# AUSTRALIAN DIGITAL INCLUSION INDEX

## DISCUSSION PAPER

September 2015

IT'S HOW
WE CONNECT

CENTRE
for SOCIAL
IMPACT

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TECHNOLOGY

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# 1. ABOUT THIS DISCUSSION PAPER

Telstra, the Swinburne Institute for Social Research and the Centre for Social Impact have joined forces to develop a new national measure of digital inclusion – the Australian Digital Inclusion Index.

This discussion paper sets out our general approach to developing the Index, its objectives and key themes and provides examples of indicators that may form the basis of the index.

The paper aims to encourage potential users of the index to provide feedback and suggestions to guide the development of the index to make it as robust and useful as possible.

# 2. WHAT IS DIGITAL INCLUSION?

One in five Australians, around 4 million people, are not online and not able to take advantage of the education, health and social benefits of being connected. Lack of digital connectivity has negative consequences for people's social and economic participation, as well as their access to services and information. In a digital age, digital inclusion of the populace is also important to our nation's economic and social performance.

Digital inclusion is a complex and challenging problem for policy-makers, practitioners, and researchers.

While the digital divide has narrowed, it has deepened, and as the internet increasingly becomes the default medium for communicating, informing and interacting, the disadvantages of being offline increase.

Digital inclusion is not just about computers, the internet or even technology. It is about using online and mobile technologies as channels to improve skills, to enhance quality of life, to drive education and to promote economic wellbeing across all elements of society.

Digital inclusion is fundamentally about social and economic participation.

Access and affordability can present barriers to digital inclusion. However, an individual's digital engagement is also affected by digital literacy (skills and ability), whether a person can see potential benefits of engagement and motivation and attitude, including concerns about safety and security. The Australian Digital Inclusion Index will be used to measure the extent of digital inclusion in Australia.

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Although the digital divide is closing, in Australia there are still deep gaps evident with a large number of vulnerable individuals without basic internet access or skills

**24%**
of Australians born in non-English speaking countries do not access the internet, compared to a 17% national average[2]

Of Aboriginal and Torres Strait Islander households, only
**63%**
reported having internet access at home, versus
**75%**
for non-Indigenous households[6]

**4 IN 10**
of the lowest income households in Australia are not connected to the internet[1]

Of people aged 65 or more, only
**46%**
are internet users[4] and
**75%**
feel confused about using technology[5]

**1 MILLION**
people with a reported disability do not have internet access at home[8]

**75%**
of people educated to year 12 or below use the internet, compared with
**91%**
of people with a tertiary qualification[3]

More than
**2/3**
of people who are homeless had difficulty paying their mobile phone bill in the last 12 months[7]

In Australia's most disadvantaged communities, only
**68%**
of children aged 5 to 14 years accessed the internet at home over a 12 month period compared to
**91%**
of children in the most advantaged communities[9]

1-4 ABS, 8146.0 - Household Use of Information Technology, Australia, 2012-13
5 Roy Morgan Research, January 2014.
6 ABS, 2076.0 Census of Population and Housing, 2011 – Internet Access
7 Justine Humphry (2014) Homeless and Connected: Mobile phones and the Internet in the lives of homeless Australians
8 ABS, 4430.0 - Disability, Ageing and Carers, Australia: Summary of Findings, 2012
9 The Smith Family (2013) Sport, culture and the internet: Are Australian children participating?

# 3. THE AUSTRALIAN DIGITAL INCLUSION INDEX

The Australian Digital Inclusion Index will help inform and promote public policy, commercial and program responses to enhance digital inclusion in Australia.

There is a body of work available that identifies barriers to digital inclusion, the benefits of using communications technologies, and the role of digital engagement in social inclusion. There are also various data sets available that provide a view on the access and use of the internet for particular groups. However, there is currently no aggregation of these data to provide a comprehensive and integrated view on digital inclusion/ exclusion and participation at a national level. With community services and commerce increasingly delivered online, and governments moving to a 'digital first' engagement model, it is critical that no Australian gets left behind.

The Australian Digital Inclusion Index will measure the level of digital inclusion of the Australian population as a whole and monitor this over time. The construction and results of the index will be transparent. Any community in Australia will be able to replicate the index to compare their results against Australia as whole and if they are able, to do this over time.

## The objectives of this initiative are to:

❯ Improve our understanding of digital inclusion and its relationship to social and economic disadvantage in Australia;

❯ Raise awareness of and focus attention on, the social impact of digital inclusion;

❯ Facilitate consultation, debate and discussion;

❯ Inform business, government and community organisations in developing strategies to improve digital confidence and participation for all Australians; and,

❯ Monitor whether those strategies are effective in improving digital inclusion.

# 4. MEASURING DIGITAL INCLUSION

There is now significant academic and policy literature on the problem of digital inclusion and its measurement. Some notable recent work in this field is directly concerned with constructing indices, especially work undertaken by the European Commission (2015) in developing their Digital Economy and Society Index (DESI). These indices were developed by selecting principal dimensions of interest, such as connectivity, or affordability. These are then divided into more technical sub-dimensions (such as fixed broadband), which are in turn measured by individual indicators (such as fixed broadband coverage).

> An index is only as good as its constituent indicators. Once the dimensions that are to be measured have been determined, considerable effort needs to be given to selecting and developing indicators that best measure these dimensions.

We will need enough indicators to cover all the critical dimensions of digital inclusion without so many indicators that we risk measuring the same elements more than once. Each indicator chosen needs to be providing new information.

The choice of indicators needs to reflect the objectives of the project, and the needs of end users and policy-makers. Factors that may be particularly important are the long-term value of the data and the capacity to disaggregate to sub-national, state or regional levels.

The selection of data sources is a further key issue. Three kinds of sources are relevant, and all have advantages and disadvantages. *Administrative data* is collected by governments and private organisations as part of their operations. As the data has already been collected this is usually cost-efficient. Data of this kind is often comprehensive, and therefore capable of greater disaggregation than sample survey data. It may require extensive cleaning, and there may be concerns about its ongoing collection, quality and the ethics of its use for research or publication.

We can also make use of *secondary sample survey data*, that is, survey data that has already been collected. This will include data collected by the ABS, other government agencies and private market and social research firms. Again there will be cost advantages over primary collection, but again reliance on a third party may make it difficult to gauge data quality in every case. The more pressing issue however is future collection, if the index becomes too reliant on the activities of a third party who may not collect the data in future years.

The final source of data is *primary collection*. This has the advantage of enabling us to control the collection process and frame the questions. The major downside is cost and the time required in the field to collect the data. There are may also be limits to disaggregation related to costs and the limitations of sample size. A national survey requires a sample of around 1000 to be usable. A much larger sample size would be necessary to disaggregate to State level.

Any index is likely to include indicators from different kinds of sources. Some of these may be capable of disaggregation to State or sub-State level and others may not.

Another critical challenge for an index of this type is how to include people living in remote Australia, particularly Indigenous Australians. Primary data collection in this area is extremely expensive and difficult. The small size of the population and the very different social, cultural and infrastructure context from non-remote Australia makes incorporating this region into a national composite index extremely challenging.

# 5. KEY THEMES

Digital inclusion is complex and multi-faceted. One useful way to deal with this complexity is to divide it into constituent parts. For the purposes of consultation and a first step in designing our index we have identified four key inter-related themes or domains. These are:

- **Access**
- **Affordability**
- **Key Online Activities**
- **Digital Literacy**

The first two of these themes, access and affordability, relate to the nature of the network and its pricing. For people to participate in the digital world they need to be able to connect to the internet.

> Connection alone is not enough – people need to actually engage meaningfully.

The third and fourth key themes relate to end-users and their engagement: key activities that people undertake online and their ability to engage (digital literacy). In considering these key themes we would ask those participating in the consultation process to consider what the key issues are for their sector and also what data they may have that may shed light on these issues.

## 5.1 Access

**Access has three aspects:**

- Network reach or potential access (proportion of dwellings that the network passes)
- Connection (actual access)
- Quality of access (speed, lag and reliability)

Given the existing copper telephone network, the vast majority of Australian households have some access to the internet but a significant minority do not have a home connection.

The roll-out of the National Broadband Network should improve these aspects, especially in rural and remote Australia through the provision of fixed wireless and the new satellite service. Access does not guarantee digital inclusion but it is a critical enabler.

## 5.2 Affordability

Affordability is a notoriously slippery concept to measure. Different households and consumers have varying financial capacity and the wide range of offerings may be difficult for some consumers to navigate. Bundling, data caps and differing speeds make a simple measure of affordability difficult to achieve. International comparisons of 'internet cost', although far from perfect, consistently show Australia to be a relatively high-cost country.

The website Numbeo (www.numbeo.com), for example, compares the monthly cost of an internet connection that delivers 10Mbps with unlimited data. In their list Australia comes out at 88 out of 119 putting us at the more expensive end of the spectrum.

Despite the measurement complexity, affordability is a key aspect of digital inclusion and we need to develop the best possible indicators as part of our index.

### Some key questions

What is the minimum standard of broadband connection for a 'typical' household?

How might this change in the coming decade?

How does quality of access affect digital inclusion?

### Sample indicators

Proportion of Australian households with an internet connection

Proportion of Australian households able to access a broadband connection

Proportion of Australians accessing reliable broadband

### Some key questions

How should we measure affordability?

Is there a particular connection type that should be measured?

How does affordability affect digital inclusion?

How does the cost of necessary equipment such as computers, tablets and mobile phones affect digital inclusion?

### Sample indicators

Cost of a standard broadband connection

Cost of a standard broadband connection as a proportion of a statutory income support payment

Cost of a standard mobile broadband connection

Cost of equipment such as computers, tablets and mobile phones

Proportion of Australians accessing reliable broadband

## 5.3 Key Online Activities

What people do online provides insight into the extent that the internet and associated technologies are integrated into their lives. While many commentators concentrate on people's use of the internet for entertainment the internet has become a key technology for people to stay in touch with friends and families, participate in their communities, undertake transactions, look for jobs and participate in education. We need to identify a number of key uses that best indicate whether Australian's are maximising the potential of the internet in their everyday lives.

This will be a challenging exercise as we know that different groups use the internet differently. The needs of young people differ markedly from older people, the needs of people in remote and regional Australia will be different to those in urban communities and people with complex health needs or disabilities rely on the internet for things that those without such needs might not consider.

### Some key questions

What are the activities that matter most for digital inclusion?

What are the digital activities that are critical to social inclusion more broadly?

How we should factor proxy use into digital inclusion (ie people who access the internet through others)?

### Sample indicators

Proportion of the population who use the internet daily

Proportion of the population who use the internet for education

Proportion of the population who use the internet to find basic information (e.g. movie times, bus times, opening hours of a business)

Proportion of the population who use the internet to interact with government

Proportion of the population who use the internet to shop online

Proportion of the population who use the internet to connect with friends or families

## 5.4 Digital literacy

Digital literacy is the most complex and multi-faceted of the four key themes. People's ability to engage with digital technologies is dependent upon their skills and just as importantly their confidence with technology. We know that access to technology is not enough, people need to be able to use it proficiently to maximise its effectiveness. While the internet has the potential to be of great benefit to users, it is also has potential dangers. Internet scams and hoaxes, viruses and cyber-bullying are just some of the online threats facing users and people with few digital skills are especially vulnerable.

There has been a lot of work discussing the importance of digital literacy and the ways to improve it but little effort to measure it across large populations. An important basic issue is the relationship between literacy and digital literacy. Often online content is only available in a limited number of languages and a lot of content relevant to Australians is only available in English.

Measuring digital literacy comprehensively would require significant time and would be best achieved by actually testing people's skills. Clearly this is impractical for our purposes so we need to develop a small number of key indicators based on respondents' self-reporting.

In thinking about digital literacy and its measurement it may be useful to refer to work undertaken by the European Union on measuring digital skills (available here https://ec.europa.eu/jrc/sites/default/files/lb-na-26035-enn.pdf)

### Some key questions

What are the skills most critical to digital inclusion?

What are the barriers to developing greater digital skills?

What are the enablers for developing greater digital skills?

### Sample indicators

Proportion of the population with basic digital skills

Proportion of the population who know how to install apps on a mobile device

Proportion of the population who know how to protect themselves online with anti-virus software

# 6. WHERE TO FROM HERE?

We want to hear from anyone who has an interest in digital inclusion. We have established a website (digitalinclusionindex.org.au) where we will keep people updated on the project but more importantly where people can tell us what they think about digital inclusion and what elements are critical for our index to capture. We are particularly interested in hearing how people might use the index, whether for developing policies and engaging with government to improve inclusion, as information for funding applications, for framing projects to address digital inclusion, for comparing their region or community to the broader Australian society or any other uses. We also want to hear from anyone who has data they think might be useful in measuring Australia's digital inclusion.

You are invited to make a formal written submission to us via the website or simply join the conversation by leaving a shorter comment. We have structured the comments section by our four key themes: access, affordability, key online activities and digital literacy. There will also be an area for general discussion on digital inclusion or for elements not captured by the four key themes.

The formal period of consultation will run until the 15th of November 2015 but we want the conversation to continue throughout the project to help shape and guide the development of the Index to make it as robust and useful as possible.

Following the consultation period we will set about designing the index, collecting data and testing. The first Australian Digital Inclusion Index will be ready in mid-2016 and form part of a national conversation about digital inclusion in Australia. We look forward to working with you on this exciting project and hearing your views about the Index and digital inclusion more broadly.

## WHO WE ARE

**Telstra** is Australia's leading telecommunications and information services company, offering a full range of communications services and competing in all telecommunications markets.

In Australia, we provide approximately 16.7 million retail mobile services, 6.0 million retail fixed voice services and 3.1 million retail fixed data services. We have been providing products, services and programs to support digital inclusion for many years, including more than $2 billion of customer benefits over the past decade through our Access for Everyone programs.

We believe that all Australians should have the ability to connect, participate and interact safely in the digital world – irrespective of age, income, ability or location, and we recognise the fundamental role that Telstra can play in enabling digital and social inclusion in Australia.

Our digital inclusion ambition links seamlessly with Telstra's purpose – to create a brilliant connected future for everyone. It recognises the fundamental role that we play, and are expected to play, in promoting economic and social inclusion in Australia and beyond.

**The Swinburne Institute for Social Research** is one of the largest social sciences and humanities research centres in Australia, with an international reputation for independent, innovative and timely work. Staff work across disciplines including statistics, sociology, history, media studies, economics and political science. The Swinburne Institute links with researchers and policy-makers in North and South America, Europe and Asia, as well as with Indigenous organisations in Australia.

The Institute aims to meet the highest standards for research and scholarship, while working closely with partners in industry, the community and government at federal, state and local levels.

Past and present clients include housing departments in all states and territories, Australian government departments (Education, Community and Family Services, Immigration) and agencies including the Australian Electoral Commission, the Australian Bureau of Statistics and CSIRO. The Swinburne Institute has partnerships with the Victorian Parliament, Victoria Police, the State Library of Victoria and state departments including Human Services, Justice and Education. We have worked closely with local government authorities across Australia and with commercial bodies. Partnerships with the non-profit and philanthropic sector include the Salvation Army, the Caledonia Institute, Anglicare, Melbourne City Mission, Hanover Welfare Services, Oxfam, the Brotherhood of St Laurence, the Tenants Union of Victoria, the Centre for Appropriate Technology, the Central Land Council, Goolarri Media Enterprises and Infoxchange. International funders include the World Bank and the European Commission.

**The Centre for Social Impact (CSI)** is an independent, not-for-profit research and education centre which spans 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 translating and transferring that knowledge through teaching and public engagement activities.

The CSI's ultimate aim is to affect policy and practice in order to improve outcomes for those in need.

Within the wider CSI network, 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.

## Australian Digital Inclusion Index: Discussion Paper

Further information on this project is available at
digitalinclusionindex.org.au

Email us info@digitalinclusionindex.org.au
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