INDEX	49.5	56.5	50.7	55.3	51.7	45.9

*Sample size <100, exercise caution in interpretation

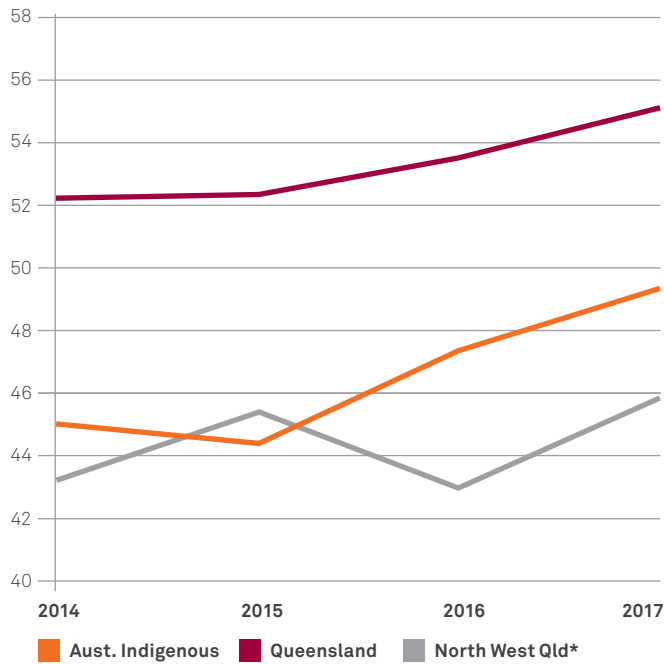
Source: Roy Morgan Research, April 2016–March 2017

Addressing digital inclusion for remote communities

In 2016, the Queensland Department of State Development, in partnership with the Commonwealth Government and Telstra, funded an optic fibre link between Doomadgee and Burketown in the State's North West. The 90.6 km cable and upgrades to the Burketown telecommunications exchange provide the community with access to high-speed broadband internet, 4G mobile phone services, and wi-fi hotspots that are more resilient during the wet season.²⁶ Furthermore, in 2017 a \$16.5 million, 550 km stretch of fibre optic cable was rolled out in Barcoo and Diamantina Shire Councils.²⁷

Elsewhere in Australia, mining companies have successfully partnered with government and telcos to build shared optic fibre networks for remote communities. For example, in 2009, a joint project between Telstra, the NT government, the Northern Land Council, and Rio Tinto saw 800 kms of optic fibre laid to connect nine indigenous communities. A year later, 95 kms of submarine

Figure 7: Indigenous Australians digital inclusion over time (2014-2017)



Source: Roy Morgan Research, April 2016–March 2017

cable and 3.5 kms of terrestrial cable were laid down to provide ADSL2+ to Alyangula in the NT (the Groote Eylandt Fibre Project, a partnership between IBM, BHP Billiton Gemco, and Telstra). In 2012, Telstra extended the fixed broadband network to four remote communities (Lajamanu, Kalkaringi, Papunya, Yuendumu).²⁸ This partnership model could be replicated in remote Queensland.

Remote Queenslanders have also recognised the need to leverage digital technology to drive regional development. The Remote Area Planning and Development Board (RAPAD) – a consortium of seven Western Queensland Councils comprising 22.9% of Queensland’s landmass – recently launched its strategic plan entitled, ‘Smart Central Western Queensland: a Digitally Enabled Community’.²⁹

Through this plan, RAPAD will pursue several digital inclusion projects including e-commerce skills development, virtual tourism, wi-fi hotspots, data sharing across Councils, and the establishment of a Drone Centre of Excellence.

Activ8me, Australia’s largest provider of NBN satellite services, is working with the Australian Government to improve digital connections for remote Indigenous communities. Since 2009, the Remote Community Telecommunications Program has provided 301 free-standing, free public telephones in remote and isolated Indigenous communities, including several in Queensland’s Cape York. Over 98% of phones have Wi-Fi installed providing free local Wi-Fi access within a 150-metre radius, with 25,065 gigabytes of data used between August 2013 and June 2015.³⁰

The Deadly Digital Communities program, an initiative of the State Library of Queensland and Telstra in partnership with Indigenous Knowledge Centres and local councils, is providing community-based digital literacy and technology training over two years for 26 remote and regional Indigenous communities in Queensland.³¹ Furthermore, Hitnet Innovations co-creates rich learning media (health information, apps, surveys, jobs information) with Indigenous communities and makes this digital content available on Hitnet Digital Hubs, free-standing kiosks with optional wi-fi (<http://www.hitnet.com.au/>). Digital literacy and inclusion of Indigenous Queenslanders is also being driven by the Yugambeh Language App, the first Indigenous language application for smart phones and tablets, which helps foster Indigenous language use.

For further consideration

The investment in infrastructure by mining companies could be better leveraged to provide internet access to Indigenous and non-Indigenous remote Queenslanders alike, as part of their corporate social responsibility plans. Digital literacy programs should be developed with Indigenous and remote Queenslanders to bolster digital activity and develop skills. These will need to be tailored to specific community needs. The replication of successful programs in remote communities will also be important, to bring appropriate programs to a greater number of remote Queenslanders. Finally, investment and activity should be fostered in digitally-enabled remote tourism infrastructure and experiences.



The more remote your location, the more digitally excluded you are likely to be.

Case Study 3



Digital inclusion is a significant issue for families, particularly as digital literacy and digital technologies become increasingly relevant in educational settings.

Education and low income families

Digital inclusion is a significant issue for families, particularly as digital literacy and digital technologies become increasingly relevant in educational settings. 'eHomework' tasks, such as online games, and literacy and numeracy quizzes are becoming commonplace in many schools. Students' take-home assignments often rely on internet access for research and students are regularly expected to present their work in word-processed form or using presentation software.

Household provision of technology impacts not only students' home access to technology; it also potentially impacts their access to technology at school. Following the 2013 Digital Education Advisory Group's report³², many schools began to implement 'Bring Your Own Device' (BYOD) programs to incorporate student-owned handheld devices and laptop computers into teaching and learning. The BYOD program shifts the cost of technology provision from schools to parents and caregivers. In Queensland, many Department of Education schools have trialled BYOD policies since 2013, with a focus on policy development at the local school level. However, the Teacher's Union has expressed concern about the provision of technology to low income students.³³

Digital literacy development also has significant implications for future employment. The Foundation for Young Australians points out that from 2012 to 2015 there was a 212% increase in the demand for digital literacy skills in job advertisements.³⁴ However, students from low income families tend to have lower levels of digital literacy proficiency than their peers.³⁵ The 2014 National Assessment Program ICT literacy data shows around seven in ten students from high socio-economic status (SES) backgrounds attained or exceeded the proficiency standard, while only four in ten students from low SES backgrounds reached the set standard.³⁶

The ADII suggests low income families in Queensland are less likely to score well on digital inclusion indicators

The ADII suggests low income families in Queensland are less likely to score well on digital inclusion indicators. For the purpose of this report, families are defined as those respondents who are parents with children under the age of 18 present in the household.³⁷

Low income families are those families with a household income in the Q5 bracket (under \$35,000). In 2017, approximately 103,000 Queensland families fell into this category, out of a total of 415,000 nationwide.³⁸ It is important to note that the Queensland ADII scores should be treated with caution as the sample size is relatively small (although the data are broadly consistent with national trends).

Queensland low income families register a lower ADII score on every sub-index than their high income counterparts (Q1 bracket, with a household income of \$150,000 or more). Low income families score 64.1 for Access, compared with 79.3 for high income families. The contrast is particularly stark when comparing Internet Data Allowance (high income, 64.4; low income, 45.6 – a gap of 18.8). This gap suggests that young people in low income families are likely to face greater restrictions in their internet use due to smaller data allowances than their peers in high income families.

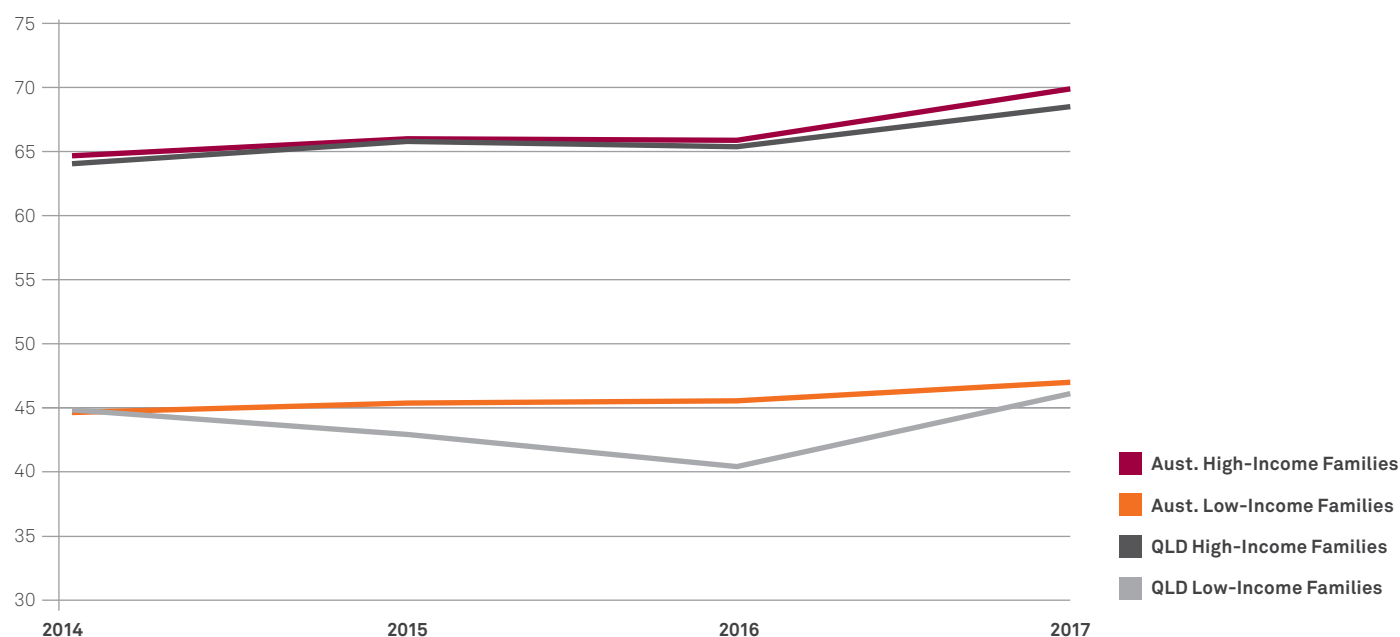
Table 12: Low and high income families sub-index scores 2017

2017	Queensland	Queensland Families	Queensland High-Income Families*	Queensland Low-Income Families*	Australia	Australian Families	Australian High-Income Families	Australian Low-Income Families
ACCESS								
Internet Access	84.5	91.6	93.4	80.4	85.3	92.0	95.6	83.9
Internet Technology	71.7	77.9	80.2	66.3	72.1	78.0	81.9	68.4
Internet Data Allowance	50.9	60.0	64.4	45.6	51.2	59.9	63.7	51.5
	69.0	76.5	79.3	64.1	69.6	76.6	80.4	67.9
AFFORDABILITY								
Relative Expenditure	46.2	43.4	65.7	16.4	46.8	44.1	67.0	11.7
Value of Expenditure	56.9	63.2	63.6	49.0	58.5	65.3	69.2	55.8
	51.6	53.3	64.7	32.7	52.7	54.7	68.1	33.8
DIGITAL ABILITY								
Attitudes	48.5	50.4	58.0	38.0	50.1	52.8	59.0	43.0
Basic Skills	50.9	61.4	71.2	51.7	53.3	63.7	73.7	48.9
Activities	36.6	43.6	48.9	37.3	38.4	44.6	52.3	32.7
	45.3	51.8	59.4	42.3	47.3	53.7	61.6	41.5
DIGITAL INCLUSION INDEX	55.3	60.5	67.8	46.4	56.5	61.7	70.0	47.7

Families are represented by respondents who are parents with children under 18 years living at home, high income is household income >\$150k, low income is household income <\$35k

*Sample size <100, exercise caution in interpretation. **Source:** Roy Morgan Research, April 2016–March 2017

Figure 8: Low and high income families, digital inclusion over time (2014-2017)



Source: Roy Morgan Research, April 2016–March 2017

The greatest contrast between high and low income families is in the Affordability sub-index, with low income families scoring just 32.7, compared with high income families on 64.7 (gap of 32.0)

The greatest contrast between high and low income families is in the Affordability sub-index, with low income families scoring just 32.7, compared with high income families on 64.7 (gap of 32.0). This places low income families among Australia’s least included groups when it comes to Affordability. This is consistent with reports such as the *Poverty, Social Exclusion and Disadvantage in*

Australia study, which found 63.7% of children living in Australia’s most excluded homes have no internet access at home.³⁹ It also reflects the Smith Family’s argument that the implementation of the Australian Curriculum was being undermined by the reality that up to one in five Australian children do not have access to the internet at home.⁴⁰ On the Relative Expenditure sub-index, there is a large difference between Queensland high income families (65.7) and low income families (16.4 – gap of 49.3). Indeed, internet access is a major strain on the budgets of low income families – they spend more than 4% of monthly household income on such access compared to the national average of 1.19%.

When it comes to Digital Ability, there is also a significant gap between low income Queensland families (42.3) and high income families (59.4 – gap of 17.1). This suggests children in low income

Queensland families are less likely to grow up in households where parents and caregivers have the same levels of capability and confidence with digital technologies as their peers, including those in middle-income families.

While data from the most recent ABS Census is not yet available, the 2011 Census identifies that approximately 69,000 Queensland families (households with children) had an income of less than \$600 per week, classifying them as low income, with over 20,000 Queensland families on less than \$400 per week. This reflects ABS data showing only 68% of children aged five to 14 in Australia’s most disadvantaged communities have access to the internet at home, compared with 91% of students from the most advantaged communities.⁴¹

The type of technology available to young people to complete school work at home can make a significant difference to their ability to keep up at school. It is likely that many Queensland families in the lowest income bracket (Q5: under \$35,000) have a mobile only internet connection. Therefore, while 2015 ABS data suggests 97% of households with children under 15 have internet access, it is important to recognise the type and quality of Access varies.⁴² We know that one in five Australians (more than four million) only access the internet through a mobile phone or internet dongle with a data allowance. While there are many benefits to mobile internet access, this group is relatively digitally excluded.⁴³ For example, for children and young people trying to undertake their school work in mobile-only families, completing many standard tasks may be difficult.

Digital inclusion initiatives for Queensland's families

A number of community organisations, charities and businesses are working on solutions for low income families at risk of digital exclusion. For example, since 2007, the Smith Family has provided 'Tech Packs' – affordable, refurbished, internet-ready computers, internet access, training, and technical support – to over 4,000 disadvantaged families around Australia, including many in Queensland. An independent evaluation of the program by Victoria University in 2010 reported social, economic, educational, and personal benefits for both parents and children, including: helping children with their school work, facilitating contact with family and friends, and providing conveniences such as shopping, banking, and looking for work.⁴⁴

In addition, in partnership with SAP Australia, The Smith Family has actively promoted low income students' participation in the 2017 Young ICT Explorer's competition, to encourage students to develop digital skills; as well as their problem solving, creativity, and presentation skills. They are also currently piloting or developing a number of new initiatives, including a digital literacy program for primary students, and the use of games to increase school attendance levels. Elsewhere, the 'Saver Plus' scheme – an initiative of Brotherhood of St Laurence and ANZ, delivered in partnership with local community organisations⁴⁵ and funded by ANZ and the Australian Department of Social Services – assists low income families to save for school-related items, including digital technologies. Participants make regular deposits into a dedicated savings account which is then matched by ANZ, up to \$500. The scheme has allowed Queensland parents to purchase laptop computers and other digital devices for school.

Several 'Advance Queensland Community Digital Champions' come from the education sector, with a strong emphasis on Science, Technology, Engineering, Mathematics (STEM), robotics, and coding. Teachers from all over Queensland go above and beyond their duties to develop extra-curricular programs, host coding clubs, involve schools in broader digital community events and programs, and share digital skills and resources with other schools.⁴⁶

For further consideration

Improving digital inclusion in education settings and for young people living in low income households should be a priority for government, the community sector, and business. Education authorities have an important role to play in ensuring all students have equitable access to technology and centralising support and policy direction to support schools to achieve this outcome. This is particularly important for BYOD schemes and expectations surrounding eHomework. There is a compelling argument that internet access is becoming an essential resource for families and that more could be done to ensure low income households do not miss out on being connected. The success of interventions such as The Smith Family's Tech Packs program might be replicated in a greater number of low income households across Queensland. The ongoing role of local libraries as resources for connection and spaces to complete work after school should also be acknowledged and supported.

Conclusion

Despite improvements in digital inclusion in Queensland, many Queenslanders are missing out on the opportunities of the online world. Digital inclusion is closely linked to geography, income, age, education, and other socioeconomic factors.

Digital inclusion across the three sub-indices

The ADII in Queensland illuminates three key dimensions of digital inclusion: Access, Affordability, and Digital Ability. It reveals how these factors change over time, according to social and economic circumstances, and across geographic locations.

Access has improved from 62.1 to 69.0 in 2017 (up 6.9).

Queenslanders are accessing the internet more often, using an increasingly diverse range of technologies, and they have more data than ever before. In part, this reflects improvements to network infrastructure, but it is largely due to greater data allowances and the growing range of devices people own. We note that our aggregate measures do not capture outcomes for some specific populations, including remote Indigenous communities.

Affordability is at a similar level to 2014, declining between 2014–2016 before recovering slightly in 2017. While the value of internet services has improved, this has been offset by a decline in the relative expenditure measure as Queensland households spend a growing proportion of their household income on access (up from 1.11% in 2014 to 1.21% in 2017).

Digital Ability has improved since 2014, with Attitudes up 2.8, Basic Skills up 3.1, and Activities up 2.0. However, all three components have increased from a low base, and Digital Ability remains low for many groups. Digital Ability therefore remains a critical area for attention for policy makers, business, education providers, and community groups.

Regional variations

The ADII in Queensland illuminates the link between geography and digital inclusion. In 2017, the highest-scoring area of Queensland is Brisbane West (63.2, or 7.9 above the state average). Queensland's least digitally included area is North West Queensland (45.9, or 9.4 below the state average). This demonstrates that there is a significant gap between the most and the least included Queensland regions (17.3). Overall, Queensland's major regional centres score favourably (Brisbane scores 56.8, Townsville 56.7, the Gold Coast 57.2, and Cairns 54.9). However, in part driven by its older population, the Sunshine Coast lags behind slightly (53.9). The overall 'Capital–Country gap' in Queensland remains significant, with rural Queensland 5.1 points behind Brisbane. In 2014, the gap was slightly larger (5.9).

Addressing the needs of particular communities

The ADII also helps us gauge the digital inclusion of particular sociodemographic groups in Queensland. People aged 65+ are Queensland's least digitally included demographic group (41.3, or 14.0 below the state average of 55.3). We note the differences within this broad cohort of people, but the overall 'age gap' has been steadily widening since 2015.

Queenslanders with a disability have a lower level of digital inclusion (48.6, or 6.7 below the state average). However, the digital inclusion of this group has improved steadily (up 5.7 since 2014), outpacing the state average increase over the four years studied (up 3.2).

Indigenous Queenslanders have a low level of digital inclusion 47.4* (7.9 below the state average). There has been an improvement for Indigenous Queenslanders of 3.6 points since 2014, which slightly outpaces the state increase of 3.2 points during this time. It is important to note that our data collection did not extend to remote Indigenous communities.

The ADII Queensland shows which groups are the most digitally excluded, with scores registering substantially below the Queensland average). In ascending order, these groups are: people in low income households (40.7), older Australians (41.3), people who did not complete secondary school (47.3), Indigenous Australians* (47.4), people with a disability (48.6), and people not in paid employment (49.2).

Areas for further action

- *Improving Digital Ability should be an important focus area for Queensland policy makers, business, the education sector, and community groups who are working to address digital exclusion.*
- *Regional and local initiatives will be central in tackling the geographic and social challenges of digital inclusion and there is a need for ongoing evaluation of these initiatives.*
- *Our aggregated data does not reflect the diversity of experiences for particular populations, such as Indigenous communities, people with a disability, and Language Other Than English (LOTE) communities. Further research and community-specific initiatives are needed here.*
- *We need to closely monitor Affordability and its effects, especially in relation to digitally excluded Queenslanders on low or fixed incomes.*
- *The online services provided by essential service providers and government agencies need to be made accessible and easy to navigate for mobile-only internet users.*
- *The ADII Queensland reveals some unexpected examples of high digital inclusion within specific groups and regions, for example significant improvements over time in the Gold Coast. More could be learned from in-depth studies of diverse experiences.*
- *Further research is needed to better understand the digital inclusion needs of Queenslanders living in remote locations.*
- *Digital inclusion should be listed as a specific equity issue for all Queensland school students and a systemic response should be developed.*

The ADII is a flexible tool, which we hope will be valuable to governments, businesses, community organisations, researchers, and service providers.

Appendix 1

Methodology

Data collection

The data used to compile the ADII originates from Roy Morgan Research’s ongoing **Single Source survey** of 50,000 Australians annually.⁴⁷ ADII calculations are based on a sub-sample of approximately 16,000 responses in each 12-month period. In these extensive face-to-face interviews, Roy Morgan Research 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 550 sampling areas of approximately equal population size. Using strict sampling protocol, each weekend Roy Morgan’s trained interviewers interview people in their homes, and directly enter the resultant data into tablet computers, using computer assisted personal interviewing (CAPI).⁴⁸

All ADII scores are subject to ‘margins of error’, depending mainly on the sample sizes on which they are based.⁴⁹ A full set of data tables for the ADII can be viewed at www.digitalinclusionindex.org.au

Structure of the ADII and sub-indices

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 sub-indices, or dimensions:

Access

Affordability

Digital Ability

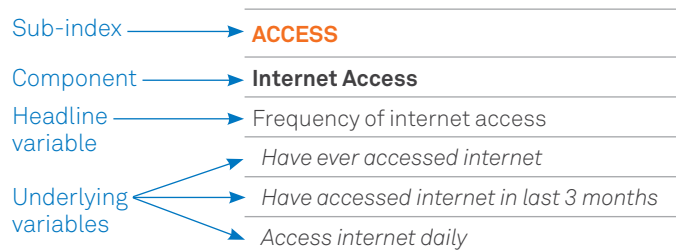
Each of these three sub-indices is made up of a number of *components*, which have themselves been calculated from numerous *variables*. These variables are either sourced directly from the Roy Morgan Single Source database, or derived from the data according to the formulas outlined below.

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 9) 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 9).

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 sub-indices 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 13, 14, and 15. The following diagram is an example of how the sub-indices are structured, with the various elements labelled.

Figure 9: Example of sub-index structure, ADII



Source: Roy Morgan Research, April 2016–March 2017

First sub-index: Access

The Access sub-index 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 allowance,⁵⁰ and benchmarks set proportional to national averages.⁵¹

Table 13: Access sub-index: 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 3 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 phone on the 4G network (until December 2016) - 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

Source: Roy Morgan Research, April 2016–March 2017

Second sub-index: 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 quintiles.⁶²

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 quintiles.⁶³

Table 14: Affordability sub-index: structure and variables

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

Source: Roy Morgan Research, April 2016–March 2017

Third sub-index: 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 sub-index consists of three components:

Attitudes, measured by responses to five survey questions related to notions of control, enthusiasm, learning, and confidence.⁶⁴

Basic Skills, consisting of six categories: basic,⁶⁵ mobile phone,⁶⁶ banking,⁶⁷ shopping,⁶⁸ community,⁶⁹ and information skills.⁷⁰

Activities, which mirror the six categories of basic skills, but are more advanced: accessing content,⁷¹ communication,⁷² transactions,⁷³ commerce,⁷⁴ media,⁷⁵ and information.⁷⁶

Table 15: Digital Ability sub-index: structure and variables

Attitudes <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 	Basic Skills <ul style="list-style-type: none"> General internet skills Mobile phone skills Internet banking skills Internet shopping skills Internet community skills Internet information skills 	Activities <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
---	---	--

Source: Roy Morgan Research, April 2016–March 2017

¹ Australian Bureau of Statistics (2016). *Household Use of Information Technology, Australia, 2014-15*. Catalogue no. 8146.0, Canberra; Australian Bureau of Statistics (2017). *Census of Population and Housing, QuickStats Australia* (estimate of 3.05 million Australians based on 1.172 million households x 2.6 person average household size).

² Australian Bureau of Statistics (2017). *2016 Census of Population and Housing, General Community Profile, Australia*. Catalogue no. 2001.0, Canberra.

³ Swinburne Institute for Social Research, Centre for Social Impact, Telstra Corporation Ltd (2015). *Australian Digital Inclusion Index: Discussion Paper*.

⁴ Australian Bureau of Statistics (2017). *2016 Census of Population and Housing, General Community Profile, Australia*. Catalogue no. 2001.0, Canberra.

⁵ It should be noted that small sample sizes for the regional centres preclude an examination of ADII results for specific groups within the overall population.

⁶ It should be noted that due to sampling issues, the 2017 score for Cairns is based on data captured during the period April 2015 to March 2017.

⁷ Department of Prime Minister and Cabinet (2016). *Smart Cities Plan: Townsville City Deal*. Australian Government, Canberra; Healy, S. (2012, February 25). 'Australia's first National Broadband Network Digital Hub and Digital Enterprise service launched in Townsville'. The Courier Mail.; Roy Morgan Research (2017). Single Source Survey, ADII component data.

⁸ Australian Bureau of Statistics (2017). *2016 Census of Population and Housing, Time Series Profile, Australia*. Catalogue no. 2003.0, Canberra; Reserve Bank of Australia (2017). 'Inflation Calculator'. rba.gov.au/calculator/.

⁹ CCIQ (2017). 'Major projects hopefully address NQ unemployment'. cciq.com.au/news/.

¹⁰ Queensland Government (2013). 'Digital Skills for all Queenslanders Roadshow'. <http://godigitalqld.dsiti.qld.gov.au/Digital-Skills-Roadshow>; Queensland Government (2013). 'Advance Queensland Community Digital Champions'. godigitalqld.dsiti.qld.gov.au/godigitalqldchampions.

¹¹ Queensland Government Statistician's Office (2017). Queensland Regional Profiles, Cairns SA4. State of Queensland, Queensland Treasury.

¹² Conus Business Consultancy (2017). 'Cairns Trend unemployment rate lifts to 5.6%'. conus.com.au.

¹³ Regional Development Australia Far North Queensland & Torres Strait (2015). *Cairns & Tropical North Queensland Digital Enterprise Final Report - August 2015*, Cairns; D:Hive (2017). 'About D:Hive'. dhive.net.au/about.

¹⁴ Department of Science, Information Technology & Innovation; Toowoomba Regional Council; Ipswich City Council; Bundaberg Regional Council; Rockhampton Regional Council; Mackay Regional Council; Townsville City Council & Cairns Regional Council (2015). *Regional Queensland Startup Ecosystem Report*, Queensland Government, Brisbane.

¹⁵ Digital Sunshine Coast (2016, November 11). 'Sunshine Coast Nbn™ Network Rollout Update'. digital.sunshinecoast.com.au.

¹⁶ Australian Bureau of Statistics (2017). *2016 Census of Population and Housing, Time Series Profile, Australia*. Catalogue no. 2003.0, Canberra.

¹⁷ Regional Development Australia Sunshine Coast and Sunshine Coast Council (2014). *Digital Sunshine Coast Action Plan 2015*.

¹⁸ Sunshine Coast Council (2016). 'Significant developments cater for ageing Coast population'. alturl.com/dfnib

¹⁹ Martin, A. (2014, 18 November). 'NBN arrives in CityVillage'. Activ8Me.net.au.

²⁰ City of Gold Coast (2017). 'Media Lab'. goldcoast.qld.gov.au; Able Australia (2017). 'What we do'. ableaustralia.org.au.

²¹ Australian Bureau of Statistics (2016). *Regional Population Growth, Australia, 2014-15*. Catalogue no. 3218.0, Canberra.

²² The Accessibility/Remoteness Index of Australia (ARIA) measures remoteness in terms of how far a location is by road from five different sized population centres. See Hugo Centre for Population and Migration Research (2017). 'ARIA'. University of Adelaide. adelaide.edu.au/hugo-centre/spatial_data/aria/.

²³ Australian Bureau of Statistics (2016). *National Aboriginal and Torres Strait Islander Social Survey, 2014-15*. Catalogue no. 4714.0, Canberra.

²⁴ Ewing, S., Rennie, E. and Thomas, J. (2015). 'Broadband policy and rural and cultural divides in Australia' in Kim Andreasson (ed.), *Digital Divides: The New Challenges and Opportunities of e-Inclusion*, CRC Press, New York, 107–124.

²⁵ Queensland Government Statistician's Office. (2016). Unpublished population data. In: Queensland Productivity Commission. (2017, March) Consultation Service delivery in remote and discrete Aboriginal and Torres Strait Islander Communities.

- ²⁶ Department of State Development (2017). *Doomadgee to Burketown Optical Fibre Link Project*, Queensland Government, Brisbane.
- ²⁷ Barry, D. (2017, May 25). 'Fibre network in place'. North West Star.
- ²⁸ Sandberg, P. (2013, April 19). 'Broadband Rollout Program for Northern Territory'. content-technology.com.
- ²⁹ Remote Area Planning and Development Board (2016). *Smart Central Western Queensland: A Digitally Enabled Community Strategic Plan*.
- ³⁰ Dinham, P. (2015, November 10). 'Activ8me, nbn get active connecting remote indigenous communities'. itwire.com.
- ³¹ Queensland Government (2017, July 3). *New digital literacy program rolls out for Indigenous communities*. Media Release, Minister for Innovation, Science and the Digital Economy and Minister for Small Business, The Honourable Leeanne Enoch.
- ³² Department of Education, Employment and Workplace Relations (2013). *Beyond the Classroom: A New Digital Education for Young Australians in the 21st Century*, Digital Education Advisory Group, Australian Government, Canberra.
- ³³ McLeish, K. (2016, December 16). 'Queensland schools' BYOD program risks leaving poorer students behind, QTU says'. ABC News.
- ³⁴ Foundation for Young Australians (2017). *The New Work Smarts: Thriving in the New Work Order*.
- ³⁵ Foundation for Young Australians (2016). *The New Basics: Big data reveals the skills young people need for the New Work Order*.
- ³⁶ Australian Curriculum, Assessment and Reporting Authority (2015). *National Assessment Program – ICT Literacy Years 6 & 10 Report 2014*.
- ³⁷ The Roy Morgan Research Single Source survey captures responses from one individual in each surveyed household. To stand-in for a family household variable we use responses from parents who have children under the age of 18 years living in the household.
- ³⁸ Roy Morgan Research (2017). 'Single Source: the pinnacle of market research'. Roymorgan.com.
- ³⁹ Phillips, B., Miranti, R., Vidyattama, Y. and Cassals, R. (2013). *Poverty, Social Exclusion and Disadvantage in Australia*, Report prepared for Uniting Care Children, Young People and Families. National Centre for Social and Economic Modelling, University of Canberra.
- ⁴⁰ Smith, A. (2014, April 1). 'National curriculum undermined by 1 in 5 students not having the internet at home'. Sydney Morning Herald. smh.com.au
- ⁴¹ Australian Bureau of Statistics (2013). *Children's Participation in Cultural and Leisure Activities, Australia, Apr 2012*. Catalogue no. 4901.0, Canberra.
- ⁴² Australian Bureau of Statistics (2016). *Household Use of Information Technology, Australia, 2014-15*. Catalogue no. 8146.0, Canberra.
- ⁴³ Thomas, J., Barraket, J., Wilson, C., Ewing, S., MacDonald, T., Tucker, J. and Rennie, E. (2017). *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2017*. RMIT University, Melbourne, for Telstra.
- ⁴⁴ Neal, G., Yelland, N., Dakich, E. and Jones, T. (2010). Final Report: Tech Packs Evaluation. Victoria University for The Smith Family.
- ⁴⁵ Berry Street, The Benevolent Society, The Smith Family, Bethany, Ballarat Group Training, and Jewish Care Victoria.
- ⁴⁶ For example, Mountain Creek State High School runs a coding and innovation hub on the Sunshine Coast (<http://www.codinginnovationhub.com/>). Through the Hub teacher Graeme Breen has partnered with Sunshine Coast Council, Telstra, and Spark Bureau to initiate and run the Sunshine Coast Council Mayor's Telstra Technology Awards for 2016. In addition, engineer, STEM ambassador, and parent at Bulimba State School, Lee Brentzell, has established a successful coding and technology program 'MicroMakers' in a cluster of seven Brisbane schools. Department of Science, Information Technology and Innovation (2017). *Advance Queensland Community Digital Champions*, Queensland Government, Brisbane.
- ⁴⁷ Roy Morgan Research (n.d.). 'Single Source: the pinnacle of market research'. Roymorgan.com.
- ⁴⁸ Roy Morgan Research 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 Research is certified to the AS/NZS ISO9001 Quality Management Systems standard and the AS ISO 20252 Market, Opinion and Social Research standard.
- ⁴⁹ 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 Research (n.d.). 'Margin of Error Table'. Roymorgan.com.
- ⁵⁰ 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.
- ⁵¹ The benchmark was set at 20% above the nationwide average data allowances, and respondents with data allowances greater than the benchmark scored 100. For mobile internet data allowance the 2017 benchmark was 6.5GB, while for fixed internet data allowance it was 439GB.
- ⁵² Since Affordability improves as this metric decreases, respondents in the lowest quintile of household expenditure on network access receive the highest score (100), and those with progressively higher expenditure occupy are placed in lower quintiles (i.e., 80, 60, etc.). Because a fully excluded person does not have any data allowance, and thus has no expenditure, those respondents with 0% Relative Expenditure receive a score of 0. Relative Expenditure quintiles (and scores) are: <0.73% (100); 0.74–1.13% (80); 1.14–1.65% (60); 1.66–2.75% (40); 2.75% or more (20); 0% (0).
- ⁵³ Since Affordability improves as this metric increases, respondents in the highest quintile receive the highest score (100), and receive progressively lower scores as they occupy lower Value of Expenditure quintiles (i.e., 80, 60, etc.). Also, because a fully excluded person does not have any data allowance, and is thus assigned a zero score, those respondents with 0% Value of Expenditure receive a score of 0. Value of Expenditure quintiles (and scores) are: 0 GB/\$ (0); 0.01–0.1 GB/\$ (20); 0.11–0.7 GB/\$ (40); 0.71–2.6 GB/\$ (60); 2.61–6.8 GB/\$ (80); 6.81 GB/\$ or more (100).
- ⁵⁴ 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.
- ⁵⁵ General browsing and email; scores for each of these activities are averaged to arrive at the basic internet skills score.
- ⁵⁶ 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.
- ⁵⁷ Checking bank account balance, or viewing online bank statements (either/or).
- ⁵⁸ 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).
- ⁵⁹ 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).
- ⁶⁰ 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).
- ⁶¹ Streaming, playing, or downloading games, music, radio, video, TV, movies, podcasts, or software/programs.
- ⁶² Instant messaging (e.g. Google Hangouts), making telephone calls via internet (e.g. Skype, VoIP), or business video conferencing (either/or).
- ⁶³ 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).
- ⁶⁴ Purchasing or selling a product online.
- ⁶⁵ Creating or managing an online journal or blog, registering a website, or creating/managing own website (either/or).
- ⁶⁶ Searching online for jobs/employment, government information and services, health or medical information, or IT information, or participating in online education (either/or).

Appendix 2

References

- Able Australia (2017). 'What we do'. ableaustralia.org.au.
- Australian Bureau of Statistics (2012). *2011 Census of Population and Housing, Expanded Community Profile, Queensland and Australia*. Catalogue no. 2005.0, Canberra.
- Australian Bureau of Statistics (2013). *Children's Participation in Cultural and Leisure Activities, Australia, Apr 2012*. Catalogue no. 4901.0, Canberra.
- Australian Bureau of Statistics (2016). *Household Use of Information Technology, Australia, 2014-15*. Catalogue no. 8146.0, Canberra.
- Australian Bureau of Statistics (2016). *National Aboriginal and Torres Strait Islander Social Survey, 2014-15*. Catalogue no. 4714.0, Canberra.
- Australian Bureau of Statistics (2016). *Regional Population Growth, Australia, 2014-15*. Catalogue no. 3218.0, Canberra.
- Australian Bureau of Statistics (2017). *2016 Census of Population and Housing, Time Series Profile, Australia*. Catalogue no. 2003.0, Canberra.
- Australian Bureau of Statistics (2017). *Agricultural Commodities, Australia 2015-16*. Catalogue no. 7121.0, Canberra.
- Australian Communications and Media Authority (2017). 'Research Index'. acma.gov.au.
- Australian Curriculum, Assessment and Reporting Authority (2015). *National Assessment Program – ICT Literacy Years 6 & 10 Report 2014*.
- Barry, D. (2017, May 25). 'Fibre network in place'. North West Star.
- Better Internet for Rural, Regional and Remote Australia (2016). 'Regional Internet Access Survey Results, 2016'. birrraus.com.
- CCIQ (2017). 'Major projects hopefully address NQ unemployment'. cciq.com.au/news/.
- City of Gold Coast (2017). 'Media Lab'. goldcoast.qld.gov.au.
- Conus Business Consultancy (2017). 'Cairns Trend unemployment rate lifts to 5.6%'. conus.com.au.
- D:Hive (2017). 'About D:Hive'. dhive.net.au/about.
- Department of Agriculture and Fisheries (2017). *Drought Declarations*. Queensland Government, Brisbane.
- Department of Education, Employment and Workplace Relations (2013). *Beyond the Classroom: A New Digital Education for Young Australians in the 21st Century*, Digital Education Advisory Group, Australian Government, Canberra.
- Department of Prime Minister and Cabinet (2016). *Smart Cities Plan: Townsville City Deal*. Australian Government, Canberra.
- Department of Science, Information Technology & Innovation; Toowoomba Regional Council; Ipswich City Council; Bundaberg Regional Council; Rockhampton Regional Council; Mackay Regional Council; Townsville City Council & Cairns Regional Council (2015). *Regional Queensland Startup Ecosystem Report*, Queensland Government, Brisbane.
- Department of Science, Information Technology and Innovation (2017). *Advance Queensland Community Digital Champions*, Queensland Government, Brisbane.
- Department of State Development (2017). *Doomadgee to Burketown Optical Fibre Link Project*, Queensland Government, Brisbane.
- Dhanapalan, S. (2012, February 1). 'Creating an Education Programme'. dhanapalan.com.
- Digital Sunshine Coast (2016, November 11). 'Sunshine Coast Nbn™ Network Rollout Update'. digitalsunshinecoast.com.au.
- Dinham, P. (2015, November 10). 'Activ8me, nbn get active connecting remote indigenous communities'. itwire.com.
- Ewing, S., Rennie, E. and Thomas, J. (2015). 'Broadband policy and rural and cultural divides in Australia' in Kim Andreasson (ed.), *Digital Divides: The New Challenges and Opportunities of e-Inclusion*, CRC Press, New York, 107–124.
- Foundation for Young Australians (2017). *The New Basics: Big data reveals the skills young people need for the New Work Order*.
- Foundation for Young Australians (2017). *The New Work Smarts: Thriving in the New Work Order*.
- Healy, S. (2012, February 25). 'Australia's first National Broadband Network Digital Hub and Digital Enterprise service launched in Townsville'. The Courier Mail.
- Isolated Children's Parents' Association of Australia Inc. (2017). *Submission to the Department of Education & Training Into the Independent Review into Regional, Rural and Remote Education*.
- Martin, A. (2014, November 18). 'NBN arrives in CityVillage'. Activ8me.net.au.
- McLeish, K. (2016, December 16). 'Queensland schools' BYOD program risks leaving poorer students behind, QTU says'. ABC News.
- Neal, G., Yelland, N., Dakich, E. and Jones, T. (2010). *Final Report: Tech Packs Evaluation*. Victoria University for The Smith Family.
- Phillips, B., Miranti, R., Vidyattama, Y. and Cassals, R. (2013). *Poverty, Social Exclusion and Disadvantage in Australia*, Report prepared for Uniting Care Children, Young People and Families. National Centre for Social and Economic Modelling, University of Canberra.
- Queensland Government (2013). 'Advance Queensland Community Digital Champions'. godigitalqld.dsiti.qld.gov.au/godigitalqldchampions.
- Queensland Government (2013). 'Digital Skills for all Queenslanders Roadshow'. <http://godigitalqld.dsiti.qld.gov.au/Digital-Skills-Roadshow>
- Queensland Government (2017, July 3). *New digital literacy program rolls out for Indigenous communities*. Media Release, Minister for Innovation, Science and the Digital Economy and Minister for Small Business, The Honourable Leeanne Enoch.
- Queensland Government (2017, May 18). *Improved mobile coverage for regional Queensland*. Media Release, Minister for Innovation, Science and the Digital Economy and Minister for Small Business, The Honourable Leeanne Enoch.
- Queensland Government Statistician's Office (2017). *Queensland Regional Profiles*, Cairns SA4. State of Queensland, Queensland Treasury.
- Regional Development Australia Far North Queensland & Torres Strait (2015). *Cairns & Tropical North Queensland Digital Enterprise Final Report - August 2015*, Cairns.
- Regional Development Australia Sunshine Coast and Sunshine Coast Council (2015). *Digital Sunshine Coast Smart Region, Smart City - Digital Action Plan 2015*.
- Remote Area Planning and Development Board (2016). *Smart Central Western Queensland: A Digitally Enabled Community Strategic Plan*.
- Reserve Bank of Australia (2017). 'Inflation Calculator'. rba.gov.au/calculator/.
- Roy Morgan Research (2017). Single Source Survey, ADII component data.
- Sandberg, P. (2013, April 19). 'Broadband Rollout Program for Northern Territory'. Content-Technology.com.
- Smith, A. (2014, April 1). 'National curriculum undermined by 1 in 5 students not having the internet at home'. Sydney Morning Herald.
- Sunshine Coast Council (2016). 'Significant developments cater for ageing Coast population'. alturl.com/dfnib
- Swinburne Institute for Social Research, Centre for Social Impact, Telstra Corporation Ltd (2015). *Australian Digital Inclusion Index: Discussion Paper*.
- Thomas, J., Barraket, J., Wilson, C., Ewing, S., MacDonald, T., Tucker, J. and Rennie, E. (2017). *Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2017*. RMIT University, Melbourne, for Telstra.
- UNSW and Telstra (2017). *Regional Australia's Technology Future*. White Paper.

Who we are

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

The Digital Media Research Centre, Queensland University of Technology

The QUT Digital Media Research Centre (DMRC) conducts cutting-edge research that helps society understand and adapt to the changing digital media environment. It is a leading Australian centre for media and communication research, areas in which QUT has achieved the highest possible rankings in ERA, the national research quality assessment exercise. Our research programs address the challenges of digital media for journalism, public communication and democracy; the dynamics and regulatory challenges of emerging digital media economies; and the embedding of digital media technologies into the practices of everyday life. The DMRC has a particular focus on innovative digital methods for social and cultural research, including the analysis of 'big social data'; is actively engaged with industry and the Asian region across all its research programs; and has a strong commitment to research training for academic and industry researchers alike. The DMRC is based in the School of Communication in the Creative Industries Faculty, with several active centre members based in the QUT Law Faculty and with active collaborations across Health, Science and Engineering, and Business.

<https://research.qut.edu.au/dmrc>

The Digital Ethnography Research Centre, RMIT University

The Digital Ethnography Research Centre (DERC) at RMIT University 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.

<http://digital-ethnography.com/>

Telstra

Telstra is a leading telecommunications and technology company with a proudly Australian heritage and a growing international business. In Australia, Telstra provides 17.54 million retail mobile services, 5.4 million retail fixed voice services and 3.5 million retail fixed broadband services. Telstra's purpose is to create a brilliant connected future for everyone, 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.

www.telstra.com.au

Centre for Social Impact, Swinburne University of Technology

The Centre for Social Impact (CSI) is an independent, not-for-profit research and education partnership spanning three of Australia's leading universities: UNSW Australia, Swinburne University of Technology, and The University of Western Australia. CSI acts as a catalyst for social change by creating knowledge through research, and transferring that knowledge through teaching and public engagement. 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

Roy Morgan Research

Roy Morgan Research has more than 70 years' experience tracking consumer and social trends, and developing innovative methodologies and new technologies. Proudly independent, we've built a reputation based on our accurate data and products which include our extensive Single Source survey, and new digital research technologies such as Helix Personas, and Roy Morgan Audiences. Single Source, Helix Personas, and Roy Morgan Audiences integrate together to provide a comprehensive digital and offline customer engagement, marketing and media strategy offering. For information on how Roy Morgan Research can help your business, contact: AskRoyMorgan@RoyMorgan.com

www.roymorgan.com

More information about the ADII is available at www.digitalinclusionindex.org.au

Email us: info@digitalinclusionindex.org.au

Follow us on Twitter: @digitalInclusionAU

Join the conversation: #digitalinclusionAU



Roy Morgan
Research

 **RMIT**
UNIVERSITY

 **QUT** Digital Media
Research Centre

 **CENTRE**
for **SOcial**
IMPACT

 **SWINBURNE**
UNIVERSITY OF TECHNOLOGY