



Improving the digital inclusion of older Australians

The social impact of Be Connected

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TECHNOLOGY

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Project team

The evaluation of Be Connected was led by Associate Professor Anthony McCosker and managed by Dr Roksolana Suchowerska and Dr Julie Tucker. The research team also includes Professor Christine Critchley, Dr Gordana Bruce, Jarrod Walshe, Dr Kiros Hiruy, Dr Michelle Lim and Professor Jo Barraket.

Research assistance was provided by: Dr Jessamy Gleeson, Dr Milovan Savic, Dr Indigo Holcombe James and Emma Riseley. This report was prepared by Associate Professor Anthony McCosker, Dr Julie Tucker, Professor Christine Critchley, Dr Kiros Hiruy, Jarrod Walshe and Dr Roksolana Suchowerska.

For inquiries contact

A/Prof Anthony McCosker
(amccosker@swin.edu.au),
Deputy Director, Swinburne Social Innovation
Research Institute, Melbourne.

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Key messages

This report presents a social impact evaluation of Be Connected, an Australian Government Digital Literacy for Older Australians program.

The evaluation assesses the appropriateness, effectiveness and efficiency of Be Connected and aims to inform future policy direction on the basis of the program's achievements, strengths and limitations. Through a mixed-methods, 3-year study gathering insights from the experiences of 915 program participants and stakeholders, the Swinburne University research team found that:

1

A nationally funded network approach to delivering digital skills support for older Australians works because it empowers diverse partner organisations – from libraries and computer clubs, to retirement villages, aged care facilities and Men's Sheds – to reach more older Australians in their local communities through trusted relationships.

An expansive network has been developed by Good Things Foundation – more than 3,000 Network Partners, between October 2017 and December 2019, **engaging over 580,000 learners**. However, the absence of national television, radio, news and outdoor marketing as originally planned has potentially restricted network and learner recruitment. There is an opportunity to increase awareness of the program.

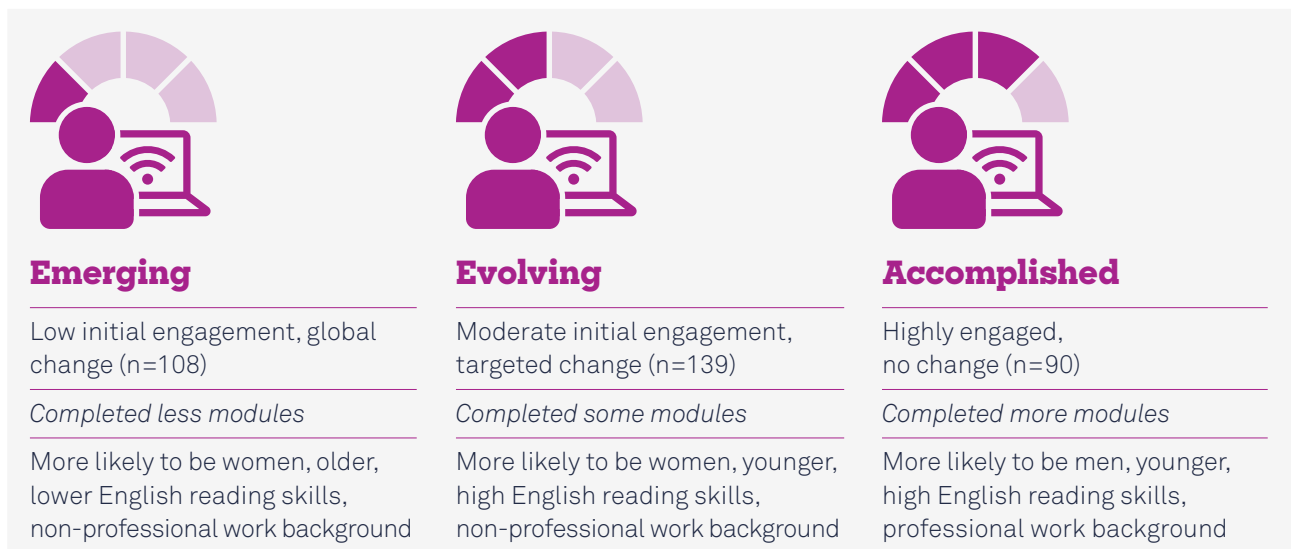


Figure 4-5. Three classes of learners, latent class analysis (n=337)

Key messages

2

Be Connected has successfully developed the capacity of more than 9,800 Digital Mentors to act as a frontline for digital skills development. Digital Mentors are often volunteers, and themselves seniors, motivated to help others on a peer-to-peer basis. There is further opportunity to enhance this capability through ongoing Mentor training and support.

3

Adaptive, flexible and up-to-date online learning resources act as a touchpoint for Network Partners, Digital Mentors and learners. These resources require ongoing maintenance and extension to accommodate change and diverse learner needs. This could be enhanced through the continued input of Network Partners, Digital Mentors and learners.

Be Connected has tracked 554,662 learner activities. These are specific learning tasks such as videos, questionnaires, skill building exercises beyond information sharing or Digital Mentoring and assistance.

4

Be Connected had a statistically significant impact on participants' foundational digital skills and knowledge, digital confidence, social connectedness and loneliness, and online safety. Improvement to both operational and strategic digital skills signals the effectiveness of Be Connected as a model for addressing the digital participation divide affecting older Australians.

5

The program works differently for three types of learner: an *emerging* group of learners who had low digital engagement and saw substantial improvement; an *evolving* group who had moderate digital engagement and targeted improvement; and a more *accomplished* group who did not show significant change but had a relatively high level of digital engagement from the start. They were motivated learners and often took on the role of Digital Mentor.

While the most digitally disengaged are a key target population, substantial numbers of older Australians are losing touch with digital technologies as they move further from the workplace and into retirement. Others are highly motivated and accomplished lifelong learners. Program investment is most effective when it targets and meets each group's needs.

6

Be Connected has delivered a positive social return on investment: \$4.01 is created in social value for every \$1 invested. The program has created an additional \$229.5 million in social value between the launch in October 2017 and February 2020.

A large proportion of the investment lies in building the Network and infrastructure. Maintaining and further developing the network is likely to enhance the opportunities that Be Connected offers for older Australians.

Executive summary

There is a strong need to support the development of older Australians' digital skills, safety, and confidence, to enable them to participate fully in the digital society.

Older Australians have faced some of the greatest challenges to accessing health, welfare and business services online, and maintaining social connection, especially during the COVID-19 pandemic. And yet, they are least equipped to deal with the mass shift to life online.

Measuring digital skills, literacy, and participation is challenging. There are few standardised approaches. This study draws on and further develops international best practice measurement for understanding the tangible outcomes of digital skills and participation. We know that social and digital inclusion are closely connected. And so, understanding the socio-economic resources and personal contexts of participants is central to this evaluation.

Drawing evidence and insights from 915 program participants and stakeholders, we used a mixed methods approach that included a two time point survey to measure change as a result of participation in Be Connected. Insights into what works and why were deepened through interviews with stakeholders including learners, Digital Mentors, Network Partners and digital inclusion experts. A social return on investment (SROI) analysis was conducted to determine the program's efficiency and social value.

How appropriate is Be Connected as a program model?

- ▶ **A strong and growing network of partner organisations:** Diversity of the 3,007 Network Partners to date, their wide geographical distribution, and proximity to those in need is providing a successful means for building trust and making the program accessible to those who do not ordinarily seek out digital skills support.

Opportunity: In addition to the effective use of local marketing and events that have raised awareness of Be Connected, a nationally coordinated marketing and communications campaign would aid Network Partners to recruit learners and help to grow the Network.

- ▶ **Governance through network management** and distributed grants has proven to be an appropriate way to deliver the program because it empowers diverse partner organisations to tackle the digital divide that affects older Australians in their community.

Opportunity: Ongoing and adaptive grant distribution will strengthen the capacity of the Network that has been established through the initial phases of Be Connected.

- ▶ **Additional value is created by Network Partners:** We estimate that Network Partner inputs – what they contribute to delivering digital skills support – to be at least an additional 30 per cent above the grant funding received from Be Connected by each organisation.

Opportunity: For Network Partner organisations new to providing digital skills support and Digital Mentoring, there is opportunity to capitalise on investment in infrastructure (ICT equipment) and Digital Mentoring to continue to reach those most in need.

- ▶ **Investment in successful online resources** through the Learner Portal (beconnected.esafety.gov.au) offers a vital template and touchpoint for learners as well as Network Partners and Digital Mentors. Ongoing investment to maintain currency and relevance of the online materials is essential and has so far been achieved.

Opportunity: Continued involvement of Network Partners, Digital Mentors and learners in content development would ensure relevance and use.

- ▶ **Digital Mentors are a valuable program component**, with 9,822 recruited so far. Many operate on a voluntary basis and are motivated toward active and engaged ageing, and helping peers. Digital Mentors and Network Partners are the “connective tissue” that operationalise Be Connected across the country.

Opportunity: Digital Mentors also need support, including ongoing training, where feasible financial remuneration, and access to shared resources beyond the Be Connected modules.

- ▶ **Be Connected has successfully engaged over 580,000 learners** through the Learner Portal and Network Partner sessions and activities as of December 2019, exceeding the target of 300k (100k per year).

Opportunity: Network Partner managers, capacity builders and external digital inclusion experts spoke about seizing the opportunity to strengthen national coordination and collaboration across private (telecommunications, technology), public (Federal, State and local governments) and not-for-profit sectors to build digital skills, inclusion and participation.

How effective has Be Connected been for participants?

A clear majority of surveyed learners who participated in Be Connected showed significant improvement in a number of aspects of digital skills (operational and strategic skills), digital confidence, social connectedness and reduced loneliness, and online participation in social and economic activities.

► **Increase in digital knowledge and skills:**

Participants feel significantly more able to complete all seven key operational skills considered in the survey. This shows that the program's focus on foundational operational skills is effective and needed.

There was a stronger, statistically significant change in four skills related to website access and the use of smartphones and tablets: installing applications on mobile devices, bookmarking a website, tracking the costs of mobile applications and even using shortcut keys.

While there was less change to the core strategic skills considered (information navigation, social and communication, creative digital skills), after involvement in Be Connected, participants showed significant improvement to creative skills, such as creating new digital content. These are skills that underpin sustained and effective social participation through digital technologies.

- **Increase in confidence:** Be Connected participants felt significantly more confident to use tablets, smartphones, email and online search engines. Those who completed learning modules on video calling, online safety, and streaming music also reported improved confidence in engaging in these online activities independently.

► **Increased social connectedness among participants:**

We saw a significant reduction in loneliness over the time that learners were involved with the program. Survey participants also indicated that their social connectedness has increased as a result of their ability to connect with family and friends digitally.

Although it is understood that other factors are also at play when it comes to enhancing the social connectedness of participants, improvement in digital skills and associated activities and social events at Network Partner venues have contributed substantially to this important outcome.

- **Improved online safety:** Participants of the Be Connected program reported that they feel significantly more able to use ICT equipment and navigate the internet confidently and feel safe online. A program that puts online safety up front helps learners to overcome major hurdles to digital access and participation.

Our analysis shows that there was a significant increase in confidence in using online banking related to improved knowledge of online safety and the completion of the Safety First module. This is important as online scams impose high costs to the Australian people, particularly older Australians. The ABS (2016), estimated 36 per cent of persons aged 55 and over (2,314,988 persons) or 9.9 per cent of the Australian population were exposed to online scams in the 12 months before the survey in 2014–15. Total loss to online fraud in 2019 was reportedly over \$455 million. Investing in digital skills support for those most at risk is a highly effective way to address digital security breaches and fraud.

Executive summary

► **Three distinct classes of learners were revealed** through our statistical modelling and interviews. They each gain from and contribute to Be Connected in different ways. Drawing insights from interviews with participants and Digital Mentors, we refer to these three groups as *emerging, evolving and accomplished* learners.

Emerging learners started from very low digital engagement, and showed stronger general improvement in skills, confidence and participation measures. They were more likely to be older, women, have lower ability to read English, and employed previously in non-professional occupations.

Evolving learners are not considered digitally disconnected, are likely to be women, but younger with high English reading ability, and may have experience with digital technologies throughout their work history. They represent a group who have low to moderate digital confidence, and feel left behind by developments in digital technologies the further they move into retirement. Through involvement in Be Connected they showed targeted improvement.

Accomplished learners are highly engaged and motivated to learn with new technologies. They completed more modules in the program, but did not show significant improvement in skills, confidence and participation measures. Many have taken on roles as Digital Mentors, or are perfect candidates for this essential role.

These findings point to a clear opportunity: While the most digitally disengaged are a key target population, substantial numbers of older Australians continue to lose touch with digital technologies as they move further from retirement. Others are highly motivated, accomplished lifelong learners. Program investment is effective when it meets each of these group's needs.

How efficient is Be Connected, and what is the social return on investment?

Drawing on the core areas of change demonstrated through the impact evaluation, social return on investment analysis (SROI) demonstrates that the funding of digital skills and literacies support through Be Connected is a useful policy. The analysis demonstrates good value for money:

- **\$4.01 is created in social value for every \$1 invested.**
- **Be Connected has created an additional \$229.5 million in social value.**

This is encouraging as it presents convincing evidence for the value and benefit of Government investment in digital literacy programs targeting those most in need.

Conclusion

Our impact evaluation concludes that Be Connected represents an appropriate, effective, and efficient investment in older Australians' digital inclusion. Its implementation has provided a new national platform to build on to continue to enable older Australians to participate online and access the fundamental social and economic benefits of digital technologies.

With the positive impact identified through evaluation of Be Connected, there is an opportunity to broaden the scope to all Australians who need to develop their digital skills. Along with older Australians, other groups need support, such as those with disabilities, people on low income, low education and Aboriginal and Torres Strait Islander people. Some Network Partners are already addressing these needs and are well placed to add further social value through an expanded program.



Part 1.

Introduction

Many people are missing out on the benefits of the digital society.

None more so than older Australians. The skills, knowledge and resources needed to make use of internet-based digital technologies are often taken for granted. While access has improved year on year, this is not enough to ensure that Australia is prepared for a society where ‘digital by default’¹ is becoming the norm. Existing national data has demonstrated the need for supporting older Australians’ to improve their digital skills, confidence and safety:

Australian Bureau of Statistics data shows that compared to 98 per cent of 25–34-year-olds, only 83 per cent of Australians aged 55–64 years regularly access the internet, dropping significantly to 55 per cent for people aged 65 years and over.² This basic measure of access hides substantial variation in *how* people use the internet and the economic, social and personal benefit they receive from doing so.

Older Australians aged 65+ are the least digitally included age group, according to the Australian Digital Inclusion Index (ADII) with a score of 48.0.³ And the score drops further to 37.4 for those over 80 (a score of 70 is considered ‘high’ and 50 ‘low’). While access to the internet is increasing for people over 65 years (61.5), with many possessing a smart phone with some level of data access, both affordability (49.9) and ability (33) remain very low.

Older Australians face greater barriers than the rest of the population to accessing online government, health and business services and connecting socially with others to strengthen social inclusion. In fact, older Australians have faced some of the greatest challenges in maintaining social connection and accessing goods and services during the 2020 Covid-19 pandemic. And yet, they are the least well equipped to deal with the shift to life online.

Seeing digital participation as a national challenge, the Australian Government’s Digital Literacy for Older Australians strategy places priority on bridging the digital divide affecting older people.

This report evaluates the appropriateness, effectiveness and efficiency of Be Connected as a national response to the digital inclusion needs of older Australians 50 years and over. We ask:

1. Is Be Connected the most appropriate approach to improving older Australians’ digital confidence, skills and online safety?
2. How effective has Be Connected been in improving the digital skills, confidence, and activities of participants?
3. How efficient has Be Connected been in improving the digital skills, confidence, and activities of participants – what is the social return on investment (SROI) of Be Connected?

1.1 What is Be Connected?

Be Connected, a \$47.2 million Australian Government initiative, aims to support and enable older Australians to develop their digital skills and confidence, while also helping them to realise the benefits of being connected online. Initially implemented over a four-year period, from 2016 to June 2020, and officially launched in October 2017, the program was extended in late 2019 by a further 12 months with an additional \$9.3 million and is now scheduled to conclude in June 2021.

Be Connected has adopted a community-centred approach to provide older learners with personalised, face-to-face and self-paced learning across Australia. A key strategy underpinning the service delivery model of Be Connected has been the mobilisation of a diverse cohort of over 3,000 Network Partner organisations, including public libraries, community colleges, informal community groups, computer clubs, Men's Sheds and retirement villages to provide older Australians with interpersonal mentorship to improve digital skills.

The program responds to a 2016 election commitment, Digital Literacy for Older Australians (DLOA), that aims to improve the skills, confidence and online safety of older Australians in using digital technology. Be Connected replaces and builds on the earlier national program, Broadband for Seniors (BFS). BFS provided information and coaching tools for use by participating community organisations (BFS kiosks) delivering one-on-one, face-to-face digital skills training and support to Australians aged 50 years and over. The BFS program concluded on 30 September 2017.

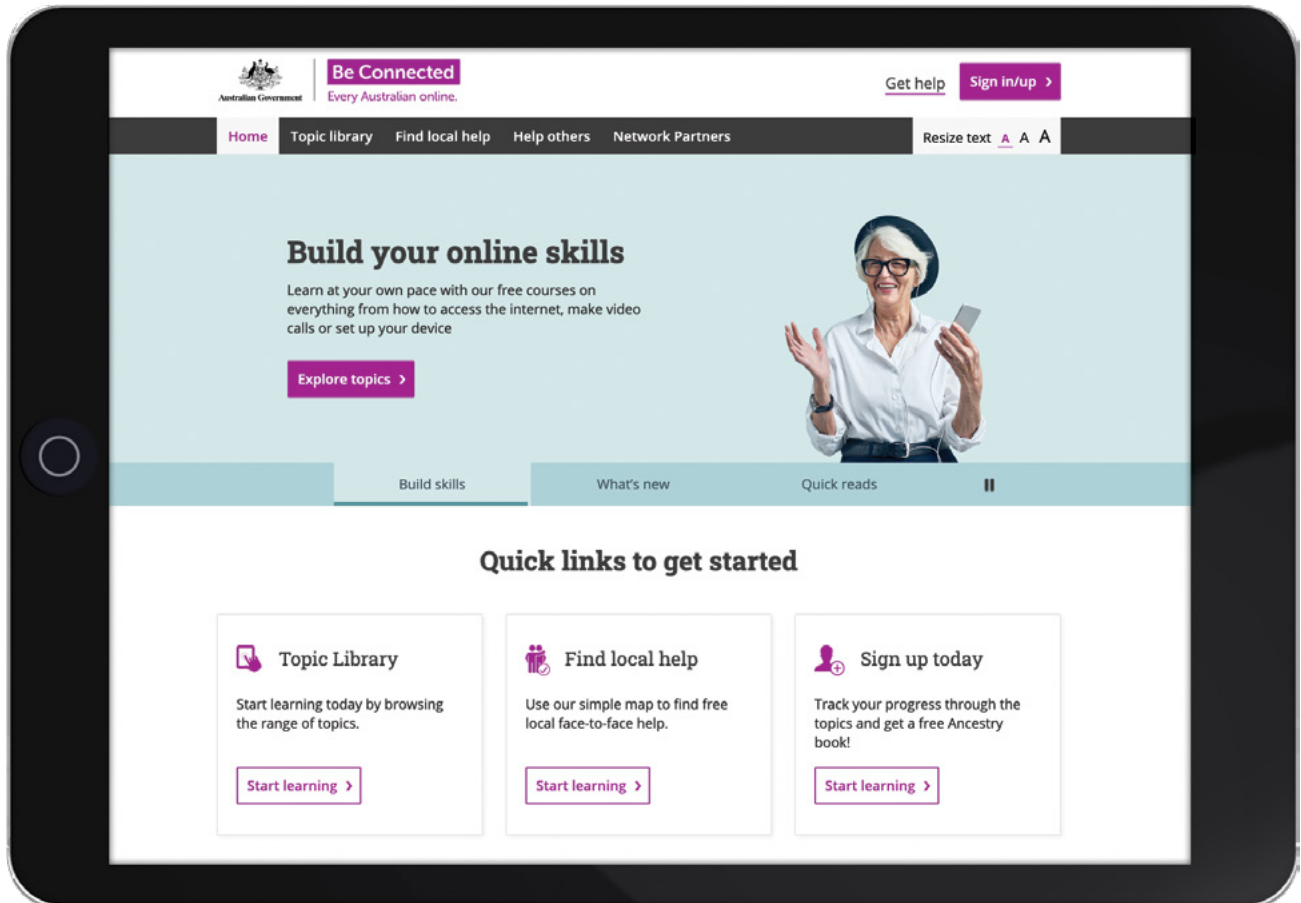
The objective of Be Connected is to:

Increase the confidence, skills and online safety of people aged 50 years and over, to enable them to participate online and access the fundamental social and economic benefits of digital technologies.

The target population includes those who do not engage with digital technologies and the internet at all, and those who are reluctant or unconfident. Led by the Department of Social Services (DSS) in partnership with the eSafety Commissioner (eSafety), the program's components include:

- ▶ Free online digital skills resources, including training modules, provided through the Learner Portal developed and managed by eSafety. Other program resources developed by eSafety include webinars and face-to-face training and intergenerational mentoring along with commissioned research into *The Digital Behaviours of Older Australians, and Mentoring Older Australians*.⁴
- ▶ A national network of community organisations (Network Partners) offering personalised and face-to-face support for older learners, coordinated and supported by the DSS funded National Network Manager, Good Things Foundation (GTF). GTF has provided Network Partners with professional development, up-skilling, one-on-one coaching, as well as resources and training for Digital Mentors
- ▶ Small grant funding for Network Partners, administered by GTF on behalf of DSS, to provide ICT equipment and infrastructure, digital skills programs and other Network Partner resources and capacity building.
- ▶ Community engagement and awareness raising activities led by GTF, including outreach programs such as the annual Get Online Week, launched by GTF in 2018, supplemented by sponsorship from NAB and NBN, and a suite of localised communications resources.

Part 1. Introduction





Part 2.

Research design

2.1 Understanding change in digital skills and participation

Digital skills and literacies are not disconnected from an individual's personal circumstances and environment. That is, digital inclusion is embedded in a person's social, economic, cultural and personal context (*Figure 2-1*).⁵

Evaluating digital inclusion requires attention to a range of operational and strategic skills, online activities and measures of self-efficacy or confidence that affect the use of digital technologies.⁶ These skills are dynamic and relative to need in response to an ever-changing social, economic and digital environment.

In line with leading researchers in the field of digital inclusion and participation,⁷ this evaluation examines the role of Be Connected in harnessing and extending participants' social inclusion resources. It does this by examining the way specific digital skills and confidence contributes to social and economic participation.

The evaluation is informed by Be Connected's program logic and **theory of change** (see *Appendix A-1*):

Be Connected began with **an investment of \$47.2 million** to provide online digital skills resources for older Australians and fund community-centred organisations to provide personalised and face-to-face support for seniors' digital literacy. **This would result in** improved availability of online learning resources that meet the needs of older Australians, with 300,000 completing digital skills training between 2017 and 2020 with the help of Network Partners. **The outcomes of these activities would be** improved digital skills, confidence and safety, greater economic participation through access to government and business services online, and social participation through the use of communication technologies for social connection and enrichment.

To find out whether Be Connected is meeting its objectives, the evaluation team undertook a three-year mixed methods research program, providing a feedback loop to enable DSS and project partners to adjust Be Connected as and where required. This final impact evaluation report synthesises the findings of each phase to establish the appropriateness, effectiveness and efficiency of Be Connected.

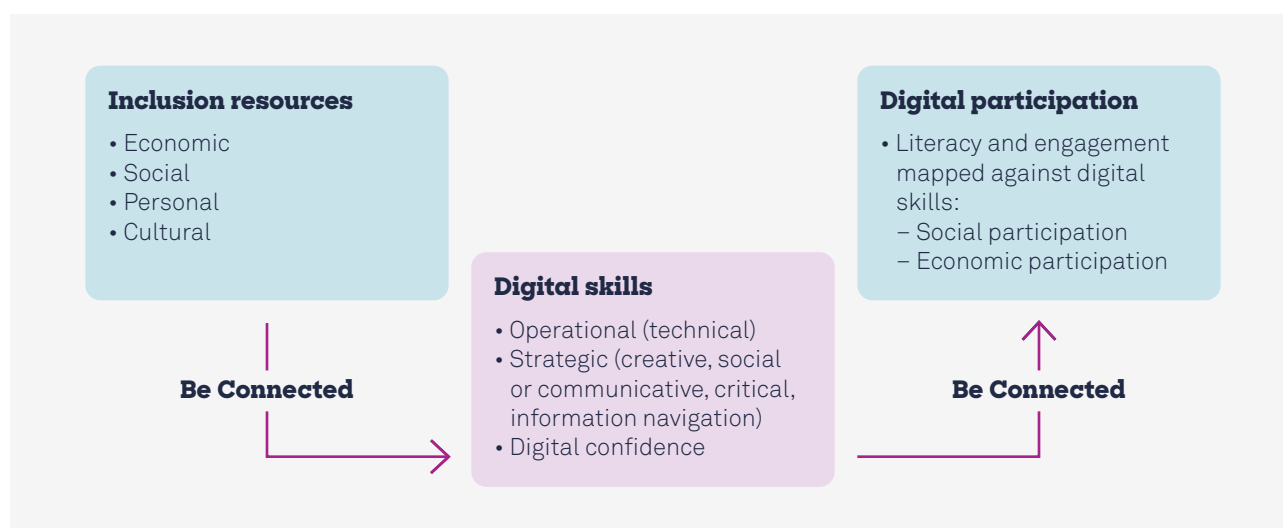


Figure 2-1. Pathway from inclusion resources to digital participation⁸

2.2 Research methods and data collection

To understand **appropriateness**, we draw on program data, Network Partner survey data and interview data gathered through the post implementation review between 2016 and 2018 and follow-up interviews with Digital Mentors and Network Partner managers in 2019 and 2020, along with external digital inclusion experts consulted throughout the evaluation.

To assess **effectiveness**, a learner survey at two time points (between Aug 2018, n=626 and May 2019, n=337) was used, establishing precise statistical measures of change over time. This was accompanied by interviews with 58 learners and Digital Mentors.

To determine the program's **efficiency**, a Social Return on Investment (SROI) analysis was undertaken, measuring the social impact as a return on the investment of program funds.

The research involved four phases of data collection and analysis, each of which informs this report. Through this mixed-methods approach, the evaluation incorporates multiple forms of data and methods of analysis to ensure the evaluation is comprehensive and valid (see [Appendices A-2 – A-6](#) for full research methodologies for each part of the research).

Triangulation, or the integration of different kinds of data collection and analysis to strengthen and validate findings, was achieved by building insights across four phases and by combining quantitative (surveys and statistical analysis) with qualitative (interviews) methods.

Insights from the Post Implementation Review helped to inform the focus of the learner surveys during the second phase of the evaluation. Analysis of the digital skills and confidence of learners, including identifying change over time within specific digital skill sets and confidence measures, revealed differences among groups of learners. This provided the basis for a further investigation of the data using statistical testing (Latent Class Analysis).

Findings from the statistical analysis through the learner surveys informed the direction of the qualitative interviews with learners, Digital Mentors and Network Partners, during the third phase of the evaluation. To build on interviews with Network Partners during the initial post-implementation phase, interviews with Digital Mentors and Network Partner managers were included in the third phase of qualitative research. The findings from each of the three earlier phases informed the analysis of the Social Return on Investment (SROI) which served to measure the social value and efficiency of the program in relation to its outcomes for participants.

Part 2. Research design

Limitations

No research occurs without some limitations. An overall limitation of the research was the inability to test program participants against a broader, non-participating population.

The evaluation addressed this limitation by considering how participants would have fared without Be Connected recognising that some may have been involved in alternative digital literacies and skills programs, or have socio-cultural, economic and personal resources that may have improved their digital participation independently of their participation in Be Connected. To address these possibilities we used a two time point longitudinal survey approach. This approach was designed to account for factors external to the program, assessing change over time, while controlling for any variation in the outcome measures that may occur naturally over the same time period.

More specific limitations include the low sample size for the survey of participants. While statistically valid for examining change over time for the target population, the sample size limited some more specific demographic sub-analysis. In addition, the analysis only provides subjective evidence of the role of national versus local marketing and communication on learner and Network Partner recruitment. Some measures of the social value of the program, such as the value of telehealth, only became apparent at the end of the evaluation period through COVID-19 isolation measures, and so were not included in the SROI analysis. These and other limitations indicate room for further research.



Part 3.

Appropriateness

Two key strategies underpin the Be Connected approach.

Firstly, the mobilisation of community organisations to provide older Australians with digital skills mentorship through the creation of a new national network of Be Connected Network Partners and Digital Mentors. Secondly, the creation of an online learning portal providing program participants with an accessible, evolving source of online resources to support their learning journey. Responsibility for the implementation of the two strategies is shared between GTF and eSafety.

Is Be Connected the most appropriate approach to improving older Australians' digital confidence, skills and online safety, to enable them to participate online and access the fundamental social and economic benefits of digital participation? At a glance, the findings show that:

A network governance model of program grant delivery and Network Partner support, in combination with the provision of online learning resources targeting low skilled device and internet users, offers an appropriate model for reaching a diverse range of older Australian learners.

The size of the partner organisation network **exceeding the goal of 2000 organisations to reach 3,007 Network Partners** by December 2019.

The diversity of Network Partners increases the opportunity for those who don't ordinarily seek digital skills support. Many including aged care facilities, lifestyle villages and Men's Sheds being new to delivery of digital skills development.

The geographical distribution of Network Partner organisations, means that **72 per cent travelled less than 15 minutes to a venue, and 46 per cent visited more than once a week.**

Creating unexpected and significant additional value, **Network Partners have recruited 9,822 Digital Mentors** to provide peer-to-peer training and support to older learners. This figure will jump in 2020-2021 as program grants target Digital Mentor training. The peer-to-peer model was widely supported by learners, and many Digital Mentors, often volunteers, consider themselves ongoing digital learners.

3.1 The Be Connected Partner Network

3.1.1 Resourcing for change: Delivering Network Partner grants

Central to the delivery of the program are the Be Connected grants, community engagement and capacity building grants designed and allocated by GTF. As of December 2019, more than **\$13 million in grants have been awarded** ([Table 3-1](#)).

The network governance model applied to program delivery has the advantage of bringing flexibility and adaptability to the program, providing resources directly to and by the communities that need them, with the trade-off being some loss of central accountability and control. The grants were designed to build the national network and resource Network Partners to deliver digital skills programs.

Initial grants often targeted information and communication technology (ICT) set up costs, especially for organisations new to providing digital skills support. The ICT set up (including devices and internet access) differs across Network Partners largely due to differences in funding. Libraries and public councils are most likely to have ongoing funding for Digital Mentoring activities usually provided by a paid staff member.

Table 3-1. Grant types allocated by Good Things Foundation, October 2017 – December 2019

Grant type		Number awarded	Value
Activation Grant	One-off \$2,000 grants for community organisations in the first year of Be Connected to help get started, and for each to register and support 30 older Australians.	2,096	\$4,192,000
Get Online Week	\$1,500 grants for events available to Network Partners during Get Online Week (October 2018 and 2019) to engage new participants in local communities.	1,341	\$2,011,500
Community Engagement Grant	One-off \$1,500 grants for Network Partners who had received Activation, Building Digital Skills or Capacity Building grants to host events or activities to promote Be Connected programs.	735	\$1,102,500
Building Digital Skills Grant	Up to \$15,000 was available to expand the reach of existing digital skills and literacy programs. Organisations could apply once they had registered 24 learners on the Be Connected Learner Portal.	266	\$1,369,544
Capacity Builder Grant	\$50,000 available for large-scale community organisations with capacity to train up to 100 Digital Mentors to deliver Be Connected support.	91	\$4,550,000
Total		4,529	\$13,225,544

Part 3. Appropriateness

By comparison, aged care providers, training providers and computer clubs rely to different degrees on members to finance Digital Mentoring activities—whether through a fee for a range of services (i.e. for aged care providers) or nominal fees for group mentorship (e.g. \$20 per year). Some community groups carry out fundraising or applications for one-off grants or donated space from local councils or parishes.

Adjustments to the grants profiles has regularly occurred to respond to needs of the network. Changes to grants include: increasing the Activation Grant from \$1,500 to \$2,000, Amending the focus of Capacity Builder grants to include a Digital Mentor train-the-trainer program, and introducing the Community Engagement grants to help Network Partners to promote their programs and attract new learners. This was a response to the withdrawal of a national marketing campaign for Be Connected. Flexibility of this kind offers greater opportunity to meet the needs arising from across the growing Network.

3.1.2 Enabling program reach through Network Partner diversity

By December 2019, the Network consisted of: **3,007 Network Partners, with 2,308 having received grant funding.** This exceeds the target of 2000 Network Partners. The development of a diverse and geographically widespread Be Connected network can be attributed to the successful delivery of Be Connected grants and investment in learner and Network Partner resources.

Network Partner organisations vary in their overarching objectives or missions, governance arrangements, sources of financial and other resources (*Figure 3-1*). They service different social groups, and have varied prior involvement in digital skills programs for older Australians. They share, however, a strong desire to ensure that the digital skills support that they provide is up to date with technological developments.

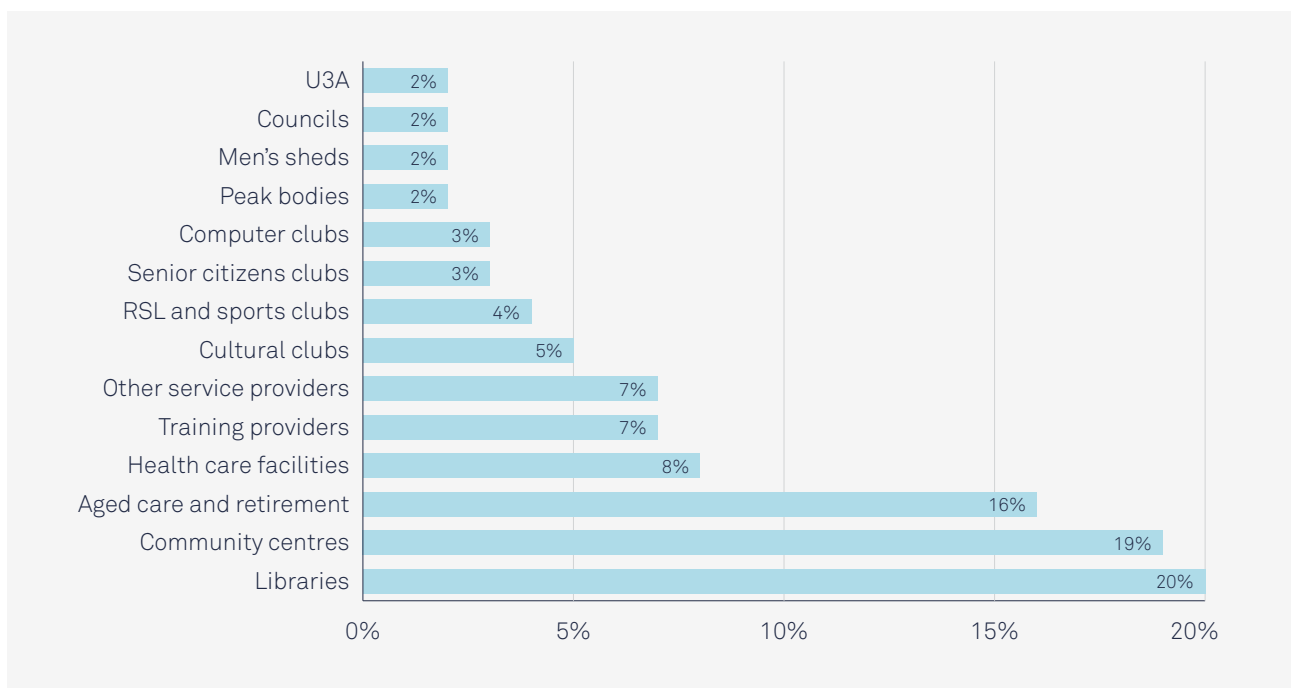


Figure 3-1. Types of Network Partners as a percentage of total number of organisations, December 2019

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Development of the Network required significant time and resource investment from GTF. Network Partners have been responsible for the marketing, communication and logistics required to engage Digital Mentors and to enroll learners through both face-to-face activities and events, and through registration to the learner portal. Evidence from interviews with learners and Network Partner managers and Digital Mentors indicates that these efforts would have been aided by a national broad targeting marketing and communications campaign. This was initially planned as shown in the Theory of Change ([Appendix A-1](#)).

Interviews showed that learners were most likely to hear about the program through word of mouth, advertisements placed by Network Partners in local newspapers, newsletters or on notice boards. Network Partner managers spoke about the additional work involved in producing marketing copy and Be Connected program information to inform and attract learners.

3.1.3 Creating a national network of local community-based partners

Be Connected has also enabled the establishment of a *geographically diverse* network of program partners operating in each Australian state and territory. [Figure 3-2](#) shows how the Be Connected partner network enabled older Australians living in major metropolitan centres, regional cities as well as rural and remote communities to access digital skills training.

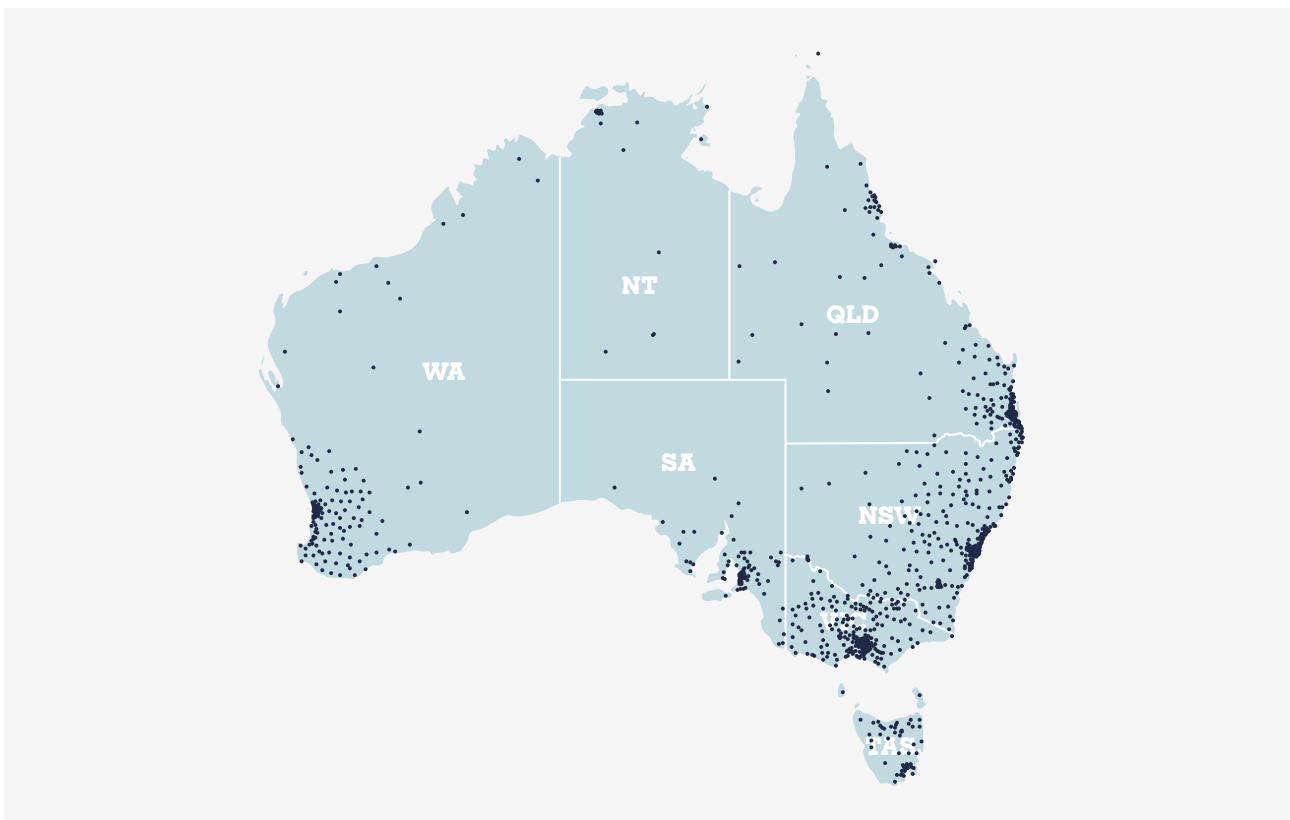


Figure 3-2. Geographical distribution of Be Connected Network Partners

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Table 3-2. Learners' travel time to Network Partner venues (Time 1, n=610)

Travel time to Network Partner venues		
	Number	Percentage
Less than 15 minutes	437	72%
15–30 minutes	114	19%
31–45 minutes	37	6%
46–60 minutes	14	2%
More than 60 minutes	8	1%
Total	610	100.00%

Accessible, trusted, local community-based partners

Interview data from participants and Network Partners shows that proximity to a community-based Network Partner helps to minimise the barriers associated with reduced mobility. Highlighting the importance of convenience and accessibility for older Australians, [Table 3-2](#) below shows that more than 70 per cent of learners lived within 15 minutes (either drive or walk) from their Network Partner. At the time of the second learner survey (Time 2, Feb-Apr 2019), 46 per cent of learners reported visiting their local Network Partner at least weekly.

These findings highlight the value of establishing partnerships with trusted, well-established community-based organisations. It also indicates Be Connected's role in offering an important social activity for participants. Participants noted the importance of the locality, access and inclusiveness of Network Partner organisations:

I went about half a dozen times or more. I can still go now if I get the time. It's in a library. It's about two kilometres from where I am at the moment. Eric 73, learner, NSW

And a lot of these people, they can't drive. They have to catch buses. They're aging. They're not mobile. So, you know, if they've got a stick or a walking frame you've got to consider that first. Network Partner manager (computer club) NSW

And I like the smiles. They're easy to talk to. And I live within walking distance or driving distance. Yeah and so here I am. Paired interview, learner (computer club), NSW

3.1.4 Recruiting Digital Mentors

The Be Connected network has recruited **9822 Digital Mentors** to provide peer-to-peer training and support to older learners. This figure will jump in 2020–2021 as program grants target Digital Mentor training.

Digital Mentors represent a key component of the Be Connected approach. Through their work, they enable Network Partners to connect with older learners on a peer-to-peer basis. For participants, Digital Mentors frequently provide the initial, important point of first contact with the program. Across the Be Connected network, Digital Mentors delivered a mix of one-to-one and small group learning.

Digital Mentors add significant value, not only because many are volunteers (discussed in Part 5), but also because they are most often seniors, locals, highly motivated to help their peers, and are uniquely placed to build trust among learners.⁹ In interviews, Digital Mentors describe the strategies they employ to build the digital skills and confidence of Be Connected learners, including reluctant learners.

*First off, we start with “Why do you want to do this?” I never put it to them as bluntly but that’s what we discuss “Why do you want to learn?”, “What do you want to learn?”, “What do you want to use this skill for?” We had this lady who was running an exercise group and she wasn’t so well, so I downloaded some YouTube videos of exercises. **Aaron 75, Digital Mentor, WA***

*With reluctant learners you have to get their confidence and you have to get them to be happy that you’re not going to make a fool of them. You know they don’t want to be shown up. Because they feel, in a lot of ways, a lot of times that they are stupid because they can’t use a computer. But they’re definitely not stupid. Their skills lie in other areas. **Marcus 77, Digital Mentor, VIC***

Key qualities of Digital Mentors highlighted in interviews were their patience, motivation, competency and confidence, their capacity to listen, assess the needs of others, and respond.

Many Digital Mentors felt they would benefit from further support, and collective resources. Those who spoke to did not receive any direct training, but accessed the online learning resources themselves. Train the trainer programs operating in 2020 are an important contribution to the program in supporting Digital Mentors. For established computer clubs this is well organised:

*We have a monthly committee meeting and then follow that with train the trainers meeting so we have a session there which is designed to be upskilling our mentors or triage tutors as we call them. **Network Partner manager, NSW***

For many others, the process of upskilling for Digital Mentors is more ad hoc:

*I just sat down and did the course myself. Did that first before talking to any of the students. ... I’m 77 and I taught myself how to use a computer back in 1988 working from a manual. **Bette 77, Digital Mentor, SA***

3.2 The Be Connected Learner Portal: Providing flexibility and structure

The benefits of the Be Connected Learner Portal for participant Network Partners lies firstly in the **flexibility** of the online training modules as a resource for Digital Mentors and participants, and secondly in the **currency** of the content, with new modules released periodically since October 2017.

The learning modules are accessible to beginners, and assume very little knowledge or digital skills. They cover operational, social and safety skills that target the social and economic participation outcomes sought by the program as a whole. Each module involves video, information and activities. A separate 'Practice area' offers a space for developing mouse, keyboard and related skills. Eight device and operating system – 'Getting started' – modules help to personalise learning for users of Apple iPhone and iPad, Android phone and tablet, Windows and Apple desktop and laptop.

Flexibility is structured into the Be Connected Learner Portal, enabling Digital Mentors to use the online resources adaptively to meet the needs of learners, rather than as a fixed and sequential learning template.

Interviews with Network Partners, Digital Mentors and participants show that Be Connected modules help to scaffold the learning of older Australians with differing degrees of digital confidence and skills. The Learner Portal offers a flexible blueprint that can be adapted to support learners. Digital Mentors insist that resources need to be up-to-date, to "keep pace with technological change" and the needs of the community.

So, you've got Be Connected there as a blueprint. So, I think to me that's a crucial resource that's going to be most valuable. And you know we'll adapt it to the client group that needs it to be adapted. ...We will certainly use it, because we think it's an invaluable resource.

Network Partner, (other service provider), VIC

App starter and eSafety are the things I suggest people do if they think they know it all. But I mean they can always go back to that if they think they know all those things. Because from when we started last year there's so much new stuff there, which is very supportive for people who have got a bit more savvy. **Anthea 73, Digital Mentor, QLD**

There is future opportunity for providing a mechanism within the Learner Portal platform to enable Network Partners to curate content. This would be enhanced further by including the means to enable Network Partners to suggest or even contribute to additional resource and content development.

3.3 What structural program elements work best?

The evaluation of appropriateness has found significant strengths and some gaps in the program structure:

- ▶ **A strong network of partner organisations:** Diversity of the 3,007 Network Partners, their wide geographical distribution, and proximity to those in need is providing a successful means for building trust and making the program accessible to those who do not ordinarily seek digital skills support.
- ▶ **Governance through network management and grant distribution works well,** empowering diverse partners, and organisations new to digital skills support, to tackle the digital divide in their local community. Adjustments to grant profiles has regularly occurred in response to the needs of the network, such as building capacity to train Digital Mentors.
- ▶ **Digital Mentors have been a standout program element,** along with the peer-to-peer based learning they facilitate. More can be done to recognise their role in facilitating digital inclusion with further investment in Digital Mentor training and resources. Digital Mentors want a platform for collaborative sharing, for example, and this would aid ongoing skills development.

3.4 What are the gaps?

- ▶ **National marketing and communications** could enhance the reach of the program and awareness of its benefits for those most in need. In addition to the effective use of local marketing and communication, a nationally coordinated campaign would lessen the work of Network Partners in recruiting learners and help to grow the Network.
- ▶ **Mechanisms for data gathering accountability and monitoring, for instance, registration of learners can be improved.** Several iterations of the learner registration process on the learning portal have been delivered since 2017 to ease the burden to new learners, those with privacy concerns, and provide transparent accountability while meeting the data requirements of DSS. This has been an evolving and complex issue that has had incremental changes to address these issues as they arose.
- ▶ **The online Learner Portal is an effective resource base;** however, there is an opportunity for ongoing development, including input from Network Partners to tailor resources to specific needs.
- ▶ **In interviews, external stakeholders and digital inclusion leaders,** including directors of programs such as GoDigi and Digital Springboard (InfoXchange), Tech Savvy Seniors (Telstra), digital inclusion leaders in state government and peak bodies such as Australian Seniors Computer Clubs Association (ASCCA), emphasised several points about the wider role of Be Connected in addressing the digital inclusion of older Australians. They emphasised:

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- **The need for strong national coordination:** Collaborative forums such as the Australian Digital Inclusion Alliance have been recognised as an important mechanism for national leadership and coordination for digital inclusion programs, services, resources and efforts. External digital inclusion experts interviewed discussed ideas such as making digital and social inclusion a more explicit focus through eSafety or other Departments or Agencies. At the time of interviews they felt a national digital inclusion strategy was still lacking in Australia, although recognised that Be Connected represented a significant contribution toward this goal.
- **Coordination and alignment** of the efforts of the numerous large and small non-profits and corporations was an issue discussed in depth by experts interviewed. Some noted that because Be Connected was one of many programs developing learning materials and delivering skills development to seniors or others, there was a need for coordination to avoid “double up across those networks” (InfoXchange, and echoed by Telstra).
- **Funding for research to build a knowledge and evidence base** for the sector has been emphasised in forums such as the Australian Digital Inclusion Alliance, and was discussed by digital inclusion leaders we interviewed. This has been addressed in part in recent years through this Be Connected evaluation, and through research initiatives such as eSafety’s commissioned research on *Digital Behaviours of Older Australians*, and *Mentoring Older Australians*.



Part 4. Effectiveness

How effective has Be Connected been in improving the digital skills, confidence, and activities of participants?

This part evaluates how well Be Connected has assisted its target population to achieve improved digital participation outcomes.

Analysis of survey data and interviews reveal the impact of Be Connected. Improvement to digital participation is assessed via the combination of digital skills (operational and strategic), digital confidence, online activities, social connectedness and loneliness, indicating enhanced social and economic inclusion.

Improvement to digital skills, confidence and participation in activities online: Findings show global improvement in key areas, with some learners more likely to improve than others.

Changes to social connectedness and loneliness: Using a recognised loneliness scale, findings show a reduction in loneliness during participation in Be Connected. Qualitative data support the association between participation in Be Connected and improved social connectedness.

Be Connected worked differently for three groups of participants: Initial analysis of change between time 1 and 2 identified a group with no confidence, a group with some confidence, and a confident group of learners (sections 4.2 to 4.5). Further statistical testing (section 4.6) showed three classes of learners with distinct outcomes from engaging with Be Connected.

Learners' first-hand accounts of participation in Be Connected show varied outcomes for emerging, evolving, relatively accomplished digital learners.

Taken together, these insights point to a clear pathway forward for supporting older Australians' digital participation.

4.1 Number of Be Connected learners reached

The effectiveness of Be Connected is affirmed by the success of both the Network Partners and the online Learner Portal in engaging and directly supporting a significant number of learners. *Figure 4-1* below graphs the number of learners engaged and directly supported between Nov 2017 and Feb 2020.

Number of learners engaged = 582,597

Figure 4-1 traces the number of learners engaged per month through Learner portal sessions and Network Partner surveying. A session refers to a period of time that learners spend with the online resources, activities and information on the Learner Portal. The number of learners engaged via the Network Partner survey refers to the reported number of learners. While there is potential that some are counted twice through Network Partner participation and Learner Portal sessions, the number represents a very conservative estimate due to returns on Network Partner surveys, and captures the range of ways participants engage in Be Connected activities and resources. There are noticeable spikes in October 2018 and 2019, which can be attributed to the success of Good Things Foundation’s Get Online Week outreach activities. These activities usually flow through into ongoing participation in courses or Digital Mentoring at Network Partners over the following month into November.

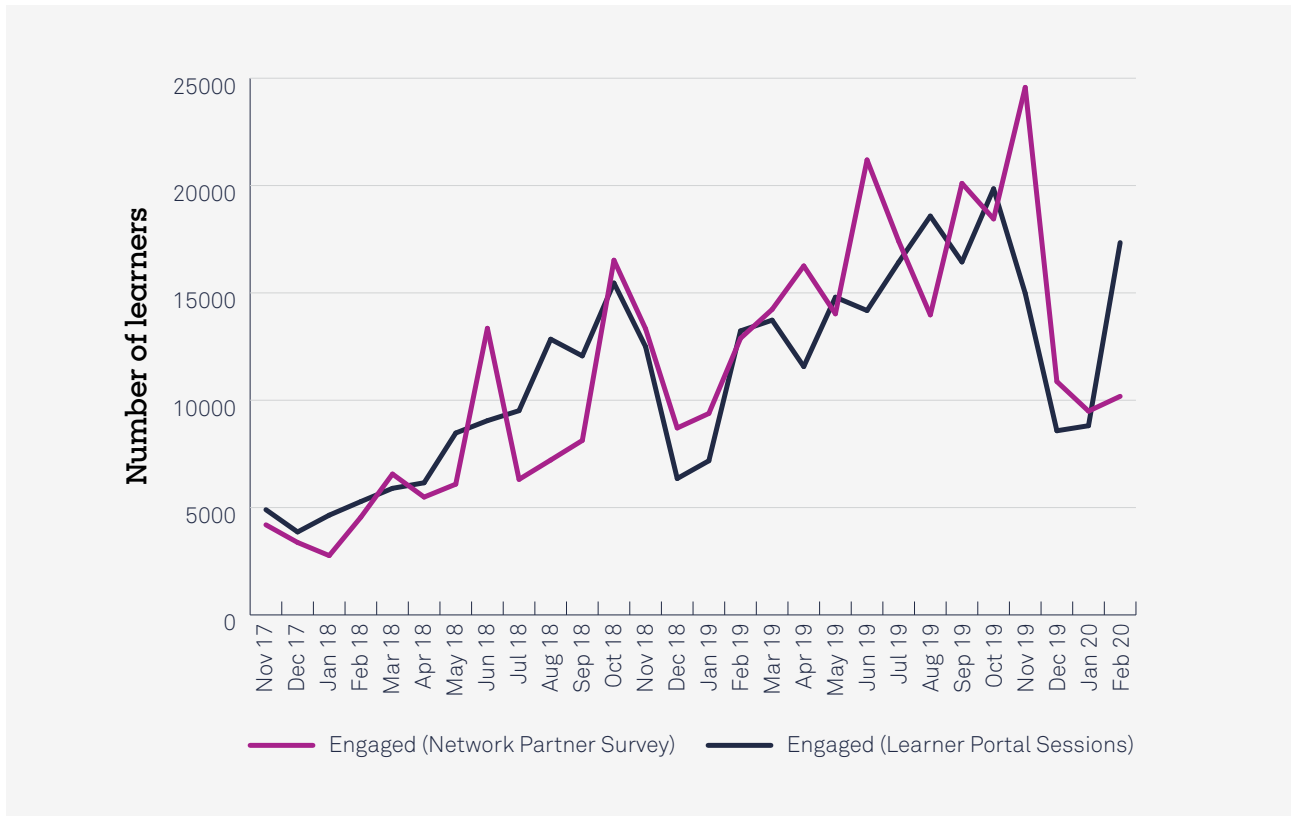


Figure 4-1. Number of learners engaged by Be Connected measured through monthly Network Partner surveys, and monthly Learner Portal sessions

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Be connected has **supported 132,176 learners** through registration and ongoing association. Supported learners refers to those registered through the Learner Portal, with and without a Network Partner's direct support, and those registered through the CaptureIT registration form introduced in June 2019 to help Network Partners better capture the learners they support through their everyday activities and mentoring.

Through the Learner Portal and Network Partners, Be Connected has tracked **554,662 learner activities**. These are specific learning tasks such as videos, questionnaires, skill building exercises beyond information sharing or mentoring and assistance. Some learners will have completed multiple activities, while others engage in other ways, such as through one-on-one support with a Digital Mentor.

4.2 Improvement to digital skills

A core strategy through which Be Connected aims to increase the digital literacy of older Australians, is to improve learners' understandings of how to use devices and the internet—i.e. to improve digital skills.

In line with international research in the field, we distinguish between two sets of digital skills: operational and strategic digital skills.¹⁰ Operational skills refer to the range of technical and instrumental abilities essential for using internet enabled ICT devices (e.g. mouse, keyboard, browsers, touchscreen, downloading applications etc.). Strategic digital skills include information navigation, communicative and creative capacities along with critical aspects of safety and security and enable the use of different technologies for the social and economic benefits they make possible. The study addressed:

Operational skills

- Opening downloaded files
- Downloading and saving photos
- Using shortcut keys
- Opening browser tabs
- Bookmarking a website
- Installing apps on a mobile device
- Keeping track of costs of mobile use

Strategic skills

Information navigation

- Using keywords for searches
- Finding websites visited
- Looking for information online
- Getting lost in online search
- Confused by website design

Creative skills

- Creating new content (visual)
- Changing others' content
- Understanding content licences
- Sharing image content

Social / communication skills

- Sharing personal information
- Appropriate interaction
- Settings for sharing content
- Removing friends from contact lists

Change over time to operational and strategic skills

Improvement occurred for all seven operational skills; however, it was stronger for four skills:

Installing mobile apps, bookmarking a website, keeping track of costs for mobile app use, and use of shortcut keys.

Learners who completed more Be Connected learning modules between the two times of data collection were more likely to report improvements in two basic operational skills: downloading or saving photos found online and opening a new browser tab.

Significant improvement occurred for creative skills, involving making changes to content online, creating something new from existing online content, and understanding content licenses.

See [Appendix B-1](#), ([Tables B-1.1](#), [B-1.2](#), [B-1.3](#)) for significance tables for changes to digital skills, and Linear Regression Analysis ([Table B-1.4](#)) showing the relationship between modules and digital skills.

In interviews, learners explained the changes in their digital skills in relation to a wide range of operational and more strategic skills as a result of their participation in Be Connected.

Developing operational skills

Even though its got it on top of the phone, to get into Google but you've got to turn on ... you've got to turn the data on. That helped a lot too because I knew how to turn the data on, but I didn't know how to actually access the information if I needed to.

Debbie 55, learner, NSW

I know how to receive emails, and I can do that, and get them quite easily. And, I don't know how to send them yet, I haven't learnt that yet, but I have a lot of friends that send me emails and I can read them off, and if I want to speak to them in reply, I just ring them up on the phone. **Jock 73, learner, NSW**

Developing strategic skills

...if I've paid something and I'll say, "Please send it to my email address," my receipt. And then I'll store that in my files and folders on the left-hand side. Alphabetical. Like the council rates and things like that. And then every now and again, I'll go through the files and folders and see if there's any of those I want to delete rather than it is getting too full.'

Doreen 79, learner, QLD

And now I know to press the right-hand thing and the photos come up and I can send the photos and the photos of my grandchildren up in Hervey Bay, they come to me and I can put them in my photo album and on the computer. **Paired interview, learner (computer club), NSW**

4.3 Supporting digital confidence

Having the confidence to use digital devices and the internet – often referred to in research as ‘digital self-efficacy’ – is shaped by personal experiences, knowledge and self-judgement.¹¹ Digital confidence is an important aspect of digital participation because the higher the confidence, the greater the persistence to pursue complex tasks and not give up until goals are reached. Many older people with very low digital confidence, for instance, talk about their fear of ‘breaking’ the computer or ‘getting stuck’ when they attempt to use applications or apps on their mobile phone.

Learners’ digital confidence was higher in some areas than others before participating in Be Connected. Our analysis examined digital confidence through a number of core internet activities related to different aspects of digital participation. These include: using a computer or mobile device, search engine, or email; transactions like online banking or buying and selling things online and staying safe online; and social and entertainment practices like using social media, video calling or streaming content (See [Appendix B-2, Tables B-2.1, B-2.2, B-2.3, B-2.4](#)).

4.3.1 The impact of digital confidence for different learners

To begin to understand differences among learners, we examined the proportion of learners who, before commencing Be Connected, were more likely to report stronger digital confidence.¹² On the basis of their digital confidence, participants could be clustered into **three distinct groups**, which we refer to as ‘no confidence’ (16%), ‘some confidence’ (47%), and ‘confident’ (37%).



Figure 4-2. Be Connected participants: prior levels of digital confidence

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It is important to note that confidence is defined here in relation to other Be Connected participants, not in relation to a broader population. This clustering is investigated through further statistical modelling in [Section 4.6](#) below.

Digital confidence decreases with age and increases with reported level of prosperity. [Figure 4-3](#) shows the digital confidence of learners by age group. These differences are a reminder that the 50+ cohort is not a homogenous group. The highest proportion of learners in the 80+ age group indicated that they had some confidence when using digital technologies, whereas the highest proportion of the 50–59-year age group indicated that they were confident users of digital technologies. Surprisingly, we found 22 per cent of 50–59 year olds reporting ‘no confidence’.

Age, however, does not alone explain differences in digital confidence. Further analysis in the following sections class groups of learners through other demographic and program participation factors ([Section 4.6](#)).

4.3.2 Changes to digital confidence

Through participation in Be Connected, learners improved their digital confidence in around half of the core internet activities considered in the two surveys.

Significant improvement to digital confidence occurred for: use of smartphones and tablets, and staying safe online.

Online safety was the aspect of internet use for which confidence was most strongly predicted by the number of modules completed. This can be attributed directly to the content covered by the Be Connected learner materials.

There was little improvement to already very low confidence in buying and selling online. Selling things online is the lowest of all listed activities.

Online banking saw minimum improved confidence, with 66 per cent already doing internet banking, and 33 per cent remaining unconfident.

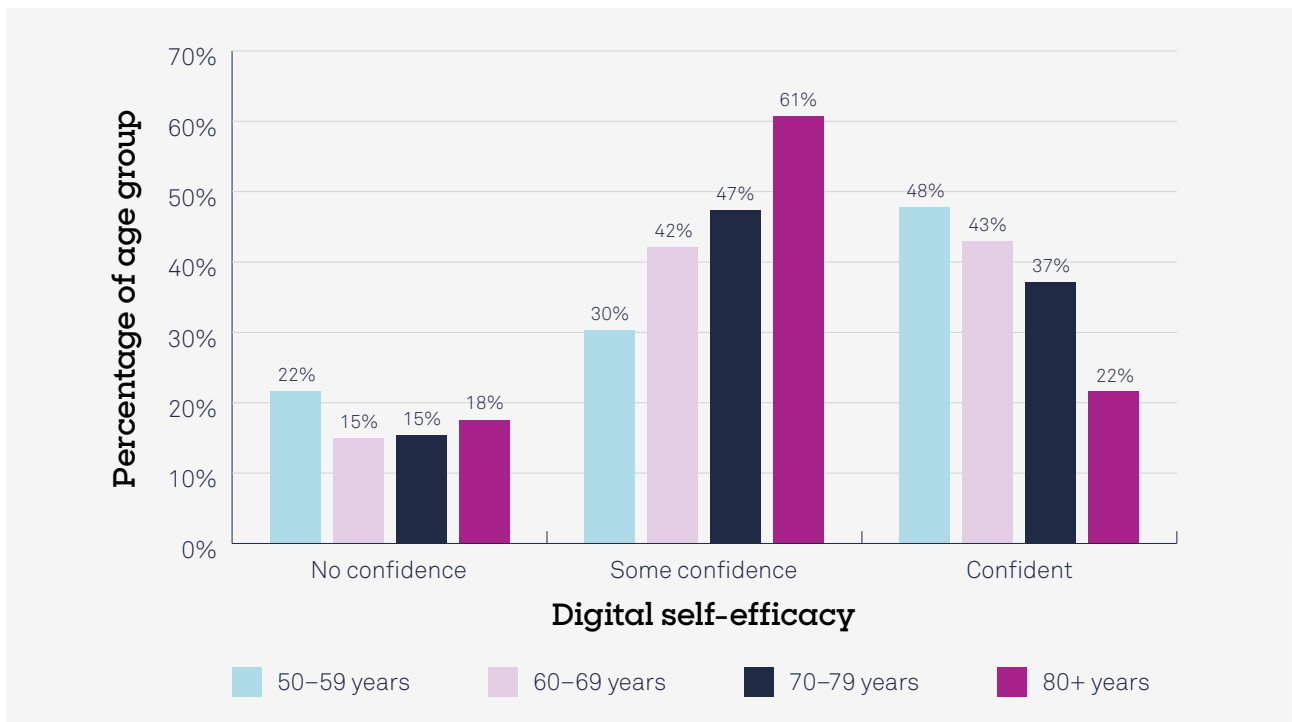


Figure 4-3. Digital self-efficacy by age (Time 1, n=626)

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Those who participated in Be Connected showed improved digital confidence, and this was associated with their digital skills development, whether they had positive attitudes to the internet, and demographic factors, in particular wealth and age. Learners who had 'no confidence' at baseline were significantly more likely to have improved their digital confidence after participating in Be Connected.

Similarly, changes to digital skills varied for different participants in relation to their level of digital confidence. Through involvement in Be Connected, those with low digital confidence at baseline were significantly more likely to have improved their operational skills, as well as social skills, and online economic participation (See [Appendix B-2, Tables B-2.6, B-2.7](#)).

The more Be Connected learning modules respondents completed, the more likely they were to have improved their confidence in being safe online (linear regression analysis, $p = .001$). This was the activity for which confidence was most strongly predicted by the number of modules completed. The analysis also shows that the completion of more learning modules supported increased confidence to use email independently ($p = .02$) ([Appendix B-2, Table B-2.5](#)).

We also tested whether specific modules supported learners to develop confidence in the specific activities that the modules covered. Those who completed modules that aim to support online safety ('safety first') or to use email ('getting started online') were significantly more likely to improve their confidence to independently engage in these two online activities ([Table B-2.6](#)).

There were also relationships between completion of the module 'connecting to others' and increased confidence to video call, completion of 'safety first' and increased confidence in online banking, completion of 'more online skills' and increased confidence to stream music or TV. ([Table B-2.7](#)).

In interviews, *emerging learners* described very little digital experience prior to joining Be Connected – the result of limited or no exposure to digital technology over the course of their working lives – and highlighted the very different demands of the pre-internet workplace.

I first used a computer about 10 years ago I suppose. But that was strictly business, it was strictly typing invoices and things like that. It wasn't on the internet or anything like that. Harry 75, learner, VIC

And it's just a lack of education on them because I never, when I was at work, I never used a computer at all, so it made it a lot harder. Jock 73, learner, NSW

I know in this modern age you need a computer for everything, but I tried to shy away from it because I didn't really know where to go. I was also very careful about not going on the wrong direction on the computer whereby my personal information would be exposed. I didn't know what to press, I didn't know what to do. So, these things brought a lot of fear to my mind. Sid 54, learner, NSW

These participants emphasise two key points regarding the impact of Be Connected on digital confidence:

1. As older Australians move further away from work after retirement, their reasons to use or learn digital technologies also recede. **Feeling 'out of touch' with digital technology leads to a drop in digital confidence that an accessible, supportive, local skills program can help overcome.**
2. Fears concerning online safety and security were seen as fundamental barriers for many, reducing the likelihood that they would be willing to take the first steps in learning to use digital technologies. **A program that puts online safety up front helps learners to overcome this major hurdle.**

4.4 Supporting independent digital participation

The overarching objective of Be Connected is to enable older Australians to participate online and access the fundamental social and economic benefits of digital technologies.

Digital participation encompasses ongoing engagement in various digital activities and the regular use of digital technologies for meaningful social and economic participation. It is often measured simply through frequency or intensity of use of digital technologies in day-to-day life. Our survey and interview questions target the social, economic, personal and cultural domains for meaningful digital participation (*Figure 4-4*).

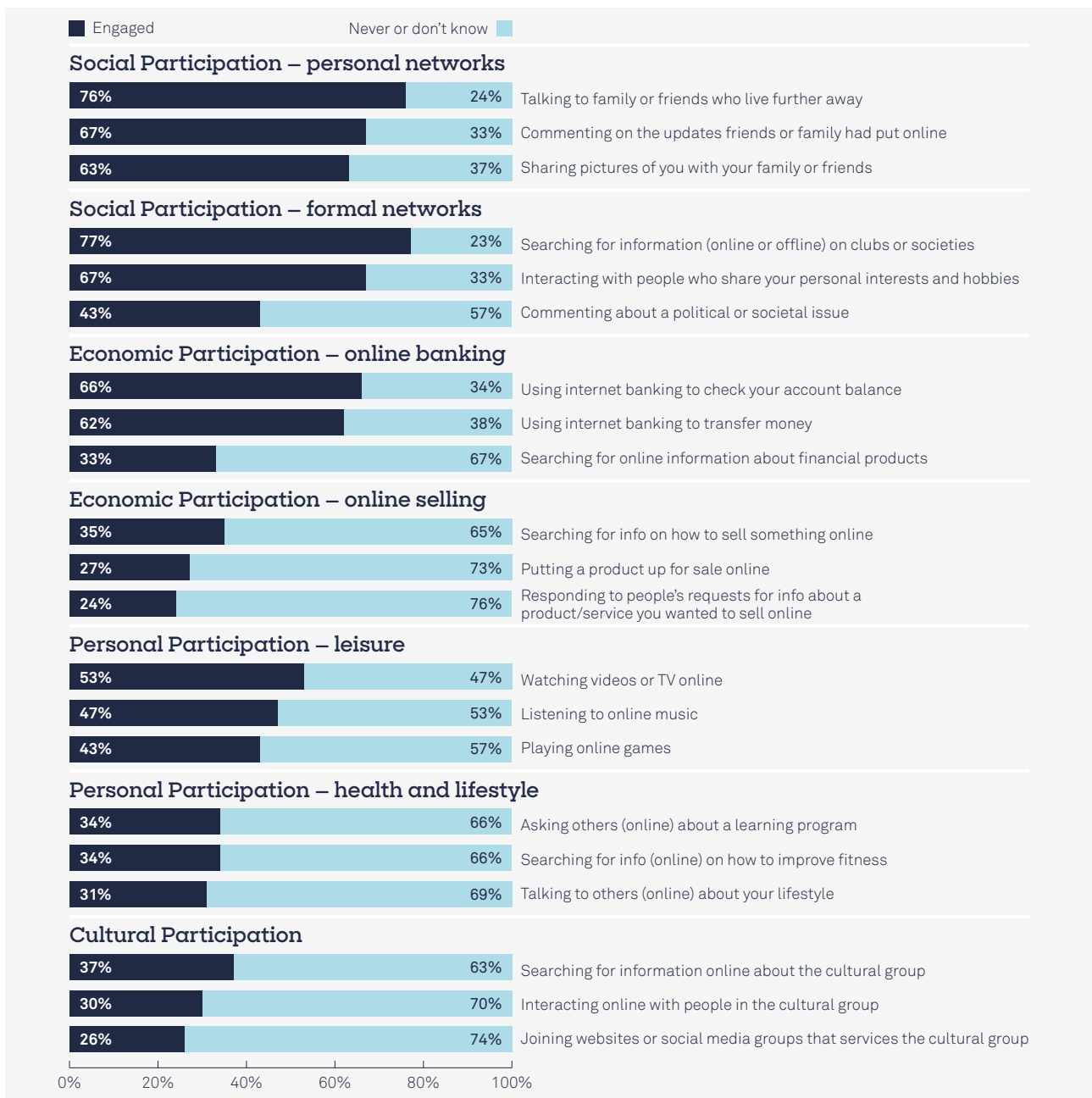


Figure 4-4. Online activity indicating social, economic, personal and cultural participation (Time 1, n=626)

4.4.1 Digitally enhancing social and economic participation

At the time of the first survey (Time 1 is Aug 2018), a majority of learners were already using digital technologies, including text messaging on phones, email and other means for social purposes.

Two thirds of learners surveyed had at some time in the past used digital technologies for internet banking (66%), and just over half watched online video or accessed streaming services (53%). 65 per cent reported having a myGov account, and 62 per cent had checked their personal details, with 50 per cent reporting that they had lodged a claim or form.

There was virtually no change in each area of digital online participation – social, economic, personal and cultural – throughout the time period of involvement in Be Connected.

Watching online videos or streaming television were the only activities to show a statistically significant increase. ([Appendix B-3, Table B-3.1](#))

Increased engagement in online video and television indicates an interest in using accessible video formats for personal interests. This carries a strong potential for learning through, for example, the many ‘how to’ resources and tutorials hosted by YouTube and similar platforms – a strong theme in interviews.

However, it is important to account for the lack of change in other key areas of online participation.

First, gaining independence in internet use was important for learners who engaged with Be Connected. Comparative analysis of baseline and follow-up survey data shows that although participants did not increase the number of ICT devices, they used their devices more often. Increased use of the internet in the four months following the baseline survey indicates that many learners who identified as internet users were keen to participate more fully online and in new ways.

Through Be Connected, learners used the internet more often, at home, at a Network Partner venue, and on their mobile devices while away from home, particularly for accessing information.

For each module learners completed, the likelihood of using the internet independently on their own increased by 9.4 per cent and the likelihood of using the internet independently at a Be Connected Network Partner venue increased by 12.7 per cent. ([Appendix B-3, Table B-3.2](#))

Second, in interviews, Be Connected learners explained the improvements in their digital participation across the different domains: social, cultural, economic and personal. Increased social participation strengthened social connections with family and friends while participation in online communities of interest emerged as particularly valuable for older Australians living in regional and remote Australia.

Enhanced economic participation manifested in greater use of online banking and shopping. Increased personal participation through the use of online knowledge repositories including Google and YouTube, enabled learners to build their real-world skills, knowledge and confidence.

 Part 4. Effectiveness

Enhancing social participation

*I don't email my grandchildren. There's an Instagram now that I use. I send them a little picture. I've got some in Brisbane that are younger. I mean the eldest one is 15 and I send them something each day. A picture, you know, something. But I've only been using that since I've been to Be Connected. Even though it's on the phone I never used it. **Robyn 75, learner, QLD***

*I run the service at my church once a month and I'm in regular contact with preachers and teachers by internet or email or whatever to find out what they're going to preach on and what the scripture references are, so I'm prepared each time. **Florence 68, learner, WA***

Enhancing economic participation

*So, I've got lots of Apps. I can look up my shares for instance, the share market. I've only got a few, but I can't buy or sell shares. I can look at the day's values. **Eric 73, learner, VIC***

*Well banking to keep abreast of everything. In fact, I still get paper statements, but I don't even look at them anymore. I just go online and bring up my bank account and I can transfer money. I pay all my bills online. I don't have to leave the house if I don't want to. Everything's online, my house rates, my water, my electricity. I have even started, since I did the program, buying clothes and the like online. I never did it before. I wouldn't have been game. **Ian 71, learner, NSW***

Enhancing personal and cultural participation

*How to repair a Holden seat. The seat had disconnected from the back and I looked at Google to find out how to do that. **Harry 75, learner, VIC***

*Well, Google, I use it to get onto maps and then to get onto the gardening site, which plants are which and whatever else you want to know, and there's different things I want to look up like weather, and the population and that sort of thing. **James 75, learner, NSW***

*I like the fact that YouTube has just about anything on it, instructions how to bake a pizza, whatever. You've got the world at your fingertips. **Paired interview, learner (library), VIC***

4.5 Building social connections and reducing loneliness

Improved social connection is a designated outcome target for Be Connected.

To assess whether participation in Be Connected had any impact on improving social connectedness and reducing loneliness, we included a loneliness scale (UCLA-LS), and the SF-8 self-reported health scale in the learner surveys and tested for change over time. While there was no change in health for learners who responded to the survey at time 1 and time 2, there was a significant change to participants' loneliness scores (see [Appendix B-4](#)).

Loneliness was reduced over the duration of Be Connected.

Digital confidence was significantly higher among those who reported lower loneliness and better physical and emotional health.

Those who feel less confident in doing the 12 online activities independently also felt lonelier.

Survey participants indicated that their social connectedness has increased as a result of their ability to connect with family and friends digitally.

While it is uncertain whether this improvement to loneliness was due to the specific activities undertaken through participation in Be Connected, the value and importance of the social aspect of the program was consistently emphasised in interviews. Moreover, it is clear that participation in Be Connected created significant opportunities for social interaction and connection.

Learners also described improvements in their use of online communication tools – use of social media platforms including Instagram, WhatsApp and Facebook as well as popular communication software like Skype – as well as their use of mobile phones, tablets and computers (laptops and desktops) – to connect with friends and family members, including their technologically savvy grandchildren.

Reducing loneliness through online social participation

I use Instagram about once a week because my kids, my adult children, they're on Instagram. They're on Facebook too. We SMS a couple of times a day. They like texts and my son travels to the States every few weeks so we're either on Instagram, or we text and we're on WhatsApp. I still get a bit confused with WhatsApp and I need to ask this IT lady to take me though it again but no I'm okay. I've been using WhatsApp since the program. Ian 71, learner, NSW

Well I love meeting different people because for a start I was living on my own and I just had the four walls to talk to and they wouldn't answer you! I turned 80 the other day. You've got to get out and meet people and do different things. Wednesdays I've got computer classes. Louise 80, learner, NSW

Part 4. Effectiveness

So, you know you're not going to improve the digital capability of people unless we first of all start working on their social inclusion. When you look at the Be Connected Facebook page where people are reporting on events they've run, you'll find that the successful ones are all events where there was a lot of people with a good cup of coffee and muffins or carrot cake. Simon 72, Digital Mentor, QLD

Taken together these findings highlight both the social isolation associated with retirement and aging in Australia - a situation made more acute by the dispersal of family members, across the country and also overseas - and the importance of Be Connected as a source of social connection for older Australians.

4.6 Who does Be Connected Work for, and how? Three classes of learner

Our analysis has already shown that Be Connected benefited groups of participants differently. To deepen the analysis, we applied a statistical technique – latent class analysis – to group participants around similar patterns of change (i.e., before and after program completion) across confidence, attitudes, skills, and participation. (A full description of latent class analysis can be found in [Appendix A-5](#) and [Appendix B-5, Tables B-5.1, B-5.2, B-5.3, B-5.4](#)).

We analysed patterns in **confidence** in the use of digital technology, **attitudes** towards digital technology, digital **skills** and **participation** in online activities. To examine who demonstrated a particular pattern of change, the classes were next compared across a range of demographic variables.

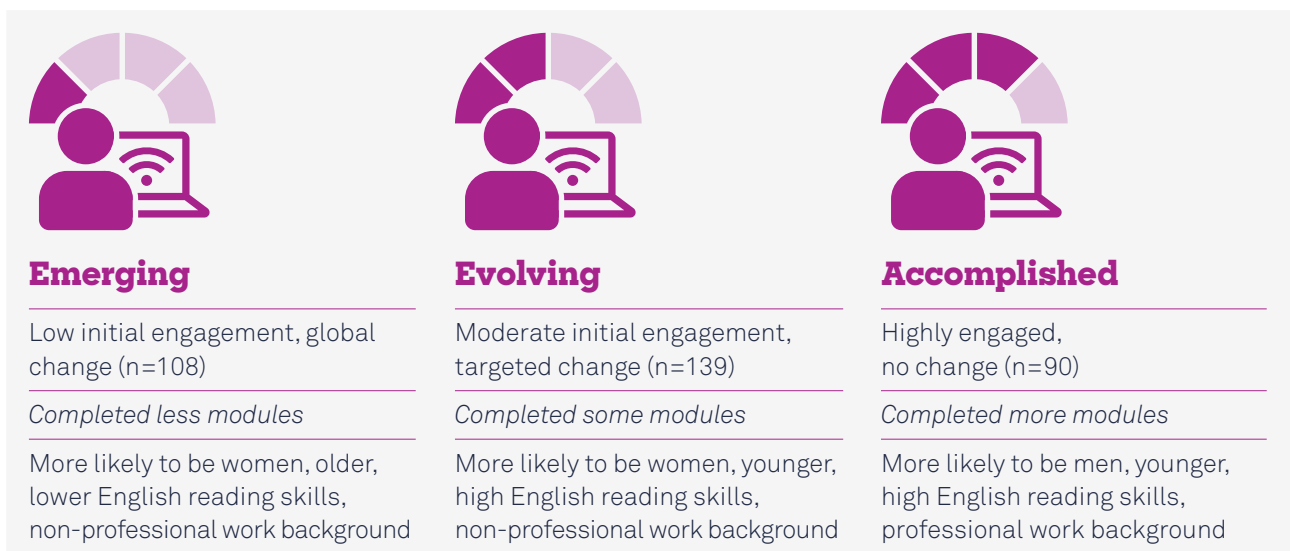


Figure 4-5. Three classes of learners, latent class analysis (n=337)

Part 4. Effectiveness

Figure 4-5 summarises the differences found between classes in terms of their demographic background. The *emerging* and *evolving* learner groups were more likely to be women suggesting that the Be Connected program was particularly successful in promoting change for women, with the men being more likely to be highly engaged digitally before the commencement of the program.

Given the nature of the emerging and evolving groups, this suggests that women both experienced more improvement in their global digital confidence as well as more specific change as a result of completing the program (i.e., improvement in technical ability, confidence and operational and creativity skills).

Emerging learners started from very low digital engagement, and showed stronger general improvement in skills, confidence and participation measures. They were more likely to be older, women, have lower ability to read English, and employed previously in non-professional occupations. This group experienced generalised learning through the program from a low skills and confidence base.

Evolving learners are not considered digitally disconnected, were likely to be women, but younger with high English reading ability, and may have experience with digital technologies throughout their work history. They represent a group who have low to moderate digital confidence, and feel left behind by developments in digital technologies the further they move into retirement. Through involvement in Be Connected they showed targeted improvement.

Accomplished learners are highly engaged and motivated to learn with new technologies. They completed more modules in the program, but did not show significant improvement in skills, confidence and participation measures. Many have taken on roles as Digital Mentors, or are perfect candidates for this essential role.

Part 4. Effectiveness

The program was also shown to be more effective in improving change for older participants. Older participants were significantly more likely to be in the emerging learners group, while younger participants were more likely to be already engaged with little room to improve (accomplished learners), or to experience moderate improvement in specific areas such as their technical competence, operational skills and creativity (evolving learners).

Referring back to Section 4.3.1, [Figure 4-2](#) showed the segmentation of age against digital confidence categories, noting that 52 per cent of 50–59 year olds demonstrated ‘no confidence’ or ‘some confidence’. So, while age is an independent indicator of membership in the three core learner groups, there are many younger participants who gain substantial value from participation.

Those with a lower ability to read English and who were employed or previously employed in a non-professional occupation started from a lower base. They were also more likely to demonstrate greater and more general improvement as a result of completing the program.

Interestingly those who benefited most from the program completed less training modules than those who were already engaged and experienced no change. The number of modules completed by those who began with moderate engagement and experienced targeted change (evolving learners) was not statistically different from the other two groups. This suggests the importance of other components of the program, including the support provided to older learners by the Digital Mentors and the provision of affordable, community-based learning in enabling learners with limited prior digital engagement (women, older participants, learners with limited English reading skills and learners previously employed in non-professional occupations) to reap the benefits of Be Connected.

4.6.1. Accounting for different types of learners

Results from the latent class analysis show that while each class of learner benefits from digital skills and literacy support, they do so in diverse ways. The findings from the qualitative interviews with participants, Digital Mentors and Network Partners helps to explain these differences and characterise the way different learners have engaged with Be Connected.

Emerging learners reported limited engagement with digital technology along with low digital confidence and skills prior to participating in Be Connected. These learners require greater encouragement to get involved, and need support with all operational skills, starting with the very basics. For example:

My sisters and brother said “Doreen, if we can learn the computer so can you. Because they had all learned it first before me... But they’re far away, that’s the thing. That’s why I wanted to learn. They’re all very very far away. Doreen 79, learner, QLD

Evolving learners typically brought some prior experience of digital technology, moderate digital self-efficacy and specific digital skills to the program. While they have some experience and skills, these learners need to build confidence and get ‘up to date’ with new technologies and devices. For example:

I was familiar with computer work because I'd used computers – I worked for an airline, so I'd used computers for reservations, but I hadn't used them for personal stuff – banking, or even personal emails, I never sent personal emails. Ian 71, learner, NSW

Accomplished learners described themselves as already highly engaged with digital technology, with a strong sense of digital confidence and diverse digital skills. These learners are motivated and looking for a challenge. They are likely to be current or potential Digital Mentors. For example:

Well I mean I came from a background where I got the high-level skills in some of the software, I needed for publishing work. You know Word and those types of things. But I was still frightened of the whole computer business when I left work. And the other thing is it moves so fast. Anthea 73, Digital Mentor, QLD

4.7 Which program features are most effective?

Older Australians face a set of significant barriers to learning independent digital technology use, but also strong drivers.

Participants emphasise the difficulty of learning from members of their family, even though they rely on family and friends to help them be online: “My daughter was trying to teach me. Honestly, bloody useless.” **Debbie 55, learner, NSW.**

Low digital confidence, fear of privacy and security failures or the idea they might break the machine inhibit many from even beginning to learn and gain independence with digital technologies.

Social connection is a key driver for learning to be online: “I wanted to find out how to do things on Skype and all that sort of stuff. We've got a relative in England and we thought we'd try to talk to him on Skype.” **Harry 75, learner, VIC.**

The need to move beyond previous work experience with technologies and keep up with changes drives many: “I've used a computer. I used a computer in my work ... But I know how to use it, as far as that goes. But I don't know with all those other little bits and pieces that you've got on a computer these days. And also, on the smartphones as well, I mean, I'm using it more now but well, I finished work about six years ago now.”

Robyn 75, learner, Queensland

The need to connect to services and banking drives the desire to learn: “Well you have to have some (computer) knowledge today for the basic things. If you want to go on a government website, you have to have a computer. And banking is all done by computer, so you have to have some sort of knowledge.” **Alison 64, learner, SA.**

Part 4. Effectiveness

These barriers and drivers are addressed through the following program features:

- ▶ **Support that is accessible, local, individualised and trusted...** *“We saw in the local newspaper that Be Connected was being run by the local U3A... My wife as well thought we’d both get some value out of just going along for the day and we did get some value out of it.”* Sean 67, learner, VIC
- ▶ **Digital Mentors and peer learning in local community venues works** for all learners, including more accomplished learners who gain much from helping their less experienced peers: *“Just the acceptance. It didn’t matter where you were up to [Jim] the guy running it was always ‘Yes that’s all right’ He’d step back for you and go ahead for somebody else who was a bit more advanced. Yes, generally the whole group was accepting of where everyone’s up to.”* Ollie 70, learner, NSW
- ▶ **Individual needs and interests, when foregrounded, help to shape effective digital skills learning:** *“Well, the best thing for me is that I can look up things about railways, model railways. Having gone to the Be Connected, I actually now have a ZINIO subscription and get my magazines from America downloaded electronically.”* Sean, 67, learner, VIC
- ▶ **Online safety works to unlock skills development, digital confidence and participation:** *“Well there was a lot of things I couldn’t do. So, I really wanted to know how to do things quicker and easier and more efficiently – and use all your shortcuts and stuff like that... And also, the security, I’m still behind the eight ball when it comes to computer banking, online.”* Emma 79, learner, NT
- ▶ **Establishing fundamental operational skills first** allows learners to move to a range of more strategic skills: One participant explained that an early session from a Centrelink presenter was lost on them: *“Well, I didn’t know anything about it, so they may as well have stayed home”, but noted later that “If they turned up now, I’d know a bit more about it.”* Libby, 78, learner, NT
- ▶ **Learning resources that cater to all levels of ability and interest provide the building blocks for personalised learning:** *“They are bringing out different modules - which are great. You know the beauty of the modules is that they are so easy to understand”* Rory 68, Digital Mentor, SA

4.8 What are the opportunities for greater impact?

In addition to addressing aspects of the program model as discussed in Part 3, there are several aspects of the program that could be enhanced or further developed to improve and deepen its effectiveness for a wider range of participants. Opportunities directly related to our findings include:

- ▶ **Addressing the diversity of participants:** The most digitally disengaged are not the only beneficiaries of digital skills, confidence and participation support. There is great benefit to be found in those groups seemingly more digitally engaged. This includes more accomplished learners who enthusiastically participate and can more easily move into Digital Mentor roles to help others.
- ▶ **Accessibility of program elements:** The impact of low English language readings skills shows the potential for further targeting accessibility through program elements. This includes enhancing access for culturally and linguistically diverse groups through appropriate Network Partners and multi-language resources. This has been addressed to some extent through program design and operations, but is an ongoing area of need.
- ▶ **Targeting strategic skills and long-term digital participation:** We saw most significant effects of Be Connected for improvements to operational skills. There is an opportunity to build on this success to enhance a wider range of strategic digital skills, and work toward more holistic social and economic participation to achieve a longer-term, deeper impact.



Part 5. Efficiency

A social return on investment analysis (SROI), detailed below, demonstrates that the funding of the Be Connected program by the DSS is a sensible policy and program decision with a social return significantly higher than the initial investment of the program:

\$4.01 is created in social value for every \$1 invested.

Be Connected has created an additional \$229.5 million in social value.

This is encouraging as it shows that the social value created for the stakeholders by Be Connected exceeds the stakeholder investment in the program.

5.1 Stage 1: Establishing program scope and stakeholders

Be Connected program is a 4-year, \$47.2 million Australian Government initiative. Funding was allocated to project partners – the DSS and eSafety. GTF was later contracted by the DSS to manage and disperse grants to Network Partners. From October 2017 to December 2019, GTF dispersed \$13.2 million in grants (Part 3, [Table 3-1](#)).

The main stakeholders of the program were determined to be program participants or learners, Digital Mentors, Network Partners, DSS, eSafety and GTF. The research team has engaged with these key stakeholders from the outset. Program administrators were involved in the design of the evaluation. Program participants (including learners, Digital Mentors and Network Partners) were engaged during data collection.

Stakeholder perspectives informed what to measure and how to measure the values created as a result of the investments made by all stakeholders between October 2016 and December 2019. [Appendix C-1, Table C-1.1](#) identifies the key stakeholders of Be Connected and determines who is included and who is excluded in our analysis and why.

5.2 Stage 2: Mapping outcomes

Drawing on the theory of change (see [Appendix A-1](#)) and analysis of survey and interview data, we have identified four outcomes for the SROI analysis:

- ▶ Increased digital skills and knowledge
- ▶ Increased confidence in the use of ICT
- ▶ Increased social connectedness
- ▶ Increased online safety among participants

5.2.1 Inputs (investments)

The main contribution and investment of the key stakeholders in the Be Connected project included:

- 1) **Be Connected participants:** The main inputs learners contributed to their learning include time, and transport costs and charges incurred to access online training materials and to attend supported learning sessions.
- 2) **Government funds (inputs):** This includes program funds allocated to project partners (DSS and eSafety) and grants dispersed to Network Partners through GTF.
- 3) **Network partner inputs:** We estimated this to be at least an additional 30 per cent of the grant funding received from Be Connected by each organisation. Be Connected has enabled the establishment of a network of 3007 community partners. These Network Partners include libraries, community centres, aged care and retirement villages, senior citizen clubs, computer clubs, Men's Sheds and others. As indicated in our PIR 'Network Partners draw on different resources under a range of organisational circumstances to support the digital inclusion of older Australians in their communities.' Thus, we anticipate that each Network Partner contributes additional resources, including volunteer time and ICT infrastructure to support older Australians participating in the Be Connected program.

Total Program budget: Funding of \$47.2 million over four years from 2016–17 to 2019–20 was allocated to the Be Connected initiative when the program was launched. As this SROI analysis was underway the program was extended for another year until 30 June 2021 with an additional budget of 9.3 million ([Table 5-1](#)). However, for this SROI analysis, we have used budget allocations up to 2019–20 as we were unable to establish actual expenditure figures for the reporting period.

Program Grants: Of the total budget of \$30.35 million allocated to DSS until 2019–20, \$13.2 million was dispersed to 3,007 Network Partners by GTF by December of 2019 (see Part 3, [Table 3-1](#)).

Table 5-1. Be Connected overall program budget allocation to DSS and eSafety.

	2016–17	2017–18	2018–19	2019–20	2020–21*
	(\$m)	(\$m)	(\$m)	(\$m)	(\$m)
eSafety Budget	1.228	4.896	5.381	5.381	3.890
DSS + GTF Budget	0.604	8.210	15.048	6.490	5.381
Total	1.832	13.106	20.429	11.871	9.271

*Program has been extended for 12 months to 30 June 2021.

Part 5. Efficiency

- 4) **Other inputs** include the volunteering time of Digital Mentors. As of December 2019, 9,982 Digital Mentors were recruited by Network Partners. From GTF monthly surveys, we understand that an estimated two-third of the Network Partners used volunteers for Digital Mentoring work, although there is an indication that those Network Partners who were not funded raised money through fees to finance Digital Mentors. As noted in our PIR report:

Libraries and public councils are most likely to have ongoing funding for Digital Mentoring activities usually provided by a paid staff member. By comparison, aged care providers, training providers and computer clubs rely to different degrees on members to finance Digital Mentoring activities—whether through a fee for a range of services (i.e. for aged care providers) or nominal fees for ICT mentorship and group membership (e.g. \$20 per year). Some community groups carry out fundraising or applications for one-off grants from local councils or parishes.

In the absence of data on volunteer person-days or hours spent on Be Connected, we have used the \$20 per year membership fee as a proxy to estimate the investment made by volunteer Digital Mentors to the program. The main cost component is the salary and opportunity cost incurred.

5.2.2 Outputs

The main output of the program is the number of older Australians engaged and supported by the Be Connected program (see Part 4, [Tables 4-1](#) and [4-2](#)). Older Australians Engaged in the Be Connected Program were 582,597, and those who were Supported (one-on-one) by the Be Connected Program were 132,176. We can safely assume that all those Supported by the program (132,176) were also counted in the Engaged figure (582,597). Thus, we are taking the Engaged figure of **580,000** as a conservative estimate of people who are involved in Be Connected.

5.2.3 Valuing the Outcomes of Be Connected

As noted earlier, the objectives of the Be Connected initiative are increasing the digital literacy, confidence and online safety of people over 50 years of age, to enable them to participate online and access the primary social and economic benefits of the internet.

The primary outcomes identified are: increase in digital skills and knowledge, increased confidence in the use of ICTs, increased social connectedness and improved online safety.

- 1) **Increase in digital knowledge and skills:** Our research indicates that older Australians who were engaged in Be Connected feel significantly more able to complete operational skills addressed in the survey. There was a statistically significant change in skills such as installing applications on mobile devices, bookmarking a website, tracking the costs of mobile applications use and using shortcut keys. There was an improvement in strategic skills, such as generating new digital material.
- 2) **Increase in confidence:** Be Connect participants felt significantly more confident to use tablets, smartphones, email and online search engines. Those who completed learning modules on video calling, online banking, and streaming music also reported improved confidence in engaging in these online activities independently.
- 3) **Increased social connectedness among participants:** Our evaluation indicates that there was a significant reduction in loneliness among participants since they were engaged with Be Connected program. Although it is understood that other factors are also at play when it comes to enhancing the social connectedness of participants, improvement in digital skills and associated activities have contributed to their social connectedness significantly. Survey participants indicated that their social connectedness has increased as a result of their ability to connect with family and friends digitally.

- 4) **Improved online safety:** Participants of the Be Connected program reported that they feel significantly more able to use ICT equipment and navigate the internet confidently and feel safe online. Our analysis shows that there was a significant increase in confidence in using online banking and streaming music. This is important as online scams imposes high costs to the Australian people, particularly older Australians. The ABS (2016), estimated 36 per cent of persons aged 55+ (2,314,988 persons) or 9.9 per cent of the Australian population were exposed to online scams in the 12 months before the survey in 2014–15¹³. It illustrates the significance of online safety for older Australians. In 2019 it was reported that over \$455 million was lost to online fraud in Australia.

5.3 Stage 3: Measuring change: Evidencing and valuing program outcomes

The outcomes included in the SROI represent the most significant consequences that are experienced mainly by the program participants as a result of the Be Connected program.¹⁴ The survey and interviews did not ask participants to estimate the monetary value of the changes they experienced. However, we have used the survey and interview data to estimate the extent to which the outcomes have occurred, drawing from our statistical analysis and quantitative data. We have also considered other factors and sources to identify appropriate measures for particular outcomes.

In assessing the social value of outcomes, we have opted to measure the overall program outcomes rather than outcomes for each stakeholder group. This is intentional, given the complexity of the stakeholder groups and that outcomes for each stakeholder group are intrinsically related. Thus, focusing on a set of outcomes for the program will also prevent double counting.

5.3.1 Measuring investments/inputs and outcomes of the program

The full cost of the Be Connected program was estimated to be **\$76,191,467** (See [Appendix C-2, Table C-2.1](#) for calculations and estimates of costs). It includes all financial and in-kind investments that were made by all stakeholders to achieve the outcomes. These include estimated costs that would have been incurred by participants of the program to attend or participate in the program (**\$19,694,224**), Government funds allocated to the program (**\$47,242,540**), financial and in-kind investments made by program partners (**\$3,967,663**), and Digital Mentors' voluntary time (**\$5,287,040**).

Financial proxies: In SROI, financial proxies are used to value intangible outcomes that are material to the main stakeholders, for which we do not have available market values. We have used a few sources and techniques to value the different outcomes commensurate to the changes experienced by the main stakeholders of the programs. [Appendix C-3, Table C-3.1](#) describes the financial proxies used to approximate the value of each outcome and the rationale for using the financial proxy.

5.4 Stage 4: Establishing impact

To provide a realistic picture of the social value of the program, besides measuring the value of the outcomes, it is necessary to apply filter coefficients such as deadweight, attribution, displacement and drop-off for each outcome. This avoids over-claiming and assures credibility following the SROI guidelines. [Appendix C-4, Table C-4.1](#) explains the different filter coefficients used in the analysis, and how the different filters were applied to the financial proxies following SROI principles.

The application of the different filter coefficients helps to value the outcome that is attributed to the investment by adjusting each value of the financial proxies used. [Table 5-2](#) shows the social value of each outcome for four years before adjustment.

Table 5-2. Social value per outcome before adjustment.

Outcome	Quantity	Financial proxy value (per annum) (Appx. 5.5)	Attribution (Appx. 5.6)	Deadweight (Appx. 5.6)	Duration (Appx. 5.6)	Drop-off (Appx. 5.6)	Non-discounted value of Outcomes
Increase in participants' digital skills & knowledge	580,000	\$38.95	80%	50%	4	50%	\$4,235,812
Increased confidence in the use of ICT	580,000	\$134.40	20%	50%	4	50%	\$58,464,000
Increased connectedness	580,000	\$366.00	25%	25%	4	25%	\$244,878,662
Increased online safety	580,000	\$68.00	20%	50%	4	90%	\$29,580,000
Total gross value before adjustment							\$337,158,474

5.5 Stage 5: Calculating and understanding SROI ratio in context

The SROI ratio is a comparison of the Present Value of Benefits to the Present Value of Investments. Once a ratio is generated, sensitivity analysis is carried out to test assumptions and measurements and check their influence on the SROI ratio.

SROI Ratio

The total investments (Present Value of Investments (PVI)) of the Be Connected program is \$76,191,467 (See [Appendix C-2, Table C-2.1](#)). The unadjusted Present Value (PV) of the outcomes of the program is **\$337,158,474** ([Table 5-2](#)). Since the impact of the program is expected to last four years, we have used a discounting rate of 5 per cent assuming that the future values of the outcomes will be less by 5 per cent. This is reasonable given the fast pace of technological innovation tends to drive prices of technology down. Thus, the total adjusted PV is **\$305,694,183.38**, and the Net Present Value (NPV) (Present Value minus investment) of the program is \$229,502,716.38 (see [Table 5-3](#) below for details).

Therefore, the SROI ratio calculated by dividing the PV by the PVI is **4.01**. This indicates that every dollar invested in Be Connected program has yielded \$4.01 in social value. As the SROI ratio is significantly higher than one, the social value created for the main stakeholders is more than the stakeholders invested in the program, Be Connected can be considered highly beneficial to society.

Sensitivity Test

A sensitivity test was carried out to assess the importance and sensitivity of elements of the assumptions made in our analysis by using alternative variables/proxies and low and high estimates of those variables as shown in [Appendix C-5, Table C-5.1](#). Our sensitivity analysis demonstrates that under all variations of assumptions, the SROI ratio remained higher than one, implying that the social value created for stakeholders was more than the stakeholders invested. Therefore, the findings are robust to variations.

Table 5-3. Present Value of each year after discounting.

Outcome	Year 1	Year 2	Year 3	Year 4
Benefits	\$138,771,525.00	\$91,774,668.75	\$62,679,014.06	\$43,933,266.80
Discounted Value	\$132,163,357.14	\$83,242,329.93	\$54,144,488.99	\$36,144,007.32
Total Present Value				\$305,694,183.38
Total Investments				\$76,191,467
Net Present Value				\$229,502,716.38
SROI RATIO	PVI/PV	\$4.01		

5.6 What program elements generate social value?

The social return was found to be significantly higher than the initial investment of the program with **4.01 dollars created in social value for every dollar invested** by the program. This results in the Be Connected program creating an additional **\$229.5 million** in social value. That social value is encapsulated in several successful program outcomes:

- ▶ **More than 3,000 non-profit organisations enabled** through program inputs to deliver digital skills support.
- ▶ **Conditions generated for non-profits to co-invest** – contributing at least 30 per cent above the value of grants – to digital inclusion work, including among organisations new to this goal.
- ▶ **Increased digital knowledge and skills** among diverse senior participants.
- ▶ **Increased digital confidence**, unlocking further digital skills learning and participation among participants.
- ▶ **Increased social connection and decreased loneliness**, both of which impact significantly on the health and mental wellbeing of older Australians
- ▶ **Improved online safety** for the population segment most heavily exposed to fraud and scams.

When combined with findings on appropriateness and effectiveness detailed in Parts 3 and 4, these indicators of social value and return on investment show the overall benefit of Be Connected.

Glossary of terms and acronyms

ANOVA: analysis of variance is a statistical method, where the variation in a set of observations is divided into distinct components. ANOVA tests whether the average or mean score differs significantly across two or more groups or occasions.

Cohen's d: Cohen's d is a measure of effect size calculated using the standardised difference between two means. An effect size provides an indication of the strength of a relationship between variables. Cohen suggested using the values .2, .5 and .8 to reflect small, medium and large effect sizes respectively.

Digital confidence / self-efficacy: We define digital confidence along the lines of what has been called digital self-efficacy, or technology self-efficacy, drawing on the early work of Albert Bandura. This is consequential on the self-perception or belief a person has about their knowledge, skills and competencies in the use of digital technologies and the internet.

Digital inclusion: the Australian Digital Inclusion Index (2019) defines digital inclusion as 'whether a person can access, afford and have the digital ability to connect and use online technologies effectively'

Digital literacy: There are many different and sometimes competing definitions of digital literacy (often pluralised as literacies to reflect that difference). Generally, digital literacies involve an ability to use digital technologies and the internet to find, understand and evaluate information, to communicate with others, and undertake online transactions competently to attain the benefits of being online. There is also an important learning competency, in the need to adapt to evolving digital technologies and environments.

Digital skills: In line with international research in the field, we distinguish between two sets of digital skills: operational and strategic digital skills. **Operational skills** refer to the range of technical and instrumental abilities essential for using internet enabled ICT devices (e.g. mouse, keyboard, browsers, touchscreen, downloading applications etc.). **Strategic digital skills** include information navigation, communicative and creative capacities along with critical aspects of safety and security and enable the use of different technologies for the social and economic benefits they make possible. This approach differs from those that normalise skill levels as either basic, intermediate or advanced, as some measurement frameworks do.

Digital Mentoring: Digital Mentoring occurs via a relationship between two people, by one person drawing on their experience of using ICTs to support the other person with guidance, problem solving and greater confidence to use ICTs. This approach to improving digital skills and participation encourages self-directed learning, where appropriate.

Digital participation: Combining elements of digital confidence, literacies, skills and digital inclusion, digital participation can be understood as the active involvement in digital society through the use of contemporary information and communication technologies, digital devices and the internet.

Inclusion resources: These are the social, economic, personal (health, wellbeing, social connections etc.), and cultural resources or assets that influence social inclusion.

Latent Class Analysis: A reductive statistical method for identifying unobserved and mutually exclusive subgroups of cases (latent classes) based on response patterns across a set of categorical variables.

Learner portal: The Be Connected 'Learner Portal' is a website that houses learning modules and other material to support the Be Connected Digital Literacy for Older Australians program. It is produced and maintained by the Office for the eSafety Commissioner: (<https://beconnected.esafety.gov.au/>).

Linear regression: An analysis technique used to explore the relationship between a continuous response (or dependent) variable and one or more predictor (or independent) variables by fitting a linear equation to the observed data. Linear regression can be used to quantify the degree of change in the response variable relative to changes in the predictor variable(s).

Mean scores: The mean score is the 'average' score for a population that is calculated by summing the respondents' data for a variable divided by the total number of respondents.

myGov: myGov is an Australian government website and portal that consolidates access to a number of government services through a single account identification and sign-in process. For older Australians it provides primary online access to key services including: Medicare, Australian Taxation Office, Centrelink, My Health Record, My Aged Care, Department of Veterans' Affairs, and the National Disability Insurance Scheme.

Network Partner: All organisations (including aged care providers, community centres, neighbourhood houses, ethnic clubs and libraries) that are listed on Good Things Foundations' internal list of Be Connected Network Partners. Most organisations will also be listed as Be Connected training providers on the Be Connected website (https://beconnected.esafety.gov.au/local/location_search/). It is not necessary for Network Partners to have received Be Connected funding.

Online safety: Also called e-safety or internet safety, online safety refers to the knowledge, skills and ability to manage risks while using online technologies, for example, to: privacy and control over personal information, fraud and identity theft, financial loss and exploitation, harassment and unwanted communication such as spam and solicitation.

Paired t-test: A paired t-test is a statistical procedure that can be used to determine whether there is a significant difference between pairs of observations at two time points. The paired t-test is calculated on the mean of the differences of the observations at the two time points. If the mean of the differences of a value is significantly different from zero, then the data indicate significant change over time.

P value: In a statistical model a p value is the probability of observing a value equal to or further from zero than the test statistic in the data, assuming that the null hypothesis is true (i.e., that there is no difference in the population). The p value is evaluated against an alpha value, often by convention .05. If the p value is less than the alpha, the null hypothesis can be rejected, and the difference can be claimed to be statistically significant.

Social Return on Investment (SROI): An outcomes-based measurement tool used to measure extra-financial value such as environmental and social value not currently reflected in conventional financial accounts.

Acronyms

ABS: Australian Bureau of Statistics

ACCC: Australian Competition and Consumer Commission

ADII: Australian Digital Inclusion Index

CATI: Computer Assisted Telephone Interviewing

DSS: Department of Social Services

DLOA: Digital Literacy for Older Australians

GTF: Good Things Foundation

ICT: Information and Communication Technology

LCA: Latent Class Analysis

PIR: Post Implementation Review

SUHREC: Swinburne University Human Research Ethics Committee

SROI: Social Return on Investment

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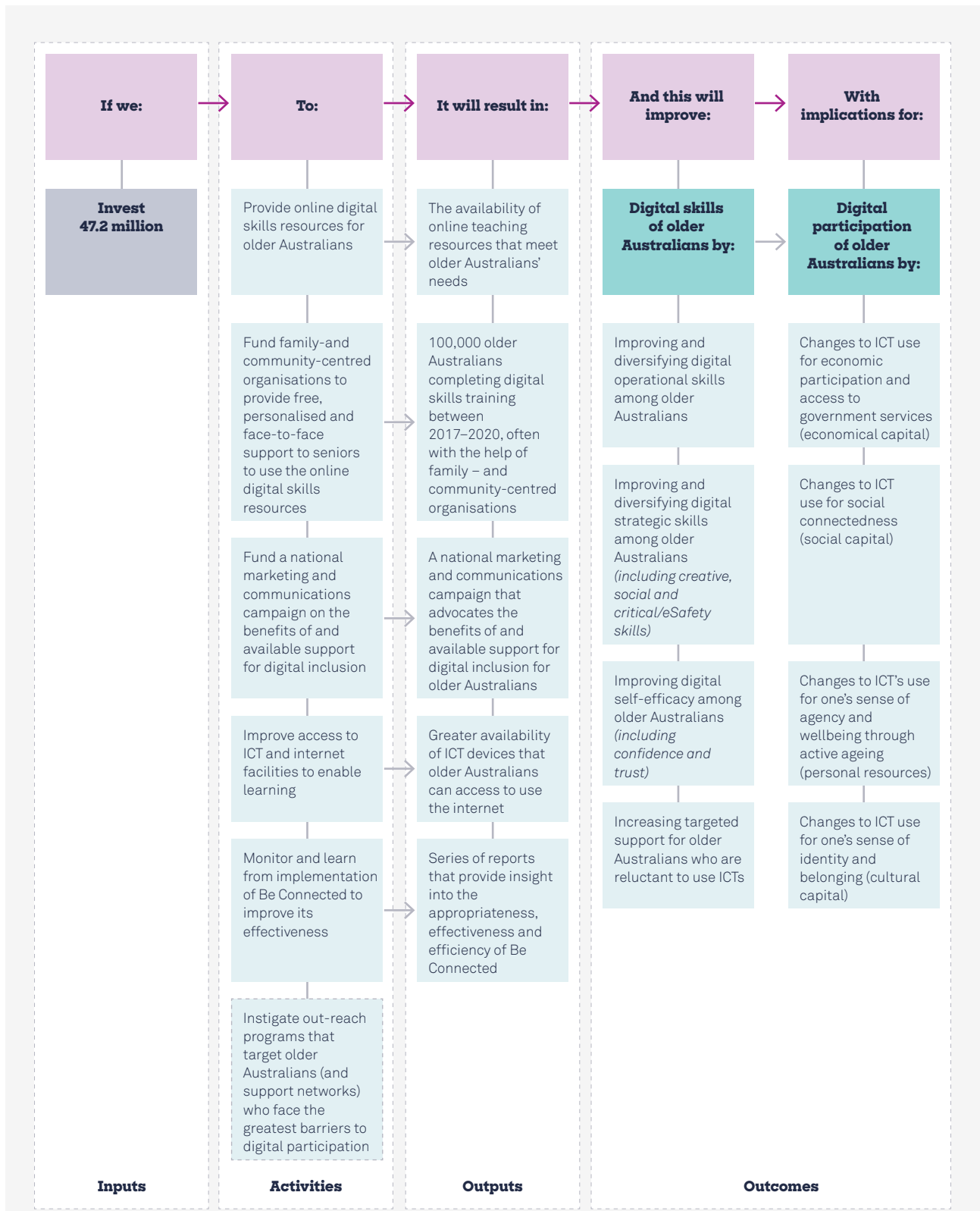
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Appendix A-1 Be Connected Theory of Change



Appendix A-2 Methodology: Overview and measures

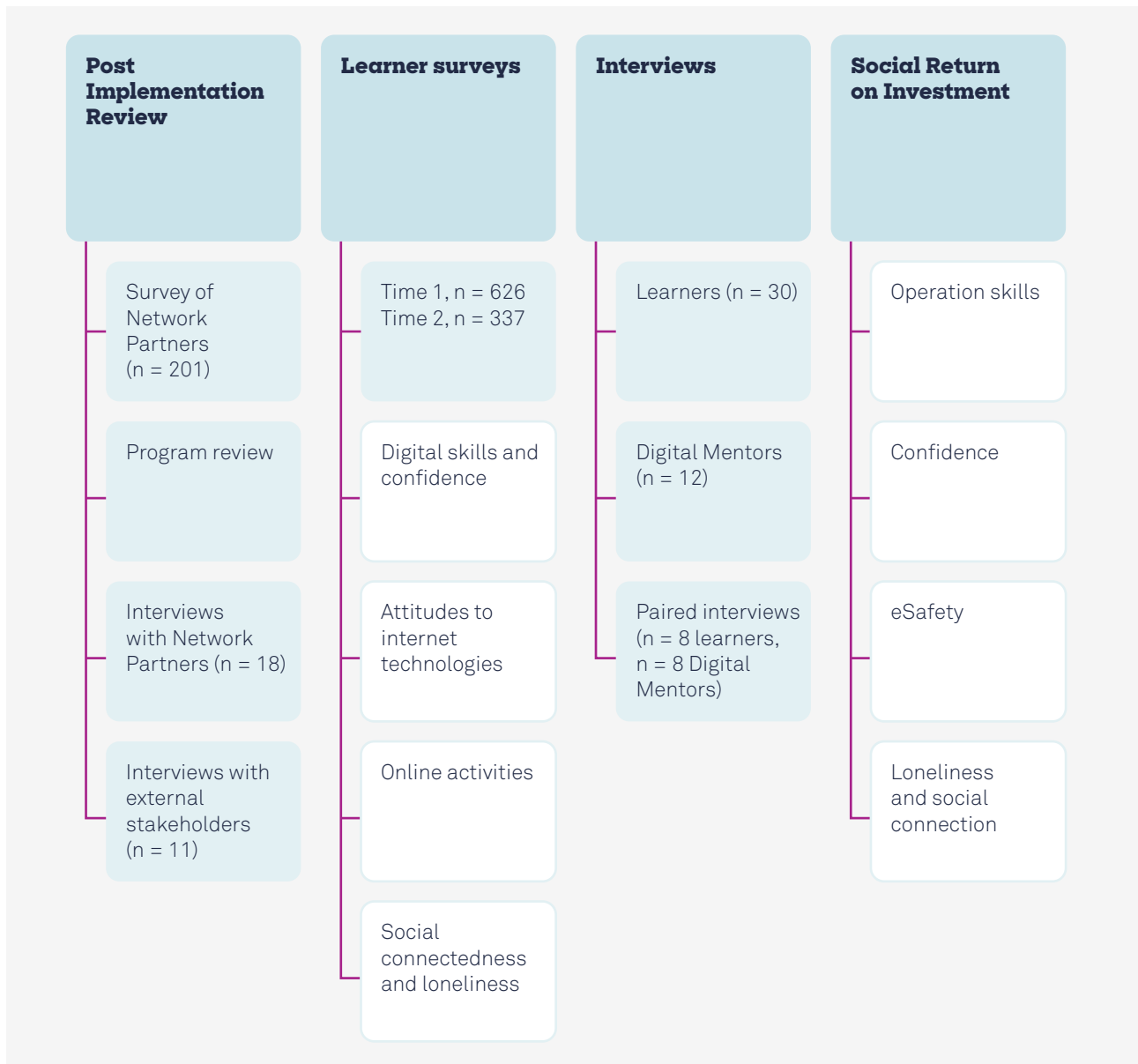


Figure A-2.1. Research phases, methods and data collection

Appendix A – Research design

Appropriateness: To evaluate appropriateness, a post implementation review established the strengths, weaknesses, opportunities and risks involved in building the Be Connected national network and online learning resources. Appropriateness considers the capabilities of the Be Connected model through the establishment of a national network of partner organisations by the appointed network manager, Good Things Foundation. Alongside the national network, we examine the provision of online learning resources developed and managed by the Office of the eSafety Commissioner. Appropriateness can be assessed by:

- a) The number of learners reached and supported
- b) The number and geographical spread of Network Partner organisations
- c) The number and type of grants allocated
- d) The experiences and practices of Network Partners

Figure A-2.1 shows the methods used in the PIR phase to address these measures, validated by later in-depth interviews. See *Appendix A-3* for detailed information about PIR recruitment, sampling and analysis.

Effectiveness: The effectiveness of Be Connected can be understood in terms of its capability to move learners along a pathway toward digital participation. The central research question addressed is to what extent has Be Connected improved the digital skills and participation of people over 50 years of age to enable them to access the social and economic benefits of digital participation. Effectiveness can be assessed by:

- a) Improvement to digital skills, in relation to both ability and confidence
- b) Register of positive attitudes to internet technologies
- c) Changes to online activities undertaken by participants
- d) Effects on social connectedness and loneliness
- e) Demographic, health and other qualifying life factors
- f) Experiences of engaging with Be Connected

A 39-question survey was administered through two time points, between 16 August 2018 and 20 February 2019 (time 1), and 17 January and 20 May 2019 (time 2). Statistical testing included paired t-tests to evaluate change over time, linear regression to model the relationship between variables, using the number of modules completed at time 2 as the main predictor, and to assess the relationship between particular modules and skills. A latent class analysis was used to identify the grouping of learners through their response to key survey items, including online activities, skills, and confidence. In-depth interviews were used to qualify and help explain the statistical findings. See *Appendix A-4 – A-4* for detailed information on the quantitative study, statistical analysis and qualitative interviewing methodology.

Efficiency: The efficiency of Be Connected can be estimated through a Social Return on Investment (SROI) analysis. The SROI complements the impact evaluation by monetising the social value of Be Connected for participating older Australians and their communities. Efficiency can be assessed by weighing the cost-benefit through monetary proxies for four core factors of Be Connected:

- a) Knowledge and operational digital skills
- b) Confidence
- c) eSafety
- d) Loneliness and social connectedness

To calculate the SROI of Be Connected, we follow a commonly used methodology established by Social Value UK, as set out in its widely used 'A guide to Social Return on Investment' manual. The method is tied to the first stages of the impact evaluation, which guide the core elements to be measured and economic proxies used to establish a monetary value. See *Appendix A-7* for detailed information about SROI approach and findings.

Ethical clearance

Careful consideration was given to ethical research conduct. This was informed and guided by the National Statement on Ethical Conduct in Human Research, and the advice and review of Swinburne University Human Research Ethics Committee (SUHREC), reference number: SHR Project 2018/034.

Appendix A-3 Methods: Post Implementation Review

The Post Implementation Review evaluated the establishment phase of Be Connected, between October 2016 and June 2018. It used the following three-pronged, mixed-methods research design:

1. Analysis of program management documents and data to examine the timeliness with which program partners are spending or implementing Be Connected program funds and activities.
2. Collection and analysis of quantitative data via a customised survey of Network Partners, to provide high-level snapshots of the extent to which Be Connected was implemented as planned.
3. Collection and analysis of qualitative data to examine program efficiency, effectiveness and appropriateness. This was done from the perspectives and experiences of Network Partners and external digital inclusion experts. The latter were key staff in organisations that are not directly involved in Be Connected, that help older people improve their digital skills and/or digital inclusion.

Collection and analysis of quantitative data

PIR Network Partner survey

The research team invited all Network Partners to complete a short, online survey (via Qualtrics) that asked about the receipt of funds, the implementation of Be Connected program elements, and what was or wasn't working well in the Network Partner experience of Be Connected. The survey consisted of predominantly multiple-choice questions, but also included short answer questions that asked about experiences of program implementation and adaptations.

Recruitment. The survey was administered to an email list of 684 contacts that Good Things Foundation provided to Swinburne University on 9 April 2018. On 18 April, the research team contacted 70 Network Partners by phone to confirm that they had received the survey link and to encourage them to complete the survey. These phone calls were targeted at organisations that were underrepresented among early survey respondents (including neighbourhood houses, aged care providers, and Network Partners located in Tasmania or South Australia). The survey was open for 11 days, closing on 27 April 2018.

Sampling. The response rate of the survey was 29 per cent, with 201 responses. Respondents indicated that they were reporting on a combined 350 Be Connected sites (or Network Partners). This excludes two outlier responses that indicated they were reporting on more than 100 Be Connected sites. The sample size allows the survey findings to speak to the practices and perspectives of an estimated 570 program managers that are administering Be Connected at 992 Network Partner sites (at 30 March 2018) at a 95 per cent confidence level with a margin of error of ± 5.5 per cent. This figure assumes that survey non-response occurred at random. As this is unlikely to be true, the margin of error is provided as a guide only.

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Despite the strong overall response rate, there were low numbers of responses from some types of organisations (including local councils, aged care providers and peak bodies). To enable statistical tests, the research team created more general types of organisations (i.e. community welfare, digital skills organisations, lifestyle organisations).

Table A-3.1. Network Partner survey respondents, by organisation type

Org type	Proportion	
Community welfare	Welfare organisation (including peak bodies)	4%
	Community centre or neighbourhood house	32%
	Local council	2%
Digital skills organisations	Community College	5%
	Computer club	5%
	Public library	24%
Lifestyle organisation	Lifestyle or retirement village	5%
	Aged care provider	6%
	Shared interest organisation	13%
	Other (please specify)	6%

Interviews with Network Partners

The research team collected qualitative data via phone interviews with 19 key staff at 18 Be Connected Network Partner organisations. The purpose of these interviews was to gain insight into Network Partner experiences of supporting older Australians to improve their digital skills and how Be Connected supported and/or complicated this activity. Interviews were conducted between 23 April and 11 May 2018, and were approximately 30 minutes in duration.

Interviews were semi-structured around the following questions:

1. Could you tell me about your organisation and the people that are involved?
2. When did your organisation first become involved in providing digital skills support to older Australians? Could you tell me about the support that your organisation has offered over the years?
3. What has been your involvement in Be Connected in the past months?
4. In what ways has your involvement in Be Connected changed the digital skills support that your organisation provides to older Australians?
5. Is there anything else that you would like to say about Be Connected?

Transcribed audio-recordings were analysed in NVivo using a coding scheme that aligned with the research questions guiding the Post Implementation Review.

Recruitment. The online survey that was administered as part of the PIR (above) asked respondents for permission to be contacted for a follow-up phone interview. Approximately 106 of 201 respondents (53%) provided their consent to be contacted. Of these, 24 Network Partners were emailed with an invitation to participate in a short phone interview. In line with the project's Research Ethics Protocol, Network Partners were required to provide explicit written (via email) or oral consent to participate in the phone interview and be audio-recorded.

Sampling. The research team purposefully selected Network Partners to ensure diversity among location and types of organisation. The sample is limited by only one Network Partner from the ACT or Tasmania. This was due to constraints in the number of Network Partners who agreed to be contacted for follow-up interviews from these locations. The sample could also have included another Neighbourhood house. The cohort of 18 Network Partners nevertheless provided sufficient diversity of experience to reach sampling saturation.

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Interviews with external digital inclusion experts

The research team also collected qualitative data via face-to-face interviews with 11 senior staff at organisations that are involved in digital inclusion policy, programs or research (with a focus on older Australians) outside of Be Connected. The purpose of these interviews was to gain insights into the broader environment for digital inclusion work, to help situate the contribution of Be Connected within that environment, and inform desktop analysis of large-scale, multi-sector programs in Australia that aim to address seniors' digital skills and literacies. The duration of most interviews was approximately 60 minutes.

Recruitment and sampling. External experts were recruited via direct requests and through a purposive sampling process. Sampling targeted organisations that have historically been involved in coordinating and resourcing digital skills programs to ensure that these organisations would have the opportunity to comment on the design and implementation of Be Connected. Interviews were conducted by phone or in the offices of participants. In line with this project's Research Ethics Protocol, Network Partners were required to provide explicit written consent (via email) to participate in the phone interview and be audio-recorded.

Appendix A-4 Methods: Impact Evaluation

The Impact Evaluation draws on analyses of data from phone and online surveys with registered users of the Be Connected Learning Portal. The survey instrument asked respondents about:

- ▶ Participation in Be Connected and internet use;
- Digital skills and attitudes to internet technologies;
- Digital activities and social connectedness; Self-reported health (SF-8) and loneliness (UCLA-LS);
- Demographics

Questions that measured learners' digital skills and activities were adapted from the 'Digital Skills to Tangible Outcomes' (DiSTO) study that is coordinated by Ellen Helsper, Department of Media and Communications in the London School of Economics, and colleagues. The purpose of DiSTO is to develop and test questionnaires on digital skills, internet users and outcomes of Internet use that can be used by the academic community in full or in short item versions. Initially developed in the UK and the Netherlands, DiSTO surveys are or have been implemented via partnerships with Australia, Chile, Brazil, Uruguay and the USA.

Questions that measured learners' digital skills were taken from a DiSTO 2014 report: *Measuring Digital Skills. From Digital Skills to Tangible Outcomes project report*.¹⁵ Measures for digital activities were taken from a DiSTO 2016 report: *Measuring Types of Internet Use*.¹⁶ DiSTO does not yet offer appropriate measures for older persons' attitudes to technology, so this measure was adapted from the *Media and Technology Attitudes Scale*, developed by researchers in the USA.¹⁷

Questions that measured loneliness were taken from the University of California Los Angeles Loneliness Scale (UCLA-LS).¹⁸ The UCLA-LS is a 20-item scale that measures the subjective experience of loneliness and is the most widely used measure of loneliness across age cohorts. The measure consists of both positively and negatively worded items that assess loneliness (e.g. How often do you feel that you are no longer close to anyone?). It exhibits an excellent average internal consistency, $\alpha = .92$, (range .86-.95) across 13 studies.¹⁹ The UCLA-LS3 has been shown to correlate negatively with life satisfaction and perceived social support, thus supporting its convergent validity with related constructs.²⁰

Appendix A – Research design

Questions that measured subjective health were taken from the Short Form 8 Health Survey (SF-8)—an 8 item scale aimed at measuring one's health related quality of life (HRQL). The SF-8 measures eight facets of physical and mental health, as experienced over the past four weeks. Items are summed together to create a total HRQL score. The SF-8 strongly correlates with longer versions of the health survey (e.g., SF-12 and SF-36).

Demographic questions and scales were taken from the ABS Census (regarding age and ethnicity), Melbourne Institute *Household, Income and Labour Dynamics in Australia* (HILDA) survey and Swinburne University surveys such as the *National Technology and Society Monitor* (regarding employment status and household structure).

Recruitment

Time 1 survey. Respondents were recruited via two key channels for the baseline (Time 1). First, if participants expressed interest on the registration page of the Be Connected Learning Portal, they were contacted by the Swinburne University Computer Assisted Telephone Interviewing (CATI) team and were supported to complete the survey over the phone. Second, the research team encouraged Network Partners to invite new learners to complete the survey online via a link on the Be Connected Learning Portal. Invitations to participate were circulated via email lists and newsletter by Good Things Foundation and research team. The research team also engaged six capacity builders in conversation about the Evaluation of Be Connected via a 1-hour webinar titled: *Info Session for Capacity Builders with Swinburne University*. The webinar was facilitated by Good Things Foundation. The webinar raised awareness of the Be Connected Impact Evaluation and discussed how Network Partners could encourage and support learners to complete the baseline survey.

Time 2 survey. To recruit for the follow-up (Time 2) survey, the research team contacted consenting respondents directly via the mode of communication (phone or email) via which respondents had completed at Time 1. This occurred four months after respondents had completed the Time 1 survey.

A total of 1,183 calls were made via the Swinburne CATI service to the available 386 numbers. Between 1 and 3 call attempts were typically required to achieve a completed survey (80 per cent of the time).

The Swinburne CATI facility used Ozquest software to manage call-backs. Ozquest software is programmed to automatically remove a number after four consecutive no response calls (e.g. no answer; answering machine; engaged). The callbacks for these repeat attempts are set at between 2 – 72 hours, depending on the number of prior call attempts and the length of time since the last attempt. For this study however, all call types (except for completed surveys and flat refusals) were kept as appointments, and detailed notes were kept on call attempts.

Re-recruitment into online survey, following completion of baseline survey online also took place for survey participants who preferred this method. 179 eligible respondents who had completed the baseline survey online were sent an invitation to participate in the follow-up survey via email. Participants who had not completed the survey after four days were sent a reminder email. A second and final reminder was sent if the follow-up survey remained incomplete after eight days.

Incentive. Respondents who participated in the first wave of data collection were offered a \$30 Coles supermarket gift card, as an incentive to participate in the follow-up survey.

Number of respondents and response rate. Each respondent was invited to participate in two waves of data collection—i.e. Time 1 and 2 surveys. The first wave of data collection generated 626 valid responses for the baseline.²¹ The follow-up (Time 2) generated 337 valid responses. The completion rate for the online sample at follow-up was 41.3% (74/186). If the additional 11 surveys that were completed online after an initial phone contact are included, the total number of completed surveys from the CATI sample is 262. A recalculation of the cooperation rate using this adjusted number of completions results in a cooperation rate of $(262 / 379) * 100 = 69.1\%$.

The 72 'non responses' were either respondents with whom telephone interviewers had never been able to make contact, or respondents with whom telephone interviewers had spoken at least once but were unable to re-connect multiple attempts.

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For the Time 1 survey via CATI, the response rates were 39.0% (RR1 – RR4) with a cooperation rate (CR1 – CR4) ranging between 43.4% and 56.9%, and a refusal rate of 29.5%.²² These calculations follow the definitions set out by AAPOR (2016). For the online survey, a total of 186 emails were sent, garnering 74 responses.

Data collection

Collection of Time 1 survey data occurred between 16 August 2018 and 20 February 2019. For the Time 2 survey, respondents who provided consent to be contacted again were then contacted again between 17 January 2019 and 20 May 2019—four months after they had participated in Time 1. Due to the end of year period, collection of follow-up responses was delayed for some participants. Survey completion time averaged at 30 minutes by telephone and 32 minutes online.

Telephone interviewing occurred between 10am – 8pm Monday – Thursday, and 10am – 5pm Friday (VIC time). All telephone interviewers were trained and monitored by the supervisors and the CATI Facility manager. The CATI Facility manager and Research Fellow also conducted some interviews. Research Fellow, Jarrod Walshe, managed all email correspondence with respondents who completed surveys online.

Exclusions and inclusions. Baseline data indicated that some respondents were under 50 years of age ($n = 40$). The research team excluded this cohort from baseline data analyses, and subsequently from participation in the follow-up survey. The follow-up survey included a new question about the role of respondents in Be Connected. This variable shows that 86 per cent were learners and 14 per cent were Digital Mentors. All respondents (learners and Digital Mentors) were included in the final dataset, with the rationale that Digital Mentors may also extend their digital skills and activities through participation in Be Connected. Note that partial responses were kept if respondents had completed the majority of the survey. This resulted in 17 incomplete responses being retained for the baseline and two for the follow-up survey.

Reliability of variables. There were some inconsistencies in data that respondents provided at Time 1 and 2. In particular:

- ▶ Only 57 per cent of respondents were consistent in their response (across both surveys) regarding the type of organisation (Network Partner) that was supporting them to use the Be Connected learning portal. This undermines the reliability of this variable, prompting the research team to exclude the variable from data analyses.
- ▶ 4.75 per cent ($n = 16$) respondents indicated having a myGov account at Time 1 but not Time 2. As there were no paired inferential analyses for these variables, they were left as is.
- ▶ 76 respondents (22 %) reported completing between three and one fewer Be Connected modules at Time 2 compared to Time 1. So as not to discard these responses, they were treated as having completed no further learning modules.

About the survey respondents. Data were collected from all states and territories, with relatively representative numbers of respondents aged 50 years or over in each location. For the baseline survey, respondents in three locations were slightly over-represented (QLD +4.8%, WA +2.2%, NT +1.3%), while respondents in four locations were slightly under-represented (NSW/ACT -4.6%, SA -2.4%, VIC -2.0%, TAS -0.5%). Similarly, the same states and territories were over-represented (QLD +2.9%, WA +4.8%, NT +0.7%) and under-represented (NSW/ACT -6.8%, SA -2.1%, VIC -1.7%, TAS -1.2%) for the follow-up survey.

The research team aimed to measure the digital skills and activities of learners before they had engaged with Be Connected learning material. The data indicates that respondents were close to evenly distributed between having completed 0-2 modules (43.1%), 3-6 modules (29.2%) and 7-10 modules (27.6%). Respondents who completed the survey via CATI tended to have completed fewer Be Connected modules and to have started Be Connected more recently than respondents who completed the survey online. There were also slight demographic differences, with the CATI survey being preferred by learners with a certificate or diploma or undergraduate degree, learners who reported slightly higher English proficiency and learners born in Australia.

Appendix A – Research design

Data analysis

For each item within type sets (including confidence, attitudes towards internet technologies, digital skills, and digital activities) the following analyses were performed:

1. *Paired t-tests* to evaluate change over time.
2. *Linear regression* using score at follow-up minus score at baseline as the response variable and number of modules completed between baseline and follow-up as the predictor. Where respondents indicated that they had completed fewer modules at follow-up than they had at baseline, the modules completed between timepoints was treated as zero.
3. For the confidence items, an additional linear regression was performed to evaluate whether there was a change in scores for participants who had completed the module that specifically addressed that skill. In this case, the analysis determines if there is a difference in confidence change between two groups – those who hadn't completed the module at baseline but completed it before follow-up and those who had either already completed the module at baseline or those who didn't complete the module before follow-up.

To control for family wise error rate the p values have been adjusted within item sets using the Holm-Bonferroni method. Additionally, Fisher's exact test of independence was used to measure the significance of change in proportions in the use of myGov and ordinal logistic regression was used to model changes in the frequency of independent internet access.

Addressing the counterfactual

Participants may be involved in alternative digital literacies and skills programs, or have socio-cultural, economic and personal resources such that improved digital participation may occur despite participation in Be Connected. Our longitudinal approach measures these exogenous factors before (Time 1), and after (Time 2) participation in Be Connected to account for the counterfactual. We account for non-program factors through a *logically constructed counterfactual*, established through a detailed account of the 'inclusion resources', or the social, cultural, economic capital and personal resources, and existing digital skills and participation levels of program participants.

Time 1 and 2 surveys were designed to account for exogenous factors and regression analysis is used to account for non-program variables and to isolate the impact of Be Connected. This involves measures of proxy involvement in digital activities and participation. In essence, a single arm trial is used to measure change over time and control for any variation in the outcome measures that may occur naturally over the same time period.²³ The use of the statistical modeling described above enables us to identify classes or groups of participants who demonstrate improvement, and importantly particular patterns of improvement (e.g., improvement in all areas, improvement in some and not others). Our analysis is targeted to identify improvement over time that is independent of factors leading to natural improvement over time.

Appendix A-5 Methods: Latent Class Analysis

Latent class analysis was used to identify the existence of distinct groups of Be Connected participants that differ in terms of their responses to the survey questions over time. Latent class analysis, sometimes called segmentation analysis, cluster analysis or mixture modelling, examines the pattern of responses to a group of variables to detect whether or not there are distinct groups of people who respond to the questions in a similar way.²⁴ Latent class analysis allows the researcher to examine the extent to which different general views exist by the size of the classes, but importantly, the classes can be described by examining their relationship to demographic and other variables. For example, it may be found that those with higher education are more likely to be classified within a group that has not experienced all safety examples.

Identifying the number of classes

The first aim of latent class analysis is to identify whether there are in fact distinct groups of respondents, and if so, how many. This is achieved by examining a number of ‘fit indices’, which can vary across the different software packages used to conduct the analysis. So, for example, in the context of Mplus, there are a number of fit indices, including criterion based indices such as the Bayesian Information Criterion (BIC) and Akaike information criterion (AIC), and tests based on the likelihood ratio (LLR) chi-square test such as the Lo-Mendell-Rubin (LMR) test, and the bootstrapped likelihood ratio (BLRT) test.²⁵ A basic idea with the above fit indices is that they compare the value for different models to each other to arrive at a point where the best model is chosen. For example, a 2-class solution or model may have a larger BIC value than a 3-class solution, and because lower BIC values represent a better fitting model, the 3-class solution is deemed a better fit with the actual patterns within the data. Some tests (e.g., the LMR and BLRT) provide a test of significance (i.e., a p value) between model comparisons that will indicate for example, that a 3-class solution is a significantly better fit with the data than a 2-class solution. One would, therefore, conclude that there are probably 3 distinct groups of people in the data.

The process for determining the number of classes involves computing the fit indices for a number of models, starting with a 1-class model, then a 2-class model, then 3 classes and so on. For the BIC and ABIC the values from each model are compared where low values determine the best fitting model. If the BIC value is lower for 3 classes than 2 classes, then it can be concluded that 3 classes are superior. The point where the BIC or ABIC rises (i.e. becomes higher than the previous model) is the point where one would stop comparing models. If for example, the BIC or ABIC decreases for 2 classes compared to 1, then 3 classes compared to 2 and 4 classes compared to 3, but rises for 5 classes, it can be concluded that the best fitting model is 4 classes. For the LMR and BLRT tests, a p value is given to test the hypotheses that K classes (where K = the number of classes) is a better fit with the data than K-1 classes. For example, if the difference test for 4 versus 3 classes was significant it would be concluded that 4 classes are a significantly better fit with the data than 3 classes. If the p value for the LMR or BLRT test was not significant (i.e. $p > .05$) for 4 classes versus 5 classes, we would conclude that there are probably 4 classes in the data.

The fit indices for this research (see [Table A-5.1](#)) revealed that a 3-class solution best fits the pattern of responses across the 10 confidence, attitude, skills, safety experience and participation composite scores from both time 1 and time 2 ($n = 337$). The VLMR and LMR log likelihood ratio tests are both not significant at $p < .05$ for the 4 versus 3 class solution. This suggests that 3 classes are a significantly better fit with the data than 4 classes. The largest reduction in the BIC and adjusted BIC values are between the 1 versus 2 and 2 versus 3 class solutions compared to the 3 versus 4 and 4 versus 5 class solutions. This also points towards 3 classes as does the minimal increase in entropy after 3 classes.

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Table A-5.1. Latent class fit statistics for a 1 – 5 Class solution

	AIC	BIC	Adjusted BIC	Entropy	VUONG-LO-MENDELL-RUBIN LRT	LO-MENDELL-RUBIN Adjusted LRT
1 Class	18878.83	19046.92	18907.34			
2 Classes	17178.80	17434.74	17222.21	0.91	0.002	0.002
3 Classes	16613.03	16956.83	16671.34	0.93	0.010	0.011
4 Classes	16254.61	16686.28	16327.83	0.94	0.144	0.145
5 Classes	15603.23	16122.76	15691.35	0.95	0.495	0.497

Note: AIC = Akaike Information Criteria, BIC = Bayesian Information Criteria, LRT = Log likelihood ratio test.

Describing the classes

If the variables used in the LCA are categorical (i.e., yes, no, unsure), the classes are described by examining what are called the conditional probabilities, or the chance that a person in a particular class chooses a particular response option or category. However, the variables used in this report for the LCA were continuous, meaning they are best described by the mean score for each class across all variables. By examining the pattern of means, an idea of what makes the classes distinct can be determined (see results in report). Analyses of variance can then be used to determine whether classes differ in terms of their mean scores on one or more of the variables. Once latent classes have been identified, respondents' class membership can be saved as a categorical variable to allow comparisons with other variables.

Assumptions

In LCA the statistical assumptions and required sample sizes for adequate power is a complex and currently unresolved issue. One consistent assumption, however, is that class membership accounts for all of the differences or sources of variation in the variables used in the analysis (called local conditional independence). In this report, this means that we would assume that the 3 classes are the reason for any differences in the means across all the variables.

The required sample size in order to be confident of the results is dependent on a number of factors including the number of expected classes, the expected probability of being in a particular class, the distribution of responses across variable categories, the number of observed variables used in the analysis (and covariates), the type of variable (i.e. categorical, ordinal, interval/continuous), whether or not the classes have equal numbers of cases, and the number of response options contained in each observed variable if categorical. Like the assumption of local independence, estimating the sample size required for LCA is complex and largely unresolved.²⁶ Minimal sample sizes from 100 to 500 are recommended throughout the literature, but more accurate estimates are not yet known. One basic rule of thumb is that the minimum sample size should be no less than 5 cases times the number of variables. In the current research, the number of variables used was 22, meaning that at having least 110 cases is adequate. Given the sample consisted of 337, the number of classes was expected to be low, so we can be relatively confident of the results of the LCA conducted in this research.

Appendix A-6 Methods: Qualitative component

Between October 2019 and January 2020, the research team conducted:

- ▶ 8 paired interviews with Digital Mentors (n = 8) and learners (n = 8), primarily face-to-face
- ▶ 12 interviews with Digital Mentors on their own, by telephone
- ▶ 30 interviews with learners on their own, by telephone

Paired interviews focused on understanding how Digital Mentors and learners are enabled and/or constrained by organisational contexts and the design of Be Connected to bring about digital literacy outcomes for both learner and Digital Mentor. By engaging learner and Digital Mentor in one conversation (i.e. interviewing them together), the research design is better suited to exploring how learners and Digital Mentors co-produce learning parameters, processes and relationships to bring about digital literacy outcomes.

The Post Implementation Review (December 2018) indicated that Be Connected looks different across diverse organisational and community contexts. This diversity poses both opportunities and challenges for programs such as Be Connected. Purposive sampling of paired interviews ensured that a variety of organisations are involved in paired interviews (i.e. including public libraries, community colleges, various community groups, aged care providers and retirement villages) as well as various communities (i.e. both regional and metro, and communities of different socio-economic status).

Where possible, interviews were conducted in person. The eight paired interviews were conducted in and around Sydney and Melbourne to reduce travel time and costs. Paired interviews were designed to explore the way Digital Mentors and learners are enabled and/or constrained by organisational contexts and the design of Be Connected to bring about digital literacy outcomes for both learner and Digital Mentor.

Paired mentors and learners were recruited with the help of Good Things Foundation's relationships with Network Partners and contact details, as well as by following up with Network Partners who participated in interviews for the Post Implementation Review (in Mar-Apr 2018).

Individual interviews with learners were conducted with a sample size of 30. These interviews focused on learners' engagement and digital participation practices in everyday life contexts, inclusion resources, appropriateness and adequacy of Be Connected materials, attitudes toward a range of Be Connected topic areas, and experiences of mentorship and social support. The interviews also focused directly on the impacts of changes in digital skills and participation on broader social and economic participation, including feelings of social connectedness or isolation.

A purposive sample was constructed to ensure diversity Interview participants, building off criteria developed through the survey phases of the research, where three classes of learners was identified. An even mix of gender and a proportional spread of state, regional, rural and metro location was also sought.

Participants were recruited with assistance from Good Things Foundation and reaching out to learners who participated in the Swinburne learner survey and provided consent to participate in further research. Learners' survey responses also helped the research team gauge learners' demographic circumstances, digital skills and activities, to support the process of purposive sampling.

Individual interviews with Digital Mentors were conducted with a sample size of 12 and were 30mins to 1 hour in length. Interviews focussed on the experiences of Digital Mentors and how Be Connected supported and/or complicated this activity. The interviews focussed on the skills and experience of Digital Mentors, their experiences of the Be Connected program, including the online resources for learners and Digital Mentors and the strategies employed to engage with learners with different levels of knowledge, including reluctant learners.

Digital Mentors were recruited via the online survey administered as part of the PIR. The sample was purposefully constructed to ensure diversity among types of organisation. An even mix of gender and a proportional spread of state, regional, rural and metro location was also sought.

Appendix A-7 Methods: Social return on investment (SROI)

Social Return for Investment (SROI) is a methodology that was pioneered by a group of philanthropists in the early 2000s in California and later developed by the New Economic Foundation and backed by the Cabinet Office in the UK.²⁷ SROI is used to understand and measure the social value of a program or organisation. An SROI analysis accounts for and monetises the intangible social, economic, cultural and environmental outcomes created by a program or organisation and compare it with the investments made by each stakeholder to create these outcomes.

There are two types of SROI, evaluative and forecast. Forecast SROI is used to predict the social value of planned activities at the beginning of a program. Evaluative SROI is conducted retrospectively to understand and measure the social value of a program. This SROI report measures the social value of the program with a particular focus on the impact of the program on learners/participants (older Australians over the age of 50). The primary purpose of the SROI analysis is to illustrate the efficiency of Be Connected between October 2016 and December 2019. The analysis is informed by data collected between March 2018 and November 2019. The primary audience of this SROI is expected to be politicians and policymakers who may be looking to invest in digital literacy programs for older Australians in the future.

The SROI Guidelines specify six stages to guide the process including establishing scope and identifying key stakeholders; mapping outcomes; valuing the outcomes using financial proxies; establishing the impact; calculating the SROI, and verifying the results (*Figure A-7.1*). We have adhered to the guidelines throughout the SROI analysis of the Be Connected program to ensure compliance.

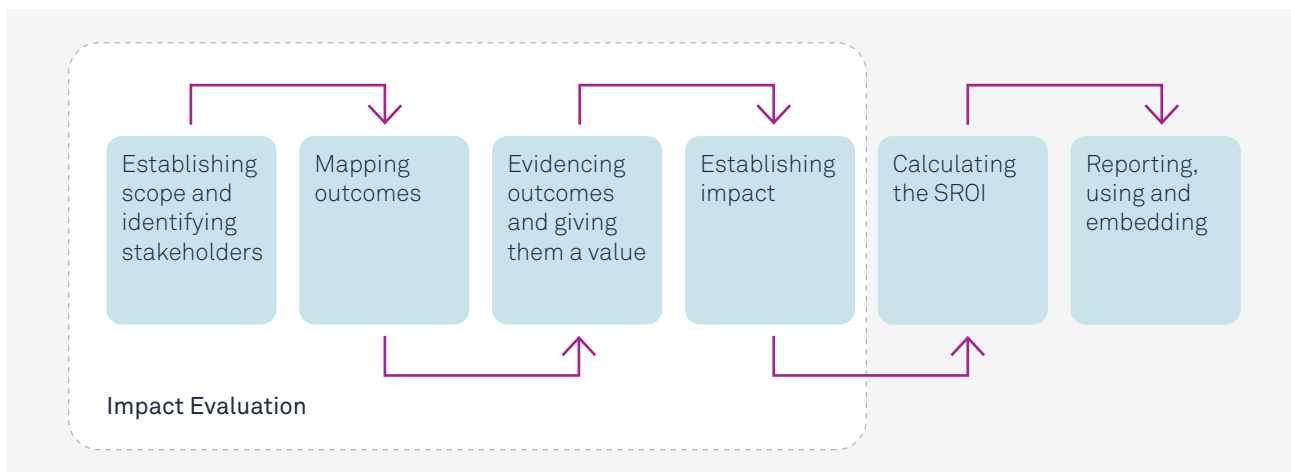


Figure A-7.1 Six steps of social return on investment

Appendix A – Research design

Step 1. The purpose of the first step—establishing scope and identifying stakeholders—is to ascertain ‘what you are going to measure and how’. Stakeholder engagement is a key feature of the PIR and Impact Evaluation of Be Connected. Program administrators, including DSS and Good Things Foundation, are involved in the design of the evaluation, while program participants (including seniors, their Digital Mentors and relevant community organisations) will be engaged during data collection. The perspectives they share within the framework of the PIR and Impact evaluation, as described above, will guide the scope of the SROI in terms of what is measured and how.

Step 2. The purpose of the second step—mapping outcomes—is to chart a theory of change by identifying program inputs, valuing inputs, clarifying outputs and describing outcomes. An existing theory of change guides program design and implementation. Findings of the PIR and Impact Evaluation were used to guide adjustments to the theory of change so that it aligns with the perspectives and experiences of key stakeholders.

Step 3. The purpose of the third step—evidencing outcomes and giving them a value—is to collect evidence of change. The longitudinal, quantitative data that informs the Impact Evaluation will provide insight into the change that seniors have experienced to their digital and social inclusion on account of participating in Be Connected programs. Qualitative data collected through interviews will help illustrate the meaning, significance or value of these changes to the everyday lives of participating seniors and their communities. These empirical findings inform the assignment of financial proxies against program outcomes. The relevant elements of the impact evaluation for the SROI pertain to the ‘inclusion resources’ (economic, social, cultural, personal), and digital skills and participation elements. To generate an economic value for these elements of the longitudinal survey, the financial proxies listed in the Social Value UK’s Global Value Exchange are used, but ultimately the team selected financial proxies that reflect the meaning or value of the outcomes from the perspective of Be Connected stakeholders.

Step 4. The purpose of the fourth step is to clarify the impact of Be Connected on the change that program participants experience in their digital and social inclusion. Existing secondary sources were used (particularly the ACMA Digital Lives of Older Australians report) and interview data (collected to as part of the Impact Evaluation) to estimate what portion of the outcomes would have happened even if Be Connected had not taken place (referred to as deadweight), the extent to which outcomes were caused by other organisations or people (referred to as attribution) and how long the outcomes lasted (referred to a drop-off).

Step 5. The purpose of the fifth step is to calculate the value of the financial and social costs and benefits of Be Connected, and present this in monetary terms relative to program inputs. The calculation considers the value of program outcomes over time (typically three to five years) and is subject to a sensitivity analysis that assesses the importance of individual outcomes in the SROI calculation.

Step 6. Finally, the purpose of the sixth step is to narrate the SROI in a short report that illustrates how the theory of change has been realised through the lived experiences of program participants and other stakeholders. The report provides a transparent account of the findings, decisions and judgements made at each step of the SROI calculation.

Data types and sources. The SROI analysis draws on data and analysis that informs the Impact Evaluation as well as existing secondary sources (ABS, ACMA, OeSC, ADII data).

Approach to analysis. In line with step 2-5 described above, indicators for each category of impact are selected based on an impact map created in consultation with stakeholders. This is followed by the identification of financial values and proxies for each indicator to monetise the social values. Finally, financial proxies are used to calculate the SROI for the program. When doing so, care is taken to avoid double-counting and over claiming.

Appendix B – Effectiveness

Appendix B-1 Changes to operational and strategic skills

Table B-1.1. Mean scores for operational skills (mean scores are out of five)

Operational skills	Wave 1 mean	Wave 2 mean	Mean difference	N	Cohen's d	Adj. p value
I know how to open downloaded files	3.74	3.93	0.19	325	0.17	.048
I know how to open a new tab in my browser	3.62	3.81	0.23	318	0.18	.031
I know how to download/save a photo I found online	3.42	3.62	0.22	317	0.18	.036
I know how to install apps on a mobile device	3.15	3.46	0.31	324	0.27	< .001
I know how to bookmark a website	2.95	3.32	0.36	318	0.32	< .001
I know how to keep track of costs of mobile app use	2.69	3.01	0.36	309	0.26	< .001
I know how to use shortcut keys	2.71	3.05	0.32	313	0.28	< .001

Table B-1.2. Mean scores for strategic (creative) skills (mean scores are out of five)

Creative skills	Wave 1 mean	Wave 2 mean	Mean difference	N	Cohen's d	Adj. p value
I know how to make basic changes to the content that others have produced	2.26	2.47	0.25	311	0.21	.007
I know how to create something new from existing online images, music or video	1.99	2.27	0.27	318	0.23	.001
I know which different licenses apply to online content	2.00	2.27	0.26	308	0.22	.005
I know how to create a website	1.73	1.89	0.18	327	0.19	.016

Table B-1.3. Results of paired t-test for digital skills items

	Mean difference	t	p	DF	95 % Confidence Interval		Adj p
					Low	High	
I know how to make basic changes to the content that others have produced	0.25	3.58	< .001	299	0.11	0.39	.007
I know how to bookmark a website	0.36	5.60	< .001	300	0.23	0.48	< .001
I am careful to make my comments and behaviours appropriate to the situation I find myself in online	-0.12	-1.87	.062	305	-0.24	0.01	.742
I find the way in which many websites are designed confusing	-0.03	-0.43	.666	319	-0.16	0.10	1
I know how to create something new from existing online images, Listening to online music or video	0.27	4.04	< .001	307	0.14	0.41	.001
I know how to create a website	0.18	3.36	.001	318	0.07	0.28	.016

Appendix B – Effectiveness

	Mean difference	t	p	DF	95 % Confidence Interval		Adj p
					Low	High	
I know how to install apps on a mobile device	0.31	4.79	< .001	313	0.18	0.44	< .001
I find it hard to decide what the best keywords are to use for online searches	-0.13	-1.73	.084	322	-0.28	0.02	.922
I know which different types of licences apply to online content	0.26	3.72	< .001	286	0.12	0.40	.005
Sometimes I end up on websites without knowing how I got there	-0.02	-0.21	.836	323	-0.16	0.13	1
I know how to open a new tab in my browser	0.23	3.14	.002	305	0.09	0.37	.031
I know how to open downloaded files	0.19	2.97	.003	315	0.06	0.31	.048
I know what information about myself I should and shouldn't share online	0.03	0.61	.545	318	-0.08	0.15	1
I find it hard to find a website I visited before	0.02	0.26	.799	325	-0.12	0.16	1
I know how to remove friends from my contacts lists	0.07	0.80	.421	301	-0.10	0.23	1
I know how to download/save a photo I found online	0.22	3.08	.002	305	0.08	0.36	.036
I know how to use shortcut keys	0.32	4.89	< .001	300	0.19	0.45	< .001
Using social media (e.g. Facebook) share knowledge	0.14	1.68	.095	269	-0.02	0.31	.951
I get tired when looking for information online	0.08	1.27	.205	330	-0.05	0.22	1
I know how to keep track of the costs of mobile app use	0.36	4.47	< .001	294	0.20	0.52	< .001

Table B-1.4. Linear regression models of digital skills items predicted by number of Be Connected modules completed between Time 1 and Time 2, and Be Connected role (Learner / Mentor).

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
I know how to make basic changes to the content that others have produced	(Intercept)	0.14	0.19	0.75	.456	-0.24	0.52
	Number of Modules	0.04	0.02	1.72	.087	-0.01	0.09
	Learner	0.02	0.2	0.12	.906	-0.37	0.42
I know how to bookmark a website	(Intercept)	-0.07	0.18	-0.38	.708	-0.42	0.28
	Number of Modules	0.04	0.02	1.66	.097	-0.01	0.08
	Learner	0.39	0.18	2.14	.033	0.03	0.76
I am careful to make my comments and behaviours appropriate to the situation I find myself in online	(Intercept)	0.01	0.18	0.06	.949	-0.34	0.36
	Number of Modules	-0.02	0.02	-1.07	.285	-0.07	0.02
	Learner	-0.09	0.18	-0.51	.608	-0.45	0.26
I find the way in which many websites are designed confusing	(Intercept)	-0.11	0.18	-0.62	.539	-0.47	0.24
	Number of Modules	-0.04	0.02	-1.47	.142	-0.08	0.01
	Learner	0.2	0.19	1.08	.282	-0.17	0.57

Appendix B – Effectiveness

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
I know how to create something new from existing online images, Listening to online music or video	(Intercept)	0.03	0.2	0.17	.864	-0.36	0.42
	Number of Modules	0.03	0.02	1.05	.294	-0.02	0.08
	Learner	0.22	0.2	1.07	.285	-0.18	0.61
I know how to create a website	(Intercept)	0.18	0.15	1.22	.222	-0.11	0.47
	Number of Modules	0.03	0.02	1.8	.074	0	0.07
	Learner	-0.08	0.15	-0.51	.610	-0.38	0.22
I know how to install apps on a mobile device	(Intercept)	0.14	0.18	0.74	.462	-0.23	0.5
	Number of Modules	0.03	0.02	1.29	.197	-0.02	0.08
	Learner	0.12	0.19	0.65	.516	-0.25	0.5
I find it hard to decide what the best keywords are to use for online searches	(Intercept)	-0.07	0.21	-0.35	.728	-0.49	0.35
	Number of Modules	-0.03	0.03	-0.98	.328	-0.08	0.03
	Learner	0.01	0.22	0.03	.974	-0.42	0.44
I know which different types of licences apply to online content	(Intercept)	0.24	0.2	1.2	.233	-0.16	0.64
	Number of Modules	0.04	0.03	1.41	.159	-0.02	0.09
	Learner	-0.06	0.21	-0.3	.767	-0.47	0.34
Sometimes I end up on websites without knowing how I got there	(Intercept)	0.05	0.21	0.24	.814	-0.37	0.47
	Number of Modules	-0.02	0.03	-0.79	.432	-0.08	0.03
	Learner	-0.02	0.22	-0.1	.924	-0.45	0.41
I know how to open a new tab in my browser	(Intercept)	-0.09	0.21	-0.43	.671	-0.49	0.32
	Number of Modules	0.06	0.03	2.13	.034	0	0.11
	Learner	0.22	0.21	1.04	.300	-0.2	0.63
I know how to open downloaded files	(Intercept)	-0.12	0.18	-0.66	.513	-0.46	0.23
	Number of Modules	0.04	0.02	1.76	.079	0	0.08
	Learner	0.25	0.18	1.35	.177	-0.11	0.6
I know what information about myself I should and shouldn't share online	(Intercept)	0.12	0.16	0.76	.447	-0.2	0.44
	Number of Modules	-0.02	0.02	-1.12	.265	-0.06	0.02
	Learner	-0.04	0.17	-0.26	.792	-0.37	0.28
I find it hard to find a website I visited before	(Intercept)	0.37	0.2	1.83	.069	-0.03	0.77
	Number of Modules	-0.05	0.03	-2	.046	-0.1	0
	Learner	-0.28	0.21	-1.36	.176	-0.69	0.13
I know how to remove friends from my contacts lists	(Intercept)	-0.3	0.23	-1.34	.182	-0.75	0.14
	Number of Modules	0.04	0.03	1.41	.159	-0.02	0.1
	Learner	0.32	0.23	1.39	.164	-0.13	0.78
I know how to download/save a photo I found online	(Intercept)	-0.15	0.2	-0.75	.453	-0.55	0.24
	Number of Modules	0.06	0.03	2.42	.016	0.01	0.12
	Learner	0.28	0.21	1.35	.178	-0.13	0.68
I know how to use shortcut keys	(Intercept)	0.12	0.19	0.65	.516	-0.24	0.49
	Number of Modules	0.04	0.02	1.72	.086	-0.01	0.09
	Learner	0.13	0.19	0.68	.499	-0.25	0.5

Appendix B – Effectiveness

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
Using social media (e.g. Facebook) share knowledge	(Intercept)	-0.04	0.22	-0.19	.852	-0.48	0.4
	Number of Modules	0	0.03	-0.07	.946	-0.06	0.06
	Learner	0.22	0.23	0.97	.334	-0.23	0.68
I get tired when looking for information online	(Intercept)	-0.07	0.19	-0.36	.721	-0.44	0.31
	Number of Modules	0	0.02	0	.996	-0.05	0.05
	Learner	0.18	0.2	0.94	.35	-0.2	0.57
I know how to keep track of the costs of mobile app use	(Intercept)	-0.43	0.23	-1.92	.056	-0.88	0.01
	Number of Modules	0.03	0.03	0.87	.387	-0.03	0.08
	Learner	0.86	0.23	3.68	< .001	0.4	1.31

Appendix B-2 Changes to digital confidence

Table B-2.1. Mean scores for confidence to use ICT devices (mean scores are out of 10)

Confidence in:	Wave 1 mean ²⁸	Wave 2 mean	Mean difference	N	Cohen's d	Adj. p value
Using a computer	7.24	7.46	0.22	335	-	.187
Using a smartphone	5.94	6.47	0.53	336	0.23	< .001
Using a tablet	5.62	6.06	0.50	332	0.20	.002

Table B-2.2. Mean scores for confidence to complete online social and recreational activities (mean scores are out of 10)

Confidence in:	Wave 1 mean	Wave 2 mean	Mean difference	N	Cohen's d	Adj. p value
Using email	7.96	8.29	0.33	337	0.20	.003
Using online search engines (e.g. Google)	7.67	8.15	0.48	337	0.27	< .001
Using social media (e.g. Facebook)	5.05	5.26	0.26	329	-	.280
Video calling (e.g. Skype or Facetime)	4.14	4.26	0.16	330	-	.830
Streaming music or TV (e.g. Spotify or ABC iView)	3.94	4.32	0.4	332	-	.203

Table B-2.3. Mean scores for confidence to complete online economic transactions (mean scores are out of 10)

Confidence in:	Wave 1 mean	Wave 2 mean	Mean difference	N	Cohen's d	Adj. p value
Online banking	5.71	5.82	0.16	332	-	.734
Buying things online	4.85	4.86	0.07	332	-	1
Putting a product up for sale online	3.02	2.99	0.00	329	-	1
Being safe online	6.01	6.74	0.74	337	0.27	< .001

Appendix B – Effectiveness

Table B-2.4. Linear regression of changes to confidence scores, predicted by completion of paired modules

Confidence in:	Paired module	Estimate	Adj. p value
Being safe online	Safety first	1.32	< .001
Video calling (such as Skype or Facetime)	Connecting to others	0.91	.013
Streaming music or TV (such as Spotify or ABC iView)	More online skills	0.91	.043
Online banking	Safety first	0.69	.011
Using email	Getting started online	0.43	.048

Table B-2.5. Results of paired t-test for confidence items.

	Mean difference	t	p	DF	95 % Confidence Interval		Adj p
					Low	High	
Buying things online	0.07	0.47	1	331	-0.21	0.34	1
Using a computer	0.22	2.23	.187	334	0.03	0.42	.187
Using email	0.33	3.59	.003	336	0.15	0.51	.003
Online banking	0.16	1.33	.734	331	-0.08	0.39	.734
Being safe online	0.74	4.99	< .001	336	0.45	1.03	< .001
Using online search engines	0.48	5.01	< .001	336	0.29	0.66	< .001
Putting a product up for sale online things online	0.00	0.02	1	328	-0.29	0.30	1
Using a smartphone	0.53	4.15	< .001	335	0.28	0.78	< .001
Using social media	0.26	1.92	.28	328	-0.01	0.53	.28
Streaming Listening to online music or TV	0.40	2.13	.203	331	0.03	0.76	.203
Using a tablet	0.50	3.70	.002	331	0.23	0.76	.002
Video calling	0.16	1.09	.83	329	-0.13	0.44	.83

Appendix B – Effectiveness

Table B-2.6. Linear regression models of confidence predicted by number of Be Connected modules completed between baseline and follow-up and Be Connected role (Learner / Mentor).

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
Buying things online	(Intercept)	-0.02	0.41	-0.04	.972	-0.02	0.41
	Number of Modules	0.02	0.05	0.31	.76	0.02	0.05
	Learner	0.03	0.42	0.08	.938	0.03	0.42
Using a computer	(Intercept)	0.18	0.29	0.64	.525	0.18	0.29
	Number of Modules	0.07	0.04	1.84	.067	0.07	0.04
	Learner	-0.13	0.3	-0.44	.663	-0.13	0.3
Using email	(Intercept)	-0.09	0.27	-0.33	.74	-0.09	0.27
	Number of Modules	0.1	0.03	2.88	.004	0.1	0.03
	Learner	0.25	0.27	0.9	.367	0.25	0.27
Online banking	(Intercept)	-0.17	0.35	-0.5	.619	-0.17	0.35
	Number of Modules	0.09	0.04	2.1	.037	0.09	0.04
	Learner	0.15	0.35	0.43	.665	0.15	0.35
Being safe online	(Intercept)	0.05	0.41	0.13	.899	0.05	0.41
	Number of Modules	0.2	0.05	3.89	< .001	0.2	0.05
	Learner	0.25	0.42	0.59	.554	0.25	0.42
Using online search engines	(Intercept)	-0.09	0.28	-0.32	.753	-0.09	0.28
	Number of Modules	0.06	0.04	1.64	.102	0.06	0.04
	Learner	0.5	0.28	1.78	.076	0.5	0.28
Putting a product up for sale online things online	(Intercept)	0.42	0.43	0.97	.331	0.42	0.43
	Number of Modules	0.06	0.06	1.06	.288	0.06	0.06
	Learner	-0.64	0.44	-1.45	.148	-0.64	0.44
Using a smartphone	(Intercept)	0.06	0.37	0.17	.868	0.06	0.37
	Number of Modules	0.08	0.05	1.75	.081	0.08	0.05
	Learner	0.34	0.38	0.9	.367	0.34	0.38
Using social media (e.g. Facebook)	(Intercept)	0.24	0.39	0.62	.535	0.24	0.39
	Number of Modules	0.05	0.05	1.04	.298	0.05	0.05
	Learner	-0.12	0.4	-0.3	.766	-0.12	0.4
Streaming Listening to online music or TV	(Intercept)	-0.37	0.55	-0.67	.506	-0.37	0.55
	Number of Modules	0.06	0.07	0.92	.358	0.06	0.07
	Learner	0.72	0.56	1.28	.201	0.72	0.56
Using a tablet	(Intercept)	0.32	0.39	0.81	.419	0.32	0.39
	Number of Modules	0.06	0.05	1.26	.208	0.06	0.05
	Learner	0.05	0.4	0.14	.892	0.05	0.4
Video calling	(Intercept)	0.33	0.42	0.79	.428	0.33	0.42
	Number of Modules	0.06	0.05	1.22	.223	0.06	0.05
	Learner	-0.36	0.43	-0.85	.398	-0.36	0.43

Appendix B – Effectiveness

Table B-2.7. Linear regression models of confidence predicted by completion of relevant Be Connected module and Be Connected role (Learner / Mentor).

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
Buying things online	(Intercept)	0.01	0.42	0.03	.980	-0.81	0.83
	Module Completed	0.36	0.34	1.06	.290	-0.31	1.02
	Learner	-0.07	0.44	-0.16	.874	-0.93	0.79
Using a computer	(Intercept)	0.45	0.30	1.52	.13	-0.13	1.04
	Module Completed	-0.51	0.25	-2.02	.044	-1.01	-0.01
	Learner	-0.15	0.31	-0.47	.642	-0.76	0.47
Using email	(Intercept)	0.04	0.27	0.14	.889	-0.49	0.56
	Module Completed	0.43	0.22	1.99	.048	0.00	0.86
	Learner	0.20	0.28	0.72	.472	-0.35	0.76
Online banking	(Intercept)	-0.07	0.34	-0.21	.838	-0.75	0.61
	Module Completed	0.69	0.27	2.57	.011	0.16	1.22
	Learner	0.05	0.36	0.13	.899	-0.67	0.76
Being safe online	(Intercept)	0.14	0.41	0.33	.739	-0.66	0.93
	Module Completed	1.32	0.32	4.09	< .001	0.68	1.95
	Learner	0.19	0.43	0.44	.657	-0.65	1.04
Using online search engines	(Intercept)	0.07	0.28	0.24	.812	-0.49	0.62
	Module Completed	0.16	0.23	0.69	.494	-0.29	0.61
	Learner	0.44	0.30	1.47	.143	-0.15	1.02
Putting a product up for sale online things online	(Intercept)	0.54	0.44	1.24	.215	-0.32	1.41
	Module Completed	0.22	0.35	0.62	.535	-0.48	0.92
	Learner	-0.69	0.46	-1.49	.137	-1.59	0.22
Using a smartphone	(Intercept)	0.33	0.38	0.86	.393	-0.43	1.08
	Module Completed	-0.14	0.32	-0.43	.671	-0.77	0.50
	Learner	0.33	0.40	0.83	.409	-0.46	1.13
Using social media (e.g. Facebook)	(Intercept)	0.24	0.40	0.61	.545	-0.54	1.02
	Module Completed	0.41	0.32	1.28	.200	-0.22	1.05
	Learner	-0.10	0.42	-0.23	.815	-0.92	0.72
Streaming Listening to online music or TV	(Intercept)	-0.36	0.56	-0.64	.521	-1.47	0.74
	Module Completed	0.91	0.45	2.03	.043	0.03	1.78
	Learner	0.61	0.59	1.03	.302	-0.55	1.76
Using a tablet	(Intercept)	0.45	0.40	1.12	.262	-0.34	1.25
	Module Completed	-0.33	0.34	-0.98	.328	-1.00	0.34
	Learner	0.15	0.42	0.35	.728	-0.69	0.98
Video calling	(Intercept)	0.37	0.43	0.87	.387	-0.47	1.21
	Module Completed	0.91	0.37	2.49	.013	0.19	1.63
	Learner	-0.48	0.45	-1.08	.281	-1.37	0.40

Appendix B-3 Changes to digital participation

Table B-3.1. Results of paired t-test for digital participation items.

	Mean difference	t	p	DF	95 % Confidence Interval		Adj p
					Low	High	
Interacting online with people in the cultural group	0.18	2.27	.024	330	0.02	0.33	.404
Joining websites or social media groups that services the cultural group	0.09	1.40	.164	328	-0.04	0.22	1
Searching for information online about the cultural group	0.12	1.54	.123	329	-0.03	0.28	1
Financial products	0.03	0.49	.624	330	-0.08	0.14	1
Playing online games	0.08	1.31	.192	330	-0.04	0.20	1
Asking others about a learning program online	0.03	0.53	.594	325	-0.09	0.16	1
Listening to online music	-0.02	-0.30	.768	334	-0.16	0.12	1
Using internet banking to check your account balance online	0.04	0.73	.465	334	-0.07	0.15	1
Using internet banking to transfer money online	0.07	1.34	.181	332	-0.03	0.17	1
Responding to people's requests for information about a product or service you wanted to sell online	-0.07	-1.35	.177	330	-0.18	0.03	1
Searching for information on how to improve your fitness online	0.13	2.41	.016	332	0.02	0.23	.297
Searching for information on how to sell something you own online	-0.26	-3.90	< .001	331	-0.38	-0.13	.002
Putting a product up for sale online	-0.02	-0.45	.655	332	-0.10	0.06	1
Commenting on the updates friends or family had put online	0.06	0.66	.509	330	-0.11	0.23	1
Talking to family or friends who live further away	0.04	0.53	.6	333	-0.12	0.21	1
Sharing pictures of you with your family or friends	0.03	0.43	.667	329	-0.12	0.19	1
Searching for information (online or offline) on clubs or societies	-0.45	-5.14	< .001	330	-0.63	-0.28	< .001
Interacting with people who share your personal interests and hobbies	-0.01	-0.13	.897	328	-0.20	0.17	1
Commenting about a political or societal issue	-0.15	-2.08	.038	330	-0.29	-0.01	.614
Talking to others about your lifestyle online	0.02	0.19	.85	328	-0.14	0.17	1
Watching online videos/TV programs	0.30	3.71	< .001	335	0.14	0.46	.005

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Table B-3.2. Linear regression models of digital participation items predicted by number of Be Connected modules completed between baseline and follow-up and Be Connected role (Learner / Mentor).

	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
Interacting online with people in the cultural group	(Intercept)	0.37	0.23	1.65	.100	-0.07	0.82
	Number of Modules	0.00	0.03	-0.14	.890	-0.06	0.05
	Learner	-0.21	0.23	-0.92	.357	-0.67	0.24
Joining websites or social media groups that services the cultural group	(Intercept)	0.26	0.19	1.41	.159	-0.10	0.63
	Number of Modules	-0.02	0.02	-0.68	.494	-0.06	0.03
	Learner	-0.16	0.19	-0.83	.409	-0.54	0.22
Searching for information online about the cultural group	(Intercept)	0.29	0.23	1.25	.213	-0.17	0.75
	Number of Modules	-0.02	0.03	-0.86	.392	-0.08	0.03
	Learner	-0.13	0.24	-0.54	.589	-0.60	0.34
Financial products	(Intercept)	-0.14	0.16	-0.87	.383	-0.45	0.17
	Number of Modules	0.00	0.02	-0.04	.971	-0.04	0.04
	Learner	0.18	0.16	1.10	.272	-0.14	0.50
Playing online games	(Intercept)	0.08	0.18	0.46	.648	-0.27	0.44
	Number of Modules	-0.02	0.02	-0.70	.487	-0.06	0.03
	Learner	0.04	0.18	0.20	.844	-0.33	0.40
Asking others about a learning program online	(Intercept)	-0.04	0.18	-0.23	.818	-0.40	0.32
	Number of Modules	0.05	0.02	2.06	.040	0.00	0.09
	Learner	-0.04	0.19	-0.20	.843	-0.40	0.33
Listening to online music	(Intercept)	-0.21	0.20	-1.03	.302	-0.62	0.19
	Number of Modules	0.02	0.03	0.88	.381	-0.03	0.07
	Learner	0.17	0.21	0.79	.431	-0.25	0.58
Using internet banking to check your account balance online	(Intercept)	0.02	0.17	0.14	.890	-0.30	0.35
	Number of Modules	0.01	0.02	0.46	.644	-0.03	0.05
	Learner	0.00	0.17	-0.01	.989	-0.34	0.33
Using internet banking to transfer money online	(Intercept)	-0.01	0.15	-0.08	.938	-0.30	0.28
	Number of Modules	0.02	0.02	1.29	.196	-0.01	0.06
	Learner	0.03	0.15	0.19	.852	-0.27	0.33
Responding to people's requests for information about a product or service you wanted to sell online	(Intercept)	-0.08	0.16	-0.52	.605	-0.38	0.22
	Number of Modules	0.02	0.02	1.25	.213	-0.01	0.06
	Learner	-0.05	0.16	-0.34	.736	-0.37	0.26

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	term	β	SE	t	p	95 % Confidence Interval	
						Low	High
Searching for information on how to improve your fitness online	(Intercept)	0.19	0.15	1.23	.219	-0.11	0.49
	Number of Modules	-0.02	0.02	-1.14	.257	-0.06	0.02
	Learner	-0.02	0.16	-0.10	.924	-0.32	0.29
Searching for information on how to sell something you own online	(Intercept)	-0.38	0.19	-2.02	.044	-0.75	-0.01
	Number of Modules	0.00	0.02	-0.08	.940	-0.05	0.04
	Learner	0.16	0.19	0.80	.424	-0.23	0.54
Putting a product up for sale online	(Intercept)	-0.03	0.12	-0.29	.769	-0.26	0.20
	Number of Modules	0.02	0.02	1.00	.318	-0.01	0.04
	Learner	-0.02	0.12	-0.16	.876	-0.25	0.22
Commenting on the updates friends or family had put online	(Intercept)	-0.16	0.25	-0.62	.537	-0.65	0.34
	Number of Modules	0.05	0.03	1.45	.147	-0.02	0.11
	Learner	0.12	0.26	0.48	.635	-0.38	0.63
Talking to family or friends who live further away	(Intercept)	-0.48	0.24	-1.98	.048	-0.97	0.00
	Number of Modules	0.05	0.03	1.69	.092	-0.01	0.11
	Learner	0.47	0.25	1.88	.061	-0.02	0.97
Sharing pictures of you with your family or friends	(Intercept)	-0.06	0.22	-0.29	.772	-0.50	0.37
	Number of Modules	0.05	0.03	1.68	.094	-0.01	0.10
	Learner	-0.01	0.23	-0.05	.958	-0.46	0.44
Searching for information (online or offline) on clubs or societies	(Intercept)	-0.77	0.25	-3.03	.003	-1.27	-0.27
	Number of Modules	0.00	0.03	-0.07	.948	-0.06	0.06
	Learner	0.37	0.26	1.43	.155	-0.14	0.88
Interacting with people who share your personal interests and hobbies	(Intercept)	-0.35	0.28	-1.28	.200	-0.89	0.19
	Number of Modules	0.03	0.03	0.81	.418	-0.04	0.10
	Learner	0.31	0.28	1.11	.269	-0.24	0.86
Commenting about a political or societal issue	(Intercept)	-0.46	0.21	-2.18	.030	-0.89	-0.04
	Number of Modules	0.02	0.03	0.94	.346	-0.03	0.08
	Learner	0.29	0.22	1.34	.18	-0.14	0.72
Talking to others about your lifestyle online	(Intercept)	-0.21	0.23	-0.90	.369	-0.67	0.25
	Number of Modules	0.03	0.03	1.03	.305	-0.03	0.09
	Learner	0.18	0.24	0.75	.453	-0.29	0.65
Watching online videos/TV programs	(Intercept)	0.00	0.23	0.02	.983	-0.46	0.47
	Number of Modules	0.03	0.03	0.92	.358	-0.03	0.09
	Learner	0.27	0.24	1.11	.268	-0.21	0.74

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Appendix B-4 Changes to health and loneliness

Table B-4.1. Changes to loneliness and physical and emotional health

	Wave 1 mean	Wave 2 mean	Mean difference	N	Cohen's d	p value
Loneliness	36.0	34.6	1.61	293	0.22	< .001
Self-rated health (SF-8 combined and sum of rescaled scores)	37.6	37.3	0.32	326	-	.296

Table B-4.2. Linear regression models of loneliness and quality of life scores on digital self-efficacy controlling for age, gender, education, and perceived prosperity.

Model	Term	β	SE	t	p
Baseline confidence total	(Intercept)	121.69	16.79	7.25	< .001
	Age	-0.81	0.14	-5.64	< .001
	Female	-2.62	2.58	-1.01	.311
	Tertiary educated	4.14	2.71	1.53	.126
	Perceived prosperity	-2.96	1.71	-1.72	.086
	UCLA loneliness score	-0.35	0.12	-2.93	.004
	SF-8 score	0.69	-.19	3.67	< .001
Follow-up confidence total	(Intercept)	111.94	16.93	6.61	< .001
	Age	-0.55	0.16	-3.29	.001
	Female	2.05	2.84	0.72	.471
	Tertiary educated	3.65	2.86	1.27	.204
	Perceived prosperity	-2.23	1.79	-1.24	.216
	UCLA loneliness score	26.59	4.00	6.63	< .001
	SF-8 score	-0.32	0.12	-2.50	.011
Change in confidence	(Intercept)	-2.52	12.85	-0.20	.844
	Age	-0.01	0.12	-0.07	.946
	Female	1.17	2.02	0.58	.563
	Tertiary educated	2.01	2.04	0.98	.326
	Perceived prosperity	1.49	1.28	1.16	.249
	Mentor	-1.89	3.01	-0.63	.530
	Completed modules	0.93	0.33	2.79	.005
	UCLA loneliness score	0.04	0.09	0.41	.681
	SF-8 score	0.07	0.14	-0.55	.582

Appendix B-5 Latent class analysis

Table B-5.1. Mean difference over time for all variables across class

	Class 1 (Low initial digital engagement, global change, n = 108)			Class 2 (Highly engaged, no change, n = 90)			Class 3 (Moderate initial engagement, targeted change, n = 139)		
	Mean dif. (T2- T1)	SE dif.	p	Mean dif. (T2- T1)	SE dif.	p	Mean dif. (T2- T1)	SE dif.	p
Confidence-global	0.56	0.14	<.001	-0.34	0.15	0.030	0.29	0.14	0.036
Confidence-Technical	0.83	0.15	<.001	0.11	0.09	0.256	0.37	0.11	0.002
Attitude	0.02	0.08	0.762	-0.06	0.07	0.460	0.03	0.06	0.563
Operational skills	0.45	0.07	<.001	0.04	0.06	0.507	0.26	0.06	<.001
Navigation skills	-0.01	0.07	0.922	-0.14	0.09	0.123	0.13	0.06	0.049
Social skills	0.05	0.09	0.600	-0.12	0.08	0.114	0.10	0.07	0.184
Creativity skills	0.46	0.08	<.001	0.22	0.12	0.056	0.26	0.08	0.001
Safety skills	-0.03	0.01	0.003	0.00	0.01	0.685	-0.03	0.01	0.005
Banking participation	0.03	0.08	0.699	-0.13	0.08	0.121	0.18	0.08	0.015
Financial participation	-0.02	0.03	0.629	-0.19	0.10	0.055	-0.07	0.06	0.197
Social participation	0.08	0.09	0.404	-0.29	0.10	0.006	-0.09	0.08	0.262

Table B-5.2. Means and standard deviations of all variables across class membership

	Class 1 (Low initial digital engagement, global change, n = 108)		Class 2 (Highly engaged, no change, n = 90)		Class 3 (Moderate initial engagement, targeted change, n = 139)	
	Mean	SD	Mean	SD	Mean	SD
Confidence-global T1	1.97 _a	1.15	8.05 _b	1.18	4.91 _c	1.54
Confidence-global T2	2.53 _a	1.32	7.71 _b	1.51	5.20 _c	1.61
Confidence-Technical T1	5.10 _a	2.08	8.98 _b	0.91	7.72 _c	1.29
Confidence-Technical T2	2.53 _a	1.32	7.71 _b	1.51	5.20 _c	1.61
Attitude T1	3.43 _a	0.82	4.15 _b	0.63	3.79 _c	0.69
Attitude T2	3.46_a	0.71	4.09_b	0.55	3.83_b	0.62
Operational skills T1	2.06 _a	0.78	4.34 _b	0.59	3.31 _c	0.67
Operational skills T2	2.51 _a	0.70	4.38 _b	0.47	3.58 _c	0.53
Navigation skills T1	2.70_a	0.82	3.68_b	0.78	2.87_a	0.84
Navigation skills T2	2.69_a	0.73	3.55_b	0.71	2.99_a	0.78
Social skills T1	3.32 _a	0.80	4.35 _b	0.54	3.77 _c	0.74
Social skills T2	3.37 _a	0.77	4.23 _b	0.66	3.86 _c	0.63
Creativity skills T1	1.40 _a	0.49	2.87 _b	1.10	1.88 _c	0.81
Creativity skills T2	1.87 _a	0.77	3.09 _b	1.07	2.15 _a	0.84
Safety experience T1	1.04 _a	0.11	1.03 _a	0.08	1.04 _a	0.13
Safety experience T2	1.01 _a	0.04	1.02 _a	0.10	1.01 _a	0.05
Banking participation T1	1.94 _a	1.20	3.91 _b	1.03	2.78 _c	1.30

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	Class 1 (Low initial digital engagement, global change, n = 108)		Class 2 (Highly engaged, no change, n = 90)		Class 3 (Moderate initial engagement, targeted change, n = 139)	
	Mean	SD	Mean	SD	Mean	SD
Banking participation T2	1.96 _a	1.22	3.78 _b	1.10	2.97 _c	1.33
Financial participation T1	1.14 _a	0.39	1.88 _b	0.72	1.44 _c	0.60
Financial participation T2	1.12 _a	0.42	1.69 _b	0.83	1.37 _a	0.57
Social participation T1	1.89 _a	0.80	3.39 _b	0.95	2.56 _c	0.86
Social participation T2	1.97 _a	0.78	3.10 _b	0.87	2.47 _c	0.82

Note. Values in the same row not sharing the same subscript for means are significantly different at $p < .002$ (two-sided). p values were determined by applying a Bonferroni adjustment to $p < .05$ for 22 comparisons. Between groups analysis of variance (ANOVA) was used to calculate differences in means (see the [Glossary](#) for a description of ANOVA).

Multinomial logistic regression model detailed description and findings

Due to sample size considerations, categorical variables were collapsed into binary categories. Education was dichotomized into “Tertiary education” and “Less than tertiary education”, employment status into “In current paid employment” and “Not in current paid employment”, perceived prosperity into “Financially comfortable” (reasonably comfortable, very comfortable, prosperous) and “Less than comfortable” (very poor, poor, just getting along), English reading skill into “Very well” and “Less than very well” (well, not well, not at all), and occupation class into “professional” (professional, manager, clerical or administrative, sales) and “manual labour” (technician or trade worker, community or personal service worker, machinery operator or driver, labourer). The effect of adding sequential terms in improving the fit of the model can be seen in [Table B-5.3](#) below.

Table B-5.3. Analysis of Deviance Table of multinomial logistic regression model.

	Likelihood ratio χ^2	DF	p
Age	10.74	2	.005
Gender	7.17	2	.028
Education	1.42	2	.492
Employed	1.31	2	.519
Financial comfort	4.17	2	.124
English reading	9.23	2	.010
Indigenous	0.69	2	.707
Modules completed at baseline	22.41	2	< .001
Occupation class	6.63	2	.036

Note: Sample n = 288.

Appendix B – Effectiveness

The results of the analysis indicated a relationship between several demographic variables and class membership (see **Table B-5.3**). Holding all other variables in the model constant, a one-year increase in age increased the likelihood that a program participant would be in Class 1 vs Classes 2 and 3 by 8.3% and 5.2% respectively.

Gender was also related to class membership, whereby men were 169% more likely to be in Class 2 relative to Class 1 compared to women, and women were 99% more likely than men to be in Class 3 relative to Class 2.

English reading skill was also a significant predictor of class membership. Program participants who rated their English reading skill as “very well” were 745% and 470% more likely to be in Class 2 than Class 1 or Class 3 respectively, compared to participants who rated their English reading skill as less than very well.

There was also a significant difference found amongst occupation classes. Program participants who (formerly) held manual labour type jobs were 143% and 118% more likely to be in Class 1 than Classes 2 and 3 respectively, compared to participants who held professional type jobs.

Finally, the Be Connected modules participants had completed at the survey baseline also significantly predicted Class. For every module completed participants were more 26% and 16% more likely to be 2 or Class 3 respectively relative to Class 1.

There were no significant effects for education, indigenous status, financial comfort, or current employment status.

Appendix B – Effectiveness

Table B-5.4. Multinomial logistic regression estimates for predicting class membership.

Class reference level	Class y level	Term	β	SE	OR	Wald	p
1	2	(Intercept)	3.61	1.94	36.78	1.86	.062
		Age	-0.08	0.03	0.92	-3.13	.002
		Gender	-0.99	0.39	0.37	-2.56	.011
		Education	0.46	0.39	1.58	1.19	.236
		Employed	-0.66	0.59	0.52	-1.12	.262
		Financial comfort	0.82	0.42	2.27	1.97	.049
		English reading	2.13	0.84	8.45	2.54	.011
		Indigenous	1.08	1.44	2.94	0.75	.454
		Modules at baseline	0.23	0.05	1.26	4.41	<.001
		Occupation class	-0.89	0.43	0.41	-2.09	.036
1	3	(Intercept)	3.33	1.55	27.99	2.16	.031
		Age	-0.05	0.02	0.95	-2.23	.026
		Gender	-0.30	0.33	0.74	-0.91	.364
		Education	0.25	0.33	1.29	0.77	.444
		Employed	-0.31	0.53	0.73	-0.59	.555
		Financial comfort	0.46	0.33	1.59	1.42	.157
		English reading	0.39	0.46	1.48	0.86	.393
		Indigenous	0.90	1.28	2.46	0.70	.483
		Modules at baseline	0.15	0.05	1.16	3.33	.001
		Occupation class	-0.78	0.34	0.46	-2.32	.021
2	3	(Intercept)	-0.27	1.68	0.76	-0.16	.871
		Age	0.03	0.02	1.04	1.51	.132
		Gender	0.69	0.33	1.99	2.09	.036
		Education	-0.20	0.32	0.82	-0.63	.530
		Employed	0.35	0.47	1.41	0.74	.458
		Financial comfort	-0.36	0.38	0.70	-0.96	.338
		English reading	-1.74	0.80	0.18	-2.17	.030
		Indigenous	-0.18	0.98	0.84	-0.19	.853
		Modules at baseline	-0.08	0.04	0.92	-1.93	.053
		Occupation class	0.11	0.40	1.12	0.28	.781

Appendix C – Efficiency

Appendix C-1 SROI stakeholder analysis

Table C-1.1. Stakeholder analysis

The stakeholder that affect or are affected by the program	What we think happens to them as a result of the program	Included/ Excluded	Method of involvement
Learners (participants)	<p>Increased skills and knowledge in ICT use and online technologies.</p> <p>Increased confidence in ICT use and digital technologies</p> <p>Improved social connection</p> <p>Improve online safety</p>	Included	Interviews and surveys
Mentors	<p>Increased familiarity and confidence with digital and online technologies</p> <p>Increased use of digital and online technologies</p> <p>Improved (general) self-efficacy</p>	Included	Interviews and survey
Network Partners / Community organisations	<p>Access to funds to provide digital literacy support</p> <p>Access to advice on how to administer/provide digital inclusion support</p>	Included	Interviews
Department of Social Services	Improved social and economic participation of older Australians over the age of 50	Included	Meetings
Office of the e-Safety Commissioner	Improved understanding of online safety and management of e-Safety risks among citizens	Included	Meetings
Good Things Foundation	Mange and coordinate funding to local communities who implement the initiative	Included	Meetings
Learners' families	Changes in participants are likely to have impact on their families and friends. Changes are gleaned through the perspectives of participants/learners. Out of the scope of this project to include them.	Excluded	NA
Local communities that learners are involved in	Impact are understood through the experiences of learners. No direct impact.	Excluded	NA
Local and state governments	The program may have indirect impact on policy and service provision at the local and state government level.	Excluded	NA
IT and telecommunications companies	Significant change is not anticipated; and it is difficult to determine the role of Be Connected in the change, if any.	Excluded	NA
Businesses with online retail	Not anticipated to be a significant area of change, and it is difficult to determine the role of Be Connected in the change, if any.	Excluded	NA

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Appendix C-2 Be Connected Investments

Table C-2.1. Overall investments for Be Connected (Oct 2016—Dec 2019)

Stakeholder	Inputs	Calculation	Investment
Program participants	<p>ABS (2017) household expenditure estimates the average weekly transport cost for people over 55 years of age at \$149.00 (ABS, 2017). The cost of travel is calculated with the assumption that only Older Australians Supported by the Be Connected Program (132,176) travelled to attend Be Connected sessions and that all participants travelled on average six days (assuming learning a session a day and six Topic Modules on average) during the life of the program.</p> <p>Participants time is not included as suggested by the SROI guidelines, and there is no evidence to suggest that there was an opportunity cost to participants.</p>	$[\$149 \times 132,176] =$ \$19,694,224	\$19,694,224
Government - DSS Be Connected funding	<p>Amount of Government funding used by or dispersed through GTF to Be Connected Network Partners up to December 2019.</p> <p>Program funding allocated and spent by the three project partners GTF, OeSC and DSS until December 2019.</p>	See Table 5-1	\$47,242,540
Network Partners	Estimated use of ICT infrastructure, rooms, and other consumables incurred by the 3007 Network Partners (which were not covered by the funding) to support Be Connected program participants.	$[\$13,225,544 \times 0.3] =$ \$3,967,663	\$3,967,663
Digital Mentors' inputs (voluntary)	Estimated market value (time and travel costs) of the number of Digital Mentors currently not employed or compensated for their work by each Network Partner. This was estimated by using a proxy of \$20 a year membership fee for those older Australians Supported by the Be Connected Program (132,176) and multiplying it by 2/3 to reflect the two-third unsalaried volunteer Digital Mentors.	$(132,176 \times \$20 \times 3 \times 2/3) =$ \$5,287,040	\$5,287,040
Total investment in Be Connected Program			\$76,191,467

Appendix C-3 Be Connected outcomes and financial proxies

Table C-3.1. Be Connected outcomes and preferred financial proxies

Outcome	Financial proxy (description)	Financial proxy value	Financial proxy rationale
Increase in participants' digital skills and knowledge	Cost of textbook required for computer basics training for seniors Valuing method: willingness to pay	\$38.95 per item Source: Dymock website (2020)	Taking an SROI conducted for Tech Savvy Seniors in NSW as a precedent, we have used the cost of a textbook about computer basics targeting seniors as a proxy (see Suchowerska & Zinn, 2014). ²⁹
Increased confidence in the use of ICT online participants	The market value of the cost of training required to achieve the same outcome to develop confidence (at least 3 sessions of 1 hour each) Valuing method: cost of training	\$134.45 (\$ 44.82 per hour) The weekly average salary of an ICT Educator is \$1,680.60 Source: (ABS, 2018)	Be Connected increases the confidence of learners/ participants by creating the opportunity for learners to obtain the skills required to navigate online and improved their digital self-efficacy over repeated lessons, including supported ones. Based on Average Costs and Cost Allocation Approximations, the cost of training by an ICT educator for three lessons is estimated to develop the confidence of participants. Source: ABS cat no. 6306.0 Employee earnings and hours (ABS, 2018)
Increased connectedness	Schedule Fees (Medicare) for six counselling services to support individuals experiencing mental health Valuing method: cost of treatment	\$61.05 x 6 = \$366 Source: Medicare Benefits Schedule (2700) MBS (2020)	The literature indicates that loneliness and social isolation are risk factors for mental health and can be a burden on the health system. Thus, by calculating cost savings arising from loneliness (costs to see physician/counsellor), one can account for the contribution of training in ICT to enable participants to communicate with family and friends. Source: Medicare Benefits Schedule (2020) (See also Suchowerska & Zinn, 2014)
Increased online safety	Cost of online fraud among the elderly in Australia or savings to the individual and the economy as a result of avoiding online scams calculated for online scams in 2019. Valuing method: cost of online fraud	\$68.00 The cost of online fraud for multiplied by the percentage of older Australian victims of fraud in a year Source: (ABS 2016)	Be connected increased the confidence and online safety of participants. The assumption is that the participants who reported an increase in their online safety skills are likely to avoid fraud and other cyber issues. The ABS (2016), estimated 36% of persons aged 55 (2,314,988 persons) or 9.9% of the Australian population were exposed to online scams in the 12 months before the survey in 2014-15. In 2019 it was reported that over \$455 million was lost to online fraud in Australia. Source: ABS cat no. 4528.0 - 4528.0 - Personal Fraud, 2014-15

Appendix C-4 SROI Valuation Filters

Consideration of the different filter coefficients used in the SROI analysis are as follows:

- ▶ **Attribution** is an assessment how much of the outcome was the contribution of other programs or organisations rather than a direct consequence of an investment in Be Connected. It is crucial to estimate the contribution of other programs not included as inputs or investments of Be Connected.
- ▶ **Deadweight** is an estimation of the amount of outcome or value that would have occurred regardless. The context under which the program is implemented, and the nature of each outcome should be taken into consideration in estimating deadweight.
- ▶ **Displacement** is an assessment of how much of the outcome has displaced other outcomes. We have used survey and interview data to identify and understand whether any of the outcomes have displaced in part or in full any other outcomes that the participants would have achieved.
- ▶ **Drop-off** is the decrease or deterioration of the value of the outcome over time. This is only important if it is determined that the social value of an outcome lasts for more than a year. For this project, based on the duration of the project, we have estimated the drop-off rate for each outcome.

Table C-4.1. SROI valuation filters

Outcome 1 – Increase in participants' digital skills and knowledge		
Filter	Assumption	Rationale
Deadweight	50%	Participants would likely be able to obtain ICT skills or training without the Be Connected program due to the presence of other similar programs such as Go Digi, Tech Savvy Seniors and others. The interviews also indicated that many participants had some prior knowledge, and others are expected to get some support from family and friends. However, the reach would have been different without Be Connected.
Attribution	80%	Based on the baseline survey, although most respondents (96%) were using the internet on their own before commencing Be Connected, 18% report not knowing how to complete any operational tasks. In comparison, 82% reported knowing 1 to 7 operational skills. Thus, we have estimated the attribution contribution of other programs and activities to the development of their participants knowledge of ICTs to be 80%.
Duration	1	This outcome lasts for the period of investment (four years). The duration is expressed as '1', to reflect the direct relationship with the period of investment.
Drop-off	50%	Participants may lose interest and not practice enough, although they will still be able to be engaged online due to several factors, including the possible increase in Government online services.
Outcome 2 – Increased confidence in participants in the use of ICT		
Filter	Assumption	Rationale
Deadweight	50%	As in the increase in ICT skills, participants are likely to access other opportunities if they wish to practice their ICT skills.
Attribution	20%	Our findings show that participation in Be Connected has lifted the confidence of participants in the use of ICT significantly. However, we estimate that prior learning and the activities of other organisations and programs to have contributed at least up to 20% to the increase in confidence in participants.
Duration	1	This outcome lasts for the period of investment (four years). The duration is expressed as '1', to reflect the direct relationship with the period of investment.
Drop-off	50%	Confidence built as a result of the Be Connected program is not likely to reduce significantly; however, it is expected to reduce after a year if a regular practice is not maintained to update one's skills and level of confidence. The speed of technology change is also likely to erode the level of confidence without any further refresher training or regular practice.

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Outcome 3 – Increased connectedness		
Filter	Assumption	Rationale
Deadweight	25%	See comments for the above outcome.
Attribution	25%	As the Be Connected program had focused sessions on using ICT for communication, with the incentive to connect with family and friends it is highly likely for the Be Connected program to have contributed significantly to the increased connectedness among participants. However, we still estimate that up to 25% of this increase is contributed by activities of other organisations and activities.
Duration	1	This outcome lasts for the period of investment (four years). The duration is expressed as '1', to reflect the direct relationship with the period of investment.
Drop-off	25%	No significant drop-off is expected as participants are likely to be encouraged by family and friends to communicate through ICT devices. However, the fast change in technology may force them to drop off some of their learnings.

Outcome 4 – Increase online safety		
Filter	Assumption	Rationale
Deadweight	50%	See comments above.
Attribution	20%	Our survey data indicate that participants who had completed three or more Be Connected learning modules were less likely to respond to unsolicited contact. We anticipate this to have increased online safety significantly, however we expect other program or activities to have contributed up to 20% of the reported increase in online safety among participants.
Duration	1	This outcome lasts for the period of investment (five years). The duration is expressed as '1', to reflect the direct relationship with the period of investment.
Drop-off	90%	The sophistication of online technologies and scammers and a lack of regular practice can create a condition for skills in online safety learned in the program to subside within the year.

Appendix C-5 SROI Sensitivity Analysis

The aim of sensitivity testing is to see which assumptions might have the most significant effect on our model. Reasonable extremes (high and low estimates) of the parameters that we anticipated to change the SROI ratio were tested. It is instructive to note that changes made in costing the social value of the increase in digital skills and knowledge are likely to increase the ratio significantly, perhaps indicating that the baseline proxy used was conservative. On the other hand, changes in the deadweight and attribution assumptions for connectedness can generate ratios lower than the baseline assumptions.

Table C-5.1. Sensitivity analysis

(item)	Variable (parameter changed)	Baseline assumption	Method of change	Low estimate	High estimate	New SROI ratio
Participants input	Participants travel cost	Six days (one week) travel cost (\$149) for supported learners (132,176)	Days of travel	3		4.94
Participants input	Participants travel cost	See above	Days of travel		12	3.42
Participants input	Participants travel cost	See above	Number of participants		580,000	2.29
Network Partners' contributions	Proportion of Be Connected Grants	30% of Be Connected Grants	Proportion	10%		4.45
Network Partners' contributions	The proportion of Be Connected Grants	30% of Be Connected Grants	Proportion		50%	4.15

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(item)	Variable (parameter changed)	Baseline assumption	Method of change	Low estimate	High estimate	New SROI ratio
Digital Mentors' inputs (voluntary)	Annual membership fee	2/3 of a \$20 per year fee for 3 years for supported learners (132,176)	Number of participants		580,000	3.48
Digital Mentors' inputs (voluntary)	Annual membership fee	See above	Year	1		4.45
Increase in digital skills and knowledge	Cost of textbook	Cost of a textbook on computer basics for seniors as a proxy (\$38.95)	Cost of training		6 lessons at \$268.80	8.33
Increased confidence	Training sessions	Three training sessions	Number of training sessions		6	5.14
Increased confidence	Training sessions	Three training sessions	Cost of a textbook on computer basics as a proxy	\$38.95		3.70
Increased connectedness	Counselling as proxy	Schedule Fees for six counselling services at \$366	Membership of a bowling club 3 years		\$285	3.66
Increased connectedness	Counselling as proxy	Schedule Fees for six counselling services at \$366	Membership of a bowling club 3 years		\$63	1.90
Increased online safety	Cost of online fraud per person	Calculated as a percentage of the cost of scum for those over 55 from 2019 data (\$68)	Cost of a textbook on computer basics as a proxy	38.95		4.15
Increased online safety	Cost of online fraud per person	Calculated as a percentage of the cost of scum for those over 55 from 2019 data (\$68)	Cost of training		6 lessons at \$268.80	5.35
Increase in digital skills & knowledge	Deadweight	50%	Percentage	10%	90%	3.97 4.05
Increase in digital skills & knowledge	Attribution	20%	Percentage	10%	90%	3.99 4.19
Increased confidence	Deadweight	50%	Percentage	10%	90%	3.45 4.58
Increased confidence	Attribution	5%	Percentage	10%	90%	3.39 4.10
Increased connectedness	Deadweight	25%	Percentage	10%	90%	1.50 4.59
Increased connectedness	Attribution	25%	Percentage	10%	90%	1.50 4.59
Increased online safety	Deadweight	50%	Percentage	10%	90%	3.37 4.30
Increased online safety	Attribution	20%	Percentage	10%	90%	3.70 4.06

Endnotes

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- 9 The emerging role of Digital Mentors in supporting digital inclusion in Australia is explored further in the report: McCosker, A., Suchowerska, R., Wilson, C. (2019) *Digital Mentors: The Heart of the Digital Revolution*, Swinburne University of Technology, Melbourne, <https://apo.org.au/node/265591>
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- 12 For this linear regression model, each respondent received a 'digital self-efficacy score' (the dependent variable) that summed their responses to questions about how confident they were in completing 12 online activities independently. Factor analysis of confidence items indicated that a single factor solution was best and consequently, these items could be collapsed into a single score.
- 13 Australian Bureau of Statistics [ABS] (2016). '4528.0 – Personal Fraud, 2014–15'. Available at: <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4528.0Main+Features172014-15?OpenDocument>
- 14 As per the SROI guidelines, we have costed the outcomes considering the counterfactual scenario of what would have occurred had Be Connected not existed. It is difficult to precisely estimate what would have happened to the skills, confidence, connectedness and online safety of learners/ participants without the support provided by Be Connected. However, we have included assumptions and justifications made regarding the financial proxies used for each outcome and the associated valuation filters (deadweight, attribution, displacement and drop-off) employed to ensure that our calculations are transparent.
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- 28 Respondents were asked to indicate on a scale of 0 - 10 how confident they felt in doing certain activities on their own, where 0 = not at all confident, 5 = neutral, and 10 = very confident.
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Contact for more information

For further information about this report,
contact: Associate Professor Anthony McCosker,
amccosker@swin.edu.au
phone: +61 3 9214 4984
John Street, Hawthorn
Victoria 3122 Australia

