OLDER AUSTRALIANS AND THE INTERNET

ARC CENTRE OF EXCELLENCE FOR CREATIVE INDUSTRIES AND INNOVATION
Creative Workforce

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NationalSeniors Productive Ageing Centre

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Dr Graeme Heap
Nambour, Queensland

Background: Graeme was born in Melbourne in 1933. He grew up after the depression and leading up to World War II; a period he says still shapes some of his thinking. He graduated in medicine from the University of Melbourne in 1957. He completed his national service with the Royal Australian Navy and worked in various jobs as a student, including up a loft tower as a firewatcher. Graeme went to England for five years for surgical training. He then moved with his wife and three children to Canberra where he practiced private urology for 20 years. He established the Urology Unit at Nambour Hospital in 1991.

Experience with computers and the Internet: I had a passing experience with computers learning a basic course about 15 years ago but I was not very familiar with them until I retired and then I learnt to use XP with a Dell machine which I had for 10 years. When it started playing up I bought a notebook and it was already preloaded with Windows 7. I have had that for six months and it has been a source of great frustration to me. The trouble with Windows 7 is that is has been put out to the public without a handbook. Those people who are well trained in computers like it and those who are not formally trained will give it away. I hope I can hang in there long enough to learn how to use it.

Now that I am retired I use the Internet for about an hour a day. I started using it about three to four years ago. The way I use the Internet is a problem. If I look up something and then move onto the next topic, I'll often have to download that subject and do it all over again. It takes a lot of time. I am wasting time. I am not using it efficiently, and it is hard to learn how to use it any more efficiently. That is my only real bug with the Internet. I do have broadband so that helps.

Interest in the Internet: I found the Internet fairly easy to use with XP because I can use Skype, get messages to and from friends, look up quite a bit of information I am interested in things like the weather pattern for the day, and radar pattern for my town which is only 20 minutes old. I use it to play chess against myself, and get in contact with people who design boats. I am very interested in a program or starting a program on life skills for teenagers. There are many agencies that pick up teenagers when they have got into a lot of trouble e.g. unplanned pregnancy, drugs, graffiti or violence. All the things you hear about but not much on preventing trouble in the first place. As Professor Ian Fraser says, the best way to cure cancer is not to get it. That is what I am interested in – a prevention program. I am using the Internet to reach people with similar interests who are running 11 similar programs. At some point, I will learn how to have a blog site to put my ideas out there.

Services/groups that help older people learn about the Internet: I went to U3A. It is really not my style because I am mentally exhausted by the time I find the classroom and get through the traffic and home again. I remember little of what I am told there. I really need a program I can walk my way through and it has to have examples so I can pick up a little bit of information or repeat the sample or examples of it and then move onto the next. When that first piece is firmly fixed in my mind, I can then move onto the next piece. In fact, I have put a lot of thought into the concept of learning for people with short-term memory loss. When there are three to four facts in my short-term memory and suddenly put another one in, it will shunt the first lot out of memory. There is a group I am in the process of trying to find. They are in Sydney with a few country towns and I think their name is ASCI. They ran a program in Sydney in 2009. Having a coach to come to your home is good but not effective. Your coach doesn't want to come and tell you one thing that would take 10 to 15 minutes and then go away and come back the next week. It is too much travelling to be economical for anybody.

I would like a program that first of all approached the use of a computer from the most general of terms to give me an idea of the environment of a computer, and a general plan of how a computer functions. Then I would like that mapped if you like, to be divided into strip maps which would take me across the whole plan. I'd like the strip maps to have waypoints defined in terms of the algorithm. I would like those functions established in a game, something like monopoly, which is a very educational thing. Something similar to that so I could practice without it being tedious. Then I can learn one piece of knowledge and embed that in my long-term memory. I would approach a different piece and move it from my short-term to long-term memory. I'd keep on moving through the whole process until I have a fair knowledge of the functions I want to use. It is important to be able to use it in your own home. It could use an existing learning program called "mind mapping".

Internet and daily life: There is a huge advantage in being competent with the computer and the Internet. For people who understand it well, the Internet provides them with wonderful contacts, which is very important for old people who are losing their contacts, friends are dying or are far away, the family is far away. If I didn't use the Internet it would be a problem to me because there would be a whole chunk of information I couldn't access. That said, there is nothing I fundamentally have to use the Internet for. I don't put any figures or financial things over the Internet.

1. PROJECT SUMMARY

In April 2009, the Australian Government announced that the Government and the private sector would invest up to $43 billion over the next decade to build the country's National Broadband Network (NBN). The Government aims to provide at least 90% of homes, schools and workplaces with access to affordable and fast broadband (Conroy 2007). One key benefit of the NBN identified by the Department of Broadband, Communications and the Digital Economy (2010, 2) is its ability to enable:

> ... innovative approaches and use of technology [that] will allow people to stay in their homes longer. Online services will allow improved access to doctors and health professionals no matter where they are located. Basic home support services such as grocery shopping, utility bill payment and banking will assist with quality of life and increase independence for more Australians.

Previous research and existing data on Internet connections and usage suggest that many older Australians will not have the skills, knowledge, interest and/or resources to take advantage of the NBN. Although Internet usage by older people in Australia is increasing (Ewing and Thomas 2010), the following data from the Australian Communications and Media Authority (2009a, 2009b) indicates the extent of digital exclusion experienced by many older people:

- 56% of those aged 65 and over have used the Internet (compared to almost 90% for all age groups); 48% have a home Internet connection (compared to an average of 78% for other age groups), and 30% have a broadband connection.
- 4% of those aged 65 years and over who have never used the Internet were likely to use the Internet in the future (compared to 15% of those aged between 14 and 49).
- 3% of those aged 65 years and over were likely to connect to the Internet in the next six months (compared to 20% of those aged between 14 and 34).
- Older people are significantly less likely to use emerging online communication technologies such as user-generated content and instant messaging/chat rooms; and less likely to use the Internet for entertainment purposes such as downloading music/videos and playing games online.
- Age is a significant factor in shaping people's self-perception of their level of Internet skills, with between 45% and 50% of those aged 65 years and over reporting a skill level of 'somewhat below average' or 'very much below average'.
- The high number of 'don't know' and 'can't say' responses to the question about the future use of the Internet may be due to a lack of awareness of the Internet among those who have never gone online – also contributing to the main reason given by those aged 65 years and over for non-connection i.e. 'not relevant to my lifestyle'.
- Positive attitudes towards the Internet decrease with age. However, around 70% of those aged 65 years and older 'agreed' with the statement that they *would like to use the Internet but feel intimidated by the complexity of it all* (2009a, 15).

The Australian Government highlighted the importance of people having the skills to use the Internet when it stated "... an understanding of how to effectively use the Internet ... was important to a wider engagement in Internet usage and enhancing its role in underpinning the digital economy" (Australian Communications and Media Authority 2009b, 35). The Government seeks to maximise the benefits of the digital economy for the community, which includes ensuring older Australians enjoy digital confidence and digital media literacy skills, experience inclusive digital participation, and benefit through online engagement (Department of Broadband, Communications and the Digital Economy 2008).

To achieve the above benefits, the Government has already identified the need for information and awareness campaigns and targeted digital skills programs; and invested $15 million in the *Broadband for Seniors* initiative to set up 2,000 free Internet kiosks in community centres, retirement villages and seniors clubs across Australia (Macklin 2008). The Government recently announced it would fund the *Broadband for Seniors* initiative for a further four years from July 2011, and establish 'digital hubs' in 40 communities. These hubs will allow residents to benefit from the NBN-enabled services and technology and improve their digital literacy skills (Department of Broadband, Communications and the Digital Economy 2011).

Internet access for older people is also a human rights issue. The Australian Human Rights Commission (2000) stated that human rights issues arise when "people are being excluded from services, information or opportunities because of avoidable barriers to access rather than simply choosing not to participate". Older Australians should have access to online information, government services, and other opportunities regardless of whether or not they use them. They should be able to take advantage of the benefits of high speed broadband services that the NBN aims to provide, which the Allen Consulting Group (2011) identified as time-savings, enhanced communications, information, new online services, access to markets, and social inclusion.

1. PROJECT SUMMARY

In 2009, the auDA Foundation funded the Australian Research Council Centre of Excellence for Creative Industries and Innovation (CCI) to explore what older Australians who never or rarely use the Internet (referred to as 'non-users' in this report) know about the types of online products and services available to them, and how they might use these products and services to improve their daily life. This project aims to support current and future strategies and initiatives by:

- exploring the extent to which non-users are aware of the types and benefits of online products and services, (such as e-shopping, e-banking, e-health, social networking, and general browsing and research) as well as their interest in them
- identifying how the Internet can improve the daily life of older Australians
- reviewing the effectiveness of support and services designed to educate and encourage older people to engage with the Internet
- recommending strategies that aim to raise non-user awareness of current and emerging online products and services, and provide non-users with the skills and knowledge needed to use those products and services that they believe can improve their daily life.

Achieving these project aims involved addressing eight research questions:

1. To what extent are non-users aware of what the Internet offers?
2. To what extent are non-users interested in using the Internet?
3. Do non-users find particular online products and services more useful than others?
4. What barriers are preventing non-users from using the Internet?
5. To what extent do non-users believe the 'Internet is complicating their daily life' and the 'Internet would improve their daily life'?
6. To what extent are non-users aware of Internet support and services that are available to them?
7. What support and services do non-users need to use the Internet?
8. Are there particular demographic features of non-users that influence the above? (addressed as part of Questions 1 to 7)

The data collection methods for this project were a survey completed by 149 members of National Seniors Australia, semi-structured interviews with six members to develop case studies of their experiences with the Internet, and a review of relevant existing research.

The paper-based survey consisted of questions grouped into five sections: current use of the Internet and other technologies; awareness of the Internet; usefulness of the Internet; support/services needed to use the Internet; and demographic information. The over-representation of participants from Queensland in the sample and the relatively small sample size of 149 completed returns meant the project team was restricted to using frequencies and the chi-square test for independence to analyse the data.

Six of the 77 members of National Seniors Australia who indicated an interest in participating in a case study were interviewed. As the project was located in Brisbane, case study participants were from South-East Queensland and northern New South Wales. Therefore, the project used a purpose sampling approach to recruit these participants. The interviews with six members focussed on their background; experience with computers and the Internet; Awareness of, and interest in the Internet; impact of the Internet on their daily life; barriers preventing them from using the Internet; and support and services that help older people to learn about the Internet.

The review of existing research sourced literature, data and policies about older people's access to and use of the Internet; barriers facing older people accessing the Internet; the potential of the Internet to help older people; and strategies/initiatives to engage older people with the Internet.

Go to **Appendix 1: Research Approach** and **Appendix 2: Older Australians and the Internet survey** for more information about data collection and analysis.

This report consists of eight sections:

- Project Summary (Section 1 – this section)
- Existing research (Section 2)
- Demographics of survey participants (Section 3)
- Participants' computer and Internet access and skill level (Section 4)
- Four sections dedicated to addressing research questions 1 to 8 (Sections 5, 6, 7 and 8).

The report formatting includes hyperlinks to these sections to assist readers more easily navigate through the electronic version of the report.

1. PROJECT SUMMARY

This rest of this section draws together key findings presented in this report to address the four project aims stated on the previous page, in particular the final aim of identifying strategies to engage older people in the Internet.

To what extent are non-users aware of, and interested in the types and benefits of online products and services? (Section 5)

This project found that participants' interest in using the Internet varied, with 53% of participants indicating their interest in the Internet was 'moderate' or above and 46% indicating their interest was 'nil' or 'low'. Similar to findings from the review of existing research, participants who lacked interest in the Internet stated reasons like "*too many other interesting activities*", "*I would rather speak to people in person or by the phone*", and "*I like to have real friends in the real world"*.

Almost two-thirds of participants indicated they had 'very low' Internet skills. It was somewhat surprising then to find that many participants had used a computer (85% of participants) and the Internet (48%), and 40% of participants had access to the Internet at home.

Despite these findings, the chi-square test for independence found an association between participants' level of Internet skills and their level of computer skills as well as their access to the Internet and a computer at home. Participants with lower levels of computer skills and no Internet and computer at home were most likely to indicate lower Internet skills.

It was assumed at the start of the project that a key reason why older people lacked interest in the Internet was because they were unaware of the online products and services it offers, and/or had limited exposure or access to computers and the Internet. Many participants were aware of most online products and services listed in the survey (see Appendix 2), and almost two thirds of participants indicated their overall awareness of the Interest was 'moderate' or above – although many participants were unaware the Internet could be used to access medical records and make cheap phone calls.

This project found that online products and services of most interest to participants were those that would enable them to generally search and browse the Internet, find information on health topics, communicate with friends and family, search timetables/directories, make bookings and appointments, and make cheap phone calls.

ACMA (2010a) and Ewing and Thomas (2010) also found that older people who use the Internet regularly use it for communication activities and searching and browsing for information.

Participants were least interested in using the Internet to set up their own profile, invest in stocks/funds/bonds, search for jobs, or for dating purposes. Ewing and Thomas (2010) found the largest gaps in usage between the Australian population aged 18 years and over and older people were for downloading music, movies, TV shows and video clips; visiting social networking sites and video sharing sites; updating their status; and reading blogs.

How can the Internet improve the daily life of older Australians? (Section 7)

As stated in the Existing Research section of this report, The Internet can provide older people with avenues for learning, networking, and participating in civic or political causes. It also enables them to benefit from e-health, e-banking and e-shopping. The Internet as a driver of many ICT solutions targeting older people can help older people to improve their quality of life, stay healthier and live independently for longer (European Commission 2007) as well as reduce social isolation.

Just over one-third of participants (34% of all participants) indicated the Internet would improve their daily life, stating reasons like "*it would open up some opportunities to learn more about various factors of life*", "*I would like to be able to email people, get onto Skype and talk to people in various countries*", and "*if I didn't use the Internet it would be a problem because there would be a whole chunk of information I couldn't access*".

Only 22% of all participants indicated not using the Internet was complicating their daily life because of reasons like "*I feel isolated from family and friends*", *"the Internet has increasingly reduced information and material that used to be available as hard copy*", and "*there are times when you want to find out about a product or service and there is only a website no phone number*".

The chi-square test for independence found an association between participants' interest in the Internet and their views about the impact of the Internet on their daily life. Many participants with 'nil/low' interest in the Internet did not believe the Internet would improve their daily life or not using it was complicating their daily life.

1. PROJECT SUMMARY

How effective are support and services designed to educate and encourage older people to engage with the Internet? (Section 8)

Only 17% of participants were aware of Internet kiosks, 24% were aware of seniors computers clubs, and 11% were aware of TAD Australia (now ONEseniors). They were more aware of U3A classes (48%) and classes offered by their local TAFE institution, library and/or community centre (62%).

The chi-square test for independence found associations between:

- participants' awareness of Internet kiosks and their level of interest in the Internet. Those participants with a 'moderate/high/very high' interest in the Internet were most likely not to have heard of Internet kiosks.
- participants' awareness of seniors computer clubs is associated with their level of Internet skills. Those participants with 'very low' Internet skills were most likely not to have heard of seniors computer clubs.
- participants' awareness of U3A classes and local classes and gender. Female participants were more likely than male participants to indicate they were aware of U3A classes and local classes.

Those participants who engaged in activities to develop their Internet skills were more likely to indicate receiving help from other people rather than attending Internet classes or reading books, articles, and other resources. Some participants indicated receiving help from other people as a positive experience, stating reasons like "*explanation of the sequence of steps in simple, written notes*" and "*[the teacher] was wonderful and patient*". Some participants indicated a negative experience, stating reasons like "*my grandchildren move through directions very speedily*", "*most of my friends are old and pretty useless*", "*[my niece is] a busy professional person and lives at comparative distance from me*", and "*I felt threatened by their expertise and their inability to understand my lack of knowledge*".

Some participants who had attended classes were critical about the effectiveness of the classes, stating reasons like "*inadequate facilities*", "*very difficult to get into them*", and "*two or three fellows [commanded] the attention of the instructor*".

Those participants who indicated books, articles and other resources did not help them to develop Internet skills stated reasons like "*can't understand them*" and "*could not find answers to my questions*".

Taking into consideration the barriers older people face in using the Internet (Section 6), what strategies will raise non-user awareness of current and emerging online products and services, and provide non-users with the skills and knowledge needed to use those products and services that they believe can improve their daily life? (Section 8)

When addressing this research aim, it is important to consider the barriers preventing older people from using the Internet. The review of existing research identified the barriers of geographical, financial or physical constraints, illness, lack of transport, the inability to use online resources (i.e. lack of skills), no time or interest, and concerns about information security. This project identified the main barriers as lack of knowledge and skills, confused about the technology, and concerns about security and viruses. Over 40% of participants identified 'cost' as a barrier, stating reasons like "*cost of professional advice and repair*" and "*too costly for single age pensioners*".

The chi-square test for independence found associations between:

- the barrier of 'two expensive/cannot afford the fees and charges' and gender, income, and source of income. Female participants, participants receiving an income of $30,000 or less a year, and participants receiving an age pension/other Government support were most likely to indicate 'cost' as a barrier preventing them from using the Internet and/or improving their Internet skills.
- the barrier of 'not interested/not useful' and location. Participants living in regional areas were more likely than participants living in metropolitan and rural/ remote areas to indicate 'not interested/ not useful' as a barrier.

Therefore, strategies to raise non-user awareness of the Internet and develop their Internet skills and knowledge should focus on:

- increasing their awareness of those online products and services that most interest them (as highlighted on the previous page)
- increasing awareness of those online products and services that support independent living, such as e-health, e-banking and e-shopping
- addressing the barriers discussed above
- providing the types of support and services that older people prefer.

1. PROJECT SUMMARY

Participants identified a range of support and services they need to help them to use the Internet, which have been grouped in this report as one-on-one help, classes, equipment, a help line, and clear instructions. Statements by participants include "*someone to explain the basics one to one using my computer than someone I can contact when I have a problem*", "*someone who is very patient to understand what it is like not to know anything*", "*more cheap classes ... with easy access from or at home*", "*lower price and connection*", "*a help line to answer problems when I'm actually using it or something goes wrong*", "*information for oldies ... structured to suit brains with short term memory less*", and *"instructions need to be simple, given slowly and the helper would need to be patient*".

The review of existing research identified examples of strategies and initiatives to encourage Internet usage by older people. They include free, convenient and better learning facilities (including better publicity of these facilities); less expensive computers and Internet connections; training courses and materials that incorporate older people's lack of basic skills and high levels of anxiety; and websites designers who take into consideration older web users to create all-inclusive websites.

The Australian Government's investment in the National Broadband Network will improve access for older people who prefer to use the Internet from home. However, the barrier of cost to access the NBN is an issue.

Free Internet kiosks and digital hubs will address the barrier of cost and lack of training in those areas that benefit from these initiatives. However, they are unlikely to fully address the barriers of lack of transport to reach these facilities, ineffective classes and instructional materials, low awareness of the existence of these services, and the need for extra support for older people who access the Internet from home.

The Australian Government and other relevant stakeholders could work together to develop a national action plan similar to the European Commission's *Action Plan for Ageing Well in the Information Society*, focused specifically on improving Internet usage and access by older Australians. The European Commission's action plan aims to break down barriers to ICT use by raising awareness, building consensus, overcoming technical and regulatory barriers, accelerating take-up, and boosting research and development. A plan for Australia would include targets to reduce the gap in Internet usage between the current Australian population and older people as well as indicators of digital literacy and competence. These indicators would be based on digital literacy elements, definitions and competencies, such as those identified by the California Emerging Technology Fund (2008) (see Table 1 below). The plan would propose strategies and initiatives to improve digital literacy based on the types of support and services preferred by older people. It could also include incentives to encourage Internet use by older Australians who have 'nil' or 'low' interest in the Internet.

Table 1: Basic elements of digital literacy

Element	Definitions	Competencies
Access	Knowing about and knowing how to collect and/or retrieve information.	Search, find, and retrieve information in digital environments.
Manage	Applying an existing organizational or classification scheme.	Conduct a rudimentary and preliminary organization of accessed information for retrieval and future application.
Integrate	Interpreting and representing information - summarizing, comparing, and contrasting.	Interpret and represent information by using ICT tools to synthesize, summarize, compare, and contrast information from multiple sources.
Evaluate	Making judgments about the quality, relevance, usefulness, or efficiency of information.	Adapt, apply, design, or invent information in ICT environments (to describe an event, express an opinion, or support a basic argument, viewpoint or position).
Create	Generating information by adapting, applying, designing, inventing, or authoring information.	Adapt, apply, design, or invent information in ICT environments (to describe an event, express an opinion, or support a basic argument, viewpoint or position).
Communicate	Communicating information persuasively to meet needs of various audiences through use of an appropriate medium.	Communicate, adapt, and present information properly in its context (audience, media) in ICT environments and for a peer audience.

(California Emerging Technology Fund 2008, 3)

David Martin
Scarborough, Queensland

Background: David was born in Grafton. His father was a primary school teacher, which meant that David went to school in different locations before settling in Sydney. When World War II broke out, he volunteered for the air force. David trained to become a pilot, flying transport aircraft across to New Guinea and the islands nearby. After the war, he moved with his wife to Tamworth to work in her uncle's nursery. He later became the owner of the nursery and florist shop and also became president of the town's Rotary Club. Some years later, he joined Yates Seeds and then John Sands. When David retired at the age of 63 years, he and his wife moved to Newcastle. After his wife died, he moved to Brisbane to be closer to his son's family, and settled into a retirement village in Scarborough in 2009. He enjoys socialising, reading, playing sports, and taking various trips organised by the retirement village. He says: I have been lucky having very good health and I can still drive my car and this enables me to visit various places close at hand and visit my family who are only 20 minutes away. Although it can be a life that can be very quiet and you have a lot of time to yourself, you can also be involved in many society outings. I have been very happy the six months I have been here. David turned 92 in 2010.

Experience with computers and the Internet: I have never been exposed to computers and the Internet. I thought it is not necessary to become involved with it. When I see a computer opened up and the various processes used, it looks extremely complicated and I have always wondered if I could handle the computations and memory.

Awareness of the Internet: It appears it can open a whole new world of knowledge that is almost unending, the scope it can cover, and it looks to me if someone can get over the first hurdle of being able to use it physically it would probably be very interesting, occupy a lot of time, and be able to learn a tremendous amount. You can use the Internet for banking, check up on various accounts, and people with shares can read company reports.

Interest in the Internet: I would probably use it if someone provided me with a lot of help. I haven't thought too much about the range of uses it has but I know I have some shares and I know I would be very happy to look up reports associated with those. I would also obtain more information about various things that come up on the television or in the paper.

Services/groups that help older people learn about the Internet: I think there are several ones. University of the Third Age has programs but whether they start right from the beginning, which is what I would have to do. I would wish to have someone who started me right from the beginning from a complete lack of knowledge to being able to understand the computer. My concern about classes is that they may be too advanced or not make it simple enough for an absolute beginner. I may be wrong in that. One feels as though they need a personal tutor, someone who is very patient to understand what it is like not to know anything about such a thing. Getting an older person to teach me is better as some of the younger ones may jump over things that you want to learn more about. I don't want to be the one in the group asking questions and feeling as though you are dumb. I'd need a computer, and someone to help me set it up, plug it in, begin training me either on my own or with a group of like-minded people.

Internet and daily life: I don't think it would improve the way I live but when I have time it would open up some opportunities to learn more about various factors of life. I live a fairly relaxed and happy lifestyle so I have never really thought I have been missing out on a great deal. It is something I would certainly like to be involved in to see what it is all about. It doesn't hurt the way I live but it might deteriorate a bit from full knowledge because a lot of companies no longer send out reports by mail. This means the knowledge of the investor of that company is a lot less. If they could keep in touch, I would know exactly what is going on.

2. EXISTING RESEARCH

This section of the report presents findings from a review of existing research that identified literature, data and policies relevant to this project.

The push to increase **participation by older people in the Internet** has become a global effort. Studies in the United States of America, the United Kingdom, Canada and elsewhere all confirm the population is ageing rapidly. Such progression will continue to place strain on government services and resources across the world. The online medium can be harnessed to improve not only national systems and services, but also the daily life of older Australians. Whilst older people are less likely to use the Internet than younger generations, this age group's adoption of the web has risen over the past decade. Personal correspondence and access to health information are two of the major reasons for Internet usage amongst older people. Online services and products can thus be utilised to promote individual self-sufficiency and reduce the strain on governments.

Whilst the Internet offers a myriad of services, products and information, there are many **barriers facing older people accessing the Internet**. For older people, age-related limitations, whether social, intellectual, physical or financial, can pose as barriers which ultimately impede Internet usage. Aside from the physical obstacles, older people can face knowledge-based barriers when trying to locate and retrieve information from websites. Online knowledge and skills are necessary for all individuals who wish to use the Internet. Without such capabilities older people are unlikely to engage with the Internet over a continued period of time. A lack of skills can also generate negative attitudes towards the Internet. Some older people prefer to feign disinterest in the online medium rather than be 'caught out' or humiliated by their inability.

The Internet has a great deal of **potential to benefit older people**. It can enable users to learn, bank, shop, form social support networks, and engage in civil or political activities. The plethora of online products, services and information also afford the potential for increased independence and reduced social isolation amongst older individuals. Within the Internet domain, one industry particularly related to the needs of older people is the area of *e-health*. The Internet-based form of health care is a valuable tool for improving self-management skills amongst older people. *Social networking* sites or online communities are another online resource from which older people can benefit. Unlike the information-orientated realm of e-health, social networking sites concentrate on building levels of communication between community members. Such services can be used to counter social isolation and encourage older people to participate in civic and political causes.

The Internet also provides a means for older people to participate in *learning opportunities*. Online educational programs are effective in generating cognitive stimulation, decreasing intellectual decline, and enhancing self-efficacy.

Policies to engage older people with the Internet can be taken on individual, local, national and international levels. The Internet has provided a means for older people to engage in community issues, participate in online planning, and foster two-way communication between governments and citizens. Public centres and facilities can assist in introducing older people to the Internet. Internet guidelines, such as those released by the National Institute on ageing (NIA) and the National Library of Medicine (NLM), are also beneficial in ensuring websites are accessible to older people. Thus, more operational website functions and increased Internet training will ultimately assist in improving the daily life of older people.

The rest of this section presents findings in relation to:

- the current levels of Internet participation by older Australians
- the barriers to Internet access, social and cognitive restraints as well as limitations caused by skill deficiencies and lack of training
- the benefits of Internet usage for older Australians and its potential to assist with daily tasks and enhance general wellbeing
- strategies and initiatives to address the barriers facing older people and new methods of engaging this age group with online technologies.

Participation by older people in the Internet

As emphasised by Precision Marketing (2007), "it's a well known fact that we live in an ageing population". In the United States, the elderly population, those over 65, has become the fastest growing age group (Kiel 2005, 19). In the United Kingdom "some 16 per cent of the population is aged over 65 - a figure forecast to grow to 23 per cent over the next 25 years" (Precision Marketing 2007).

The Australian Government in its *Intergenerational Report 2010* estimated the number of older Australians aged 65 to 84 years will double and the number of very old people aged 85 years and over will quadruple by 2050. The Government also estimated life expectancy for males will increase from 80.1 years in 2010 to 87.7 years in 2050 and for females, from 84.4 years to 90.5 years over this period (Australian Government 2010).

2. EXISTING RESEARCH

The growth in the older population corresponds with an escalation in health care costs (Kiel 2005, 19). As the need for healthcare services is more evident amongst older people than any other age group (Hirji 2004, 445), governments are bearing the grunt of financial strain. Australia's Productivity Commission (2005) predicted that ageing alone will account for about half of the increase in health expenditure as a proportion of GDP (note, the Commission predicted overall government health expenditure would rise from 5.7% of GDP in 2002-03 to 10.3% in 2044-45). The goal to reduce State dependence and decrease healthcare costs are increasingly leading to new services and products available through the Internet.

With the population ageing, older Australians are working for longer and retiring later. Between February 2001 and February 2011, the proportion of males aged 65 years and over participating in the labour force rate rose from 9.8% in to 15.4%, and the proportion of females aged 65 years and over participating in the labour force rose from 3.1% to 6.6% over this period (Australian Bureau of Statistics 2011). These trends are expected to continue as the qualifying age for the Age Pension increases from 65 to 67 years by 2023. Such data emphasises the need for older people to be introduced to, and properly associated with, new technologies that will enhance their working capabilities.

For older people constrained by age-related limitations, the Internet can provide opportunities to maintain independence (Kiel 2005, 20). When comparing the time taken for online to offline transactions, the European Commission (2008) estimated an average saving for consumers of 68 minutes for each online contact. However, age is the most significant driver of Internet usage in the home (Australian Communications and Media Authority 2009a). Statistics from the Australian Bureau of Statistics (2008) show older people are the least likely to have access to the Internet (see Figure 1).

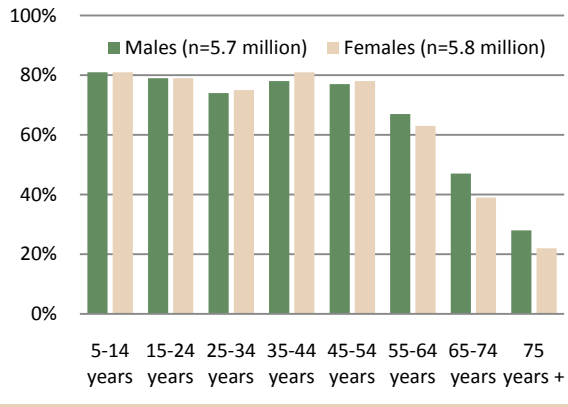

Figure 1: Internet access by age and sex, 2006

(Australian Bureau of Statistics 2008)

Recent surveys by Ewing and Thomas (2010), as part of the World Internet Project, found that Australia's pattern of Internet usage by age is similar to that of the United States and Sweden, and more older Australians are engaging in the Internet:

- Although the proportion of older Australians aged 65 years and over who use the Internet remains well below that for younger age groups, their usage has increased significantly - from 30% in 2007 to 40% in 2009 (see Figure 2).
- The proportion of older Australians aged 50 years and over *purchasing goods online* has increased from 49% in 2007 to 63% in 2009.

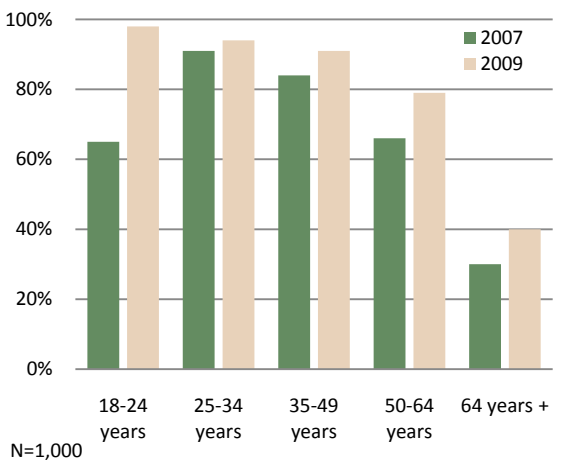

Figure 2: Internet usage by age, 2007 and 2009

(Ewing and Thomas 2010)

The Australian Communications and Media Authority (2010a) also found an increase in Internet usage by older Australians:

- 76% of people aged between 55 years and 64 years used the Internet in an average week in June 2010 compared to 55% in June 2005
- 46% of people aged 65 years and over used the Internet in an average week in June 2010 compared to 28% in June 2005.

As shown in Table 2 on the next page, Australians aged 55 years and over who use the Internet were most likely to use it for communication activities and for research and information; and least likely to use it for participating in blogs and online communities, buying/selling/shopping online, and for interactive purposes (Australian Communications and Media Authority 2010a).

Table 2: Activities undertaken online by Australians aged 55 years and over (% of users)

	55-64 years	65 years and over
Communication activities	73%	71%
Research & information	74%	67%
Banking & finance	65%	53%
General (browsing/surfing/downloading software)	55%	42%
Entertainment & amusement	32%	28%
Blogs & online communities	22%	13%
Buying/selling/shopping	26%	17%
Interactive (entered competitions, registered personal details on a website, create own website)	23%	18%

(Australian Communications and Media Authority 2010a, 17)

CCi Digital Futures 2010: The Internet in Australia report by Scott Ewing and Julian Thomas was based on a survey of 1,000 Australians, of which 411 were older people aged 50 years and older. Table 3 shows online activities that older participants undertake on a regular basis (i.e. weekly, daily, several times daily) and those they do not. Ewing and Thomas (2010) found:

- older people were most likely to use the Internet on a regular basis to check email, search or browse the web, send attachments with an email, use a bank's online services, and check weather forecasts
- older people were least likely to use the Internet on a regular basis to post videos, purchase event tickets, work on their blog, make travel reservations, or bet, gamble or enter sweepstakes
- older people were significantly less likely than all participants aged 18 to 65 years and over to use the Internet on a regular basis to visit social networking sites, visit video-sharing sites, download or listen to music, read blogs, get information about school-related work, get information about products, download or watch movies/TV shows/video clips, and update their status (as highlighted in dark brown in Table 3)
- older people were slightly more likely than all participants to use the Internet to invest in stocks/ funds/bonds, look for information on family history, and look at religious or spiritual sites on a regular basis.

Tatnall and Lepa (2003, 7) closely examined the Internet adoption decisions of three older people. They found these people were more likely to adopt this technology because its specific uses (stock market, genealogy, and email) were related to their interactions and environment.

Table 3: Activities undertaken regularly* online by Australians aged 50 years and over (% of Internet users)

	50 years and over	18 years and over
Check email	94.9%	94.4%
Search or browse the web	61.5%	76.4%
Send attachments with an email	57.6%	64.6%
Use a bank's online services	52.5%	61.7%
Check weather forecasts	46.3%	54.7%
Look for national news	40.1%	52.5%
Look for international news	38.1%	47.3%
Get information about a product	37.4%	55.2%
Pay bills	37.4%	40.0%
Look for general information on a site like Wikipedia	33.5%	44.9%
Find or check a fact	31.1%	43.3%
Look for local/community news	31.5%	41.4%
Instant messaging	26.8%	40.0%
Look for sports information	24.9%	32.9%
Look up definitions or words	21.8%	33.7%
Find information about food e.g. recipes	21.8%	24.8%
Look for travel information	20.2%	22.3%
Play games	16.7%	23.3%
Make or receive phone calls over net	16.3%	17.5%
Check information about local events	16.0%	23.3%
Look for health information	14.8%	20.5%
Download or listen to music	**13.6%**	**33.1%**
Get info for school-related work	**13.6%**	**31.9%**
Visit social networking sites	**13.2%**	**37.7%**
Download or watch movies, TV shows, video clips (e.g. Youtube)	**11.7%**	**28.9%**
Buy things online	10.5%	18.9%
Visit video sharing sites	**8.9%**	**37.7%**
Look for jobs, work	8.9%	17.5%
Look for jokes, cartons or other humorous content	8.9%	16.1%
Invest in stocks/funds/bonds	8.6%	6.3%
Post messages on discussion or message boards	8.2%	20.2%
Download or listen to podcasts	8.2%	11.4%
Visit sites dedicated to artists	7.4%	17.6%
Post pictures or photos	7.4%	16.4%
Listen to the radio online	7.0%	10.5%
Update status	**5.8%**	**21.2%**
Read blogs	**5.8%**	**16.6%**
Work on personal website	5.8%	8.4%
Look at religious or spiritual sites	5.4%	4.6%
Comment on other people's blogs	5.1%	19.4%
Look at information about restaurants	4.7%	10.3%
Participate in distance learning for an academic degree or job training	4.3%	9.2%
Participate in chat rooms	4.3%	7.8%
Look for information on family history	4.3%	2.4%
Bet, gamble or enter sweepstakes	3.9%	3.8%
Make travel reservations	3.5%	5.2%
Work on blog	1.9%	5.8%
Purchase event tickets	1.6%	2.9%
Post videos	1.6%	1.9%

*Regularly = weekly, daily, several times daily (Ewing and Thomas 2010)

Barriers facing older people accessing the Internet

Millward (2003, 2) identified the financial, physical, cognitive and social limitations that often act as barriers for individuals wishing to operate the online medium. Whilst Internet usage amongst older people is increasing, Millward claimed the demographic still lags significantly behind younger generations for both socio-economic and age-related reasons.

According to Millward (2003, 2), the social digital divide affects financially limited individuals, both in rural and inner city areas, whilst the 'grey' digital divide targets those over the age of 55 years. Older people can be associated with both economically-inactive and aged demographics, indicating they are doubly likely to fall on the disadvantaged side of the digital divide. A lack of access to information communication technologies (ICTs), particularly the Internet, can result in social and informational isolation.

Although governments within Europe, the United States and Australia have adopted measures to increase older Internet user participation (Jaeger and Xie 2009, 58; Swindell 2002, 6), the digital divide continues to exist. Internet access forms the most physical barrier between older people and the online sphere.

According to the Australian Bureau of Statistics (2008), 51% of Australians aged 55 years and over did not have access to an Internet connection in 2006 compared to 29% for all Australians aged five years and over. For pensioners or lower income earners, household access to the Internet can pose as a financial burden. Whilst Internet access in Australia is widely available through community centres, libraries, and generally friends and family, older people are often isolated from such resources. Due to geographical or physical constraints, illness, lack of transport or being a long-term care giver (Swindell 2002, 5), older people can become cut off from social networks and opportunities to interact with online-based resources.

Aside from the physical aspect of accessing the Internet, older people can face knowledge-based barriers when attempting to locate and retrieve information from websites. Xie (2008, 45) states an individual's inability to access Internet resources is generally attributable to a lack of online search skills and strategies. She argues "there is often a gap, especially among older people, between the knowledge and skills users have and those that they need in order to successfully obtain information" (Xie 2008, 46). Increasing physical access to the Internet will solve part of the digital divide, however, cognitive barriers must also be combated. It is necessary to teach online skills and strategies to older people so they can harness the potential of the web.

Internet accessibility is an issue of concern for not only information-based websites, but also online communities. Whilst Internet-user training enables individuals to maximise their use of online resources, Jaeger and Xie (2009, 60) argue site designers and developers should be responsible for creating all-inclusive websites. They stated online communities without equal access to older people "are effectively creating discriminatory practices about who has the ability to communicate online through social networks" (Jaeger and Xie 2009, 60). As cognitive barriers can prevent older people from understanding and interacting with the Internet, the prospect of participating in online forums or contributing to sharing sites becomes increasingly problematic. According to Jaeger and Xie (2009, 55), online accessibility can be achieved through the clear presentation of information, straightforward navigation and site compatibility with assisting technologies, such as scanners or narrators. Such provisions help to ensure equal or equivalent access amongst all users despite age-related limitations.

Social stigma and personal attitudes towards the Internet can also prevent older people from becoming web-users. According to Millward (2003, 12), older people tend to feign a lack of interest to conceal incapability or confusion towards the Internet. From his research surrounding Internet adoption amongst older UK residents, Millward (2003, 9) identifies "the greatest fear for those over 55 is being humiliated or 'caught out' by not knowing how to operate an obvious function of a computer, which a regular user should know". For some older people it is less stigmatising to have 'no interest' in ICTs, than to be unable to use online resources. Whilst Millward (2003, 12) asserts that a lack of interest in the Internet can also be coupled with a fear of technology, Kiel (2005, 21) argues "the myth that the elderly shy away from innovations is just that, a myth". Older people are commonly associated with a reluctance to adopt new technologies (Satu and Maria 2005), however with adequate training this may cease to be the case. As highlighted by Kiel (2003, 21), in the right environment and with adequate support older people can be receptive to experimenting with ICTs. Therefore, as older generations begin, or continue, to adopt the Internet as a source of information and communication social stigmas will progressively be subverted.

Ewing and Thomas (2010) identified 'no interest' and 'lack of skills' as the primary reasons why non-users do not access the Internet; and the reasons of 'no interest' and 'no time' for ex-users. Cost was not the primary reason for non-users and ex-users deciding not to use the Internet.

2. EXISTING RESEARCH

The Australian Human Rights Commission identified barriers restricting the ability of older people to access the Internet that are similar to most of those already discussed:

- Cost of access to computers and Internet connection
- Limited public access facilities for people who cannot afford their own equipment
- Limited sources of resources, assistance and information where adapted or customised equipment is required by older people
- Lack of awareness and training
- People with vision impairments, slower connections and older equipment not being able to access web pages
- Concerns regarding privacy and security of Internet transactions.

The Commission referred to findings from a 1999 audit of Government and business Internet sites that found many sites tested had significant accessibility barriers. At the time, Australian and State Governments were taking steps to address the following barriers:

- Users not being able to see images, access documents in PDF format, or have difficulty with sites using frames
- Pages having excessive download times
- Users being required to download additional software, not always compatible with older equipment or useable by vision impaired people
- Frames used without providing 'no frames' alternatives, and frames not properly labelled to enable screen reader software to cope with them.

A survey of 436 of public websites in Europe conducted in 2005 found only 3% of sites were fully compliant with accessibility guidelines (European Union 2008, 72).

Potential of the Internet to help older people

From e-health and e-banking to online communities and web-based learning sites, the Internet acts as an extensive source of information and communication opportunities. Although the potential of the Internet is largely dependent on the individual's capacity to understand and operate it, the online medium is not exclusive to young or able-bodied individuals and thus can be used to benefit all demographics. For older people, Internet-based services and products can provide users with avenues for learning (Swindell 2002, 3), networking, and participating in civic or political causes (Jaeger and Xie 2009, 56). Thus whether in the form of entertainment or education, the Internet ultimately offers older people a means to improve self-sufficiency and prevent social isolation (Millward 2003, 12), and can help preserve their independence (Morris, Goodman and Brading 2007).

e-health

The Internet-based form of health care, widely known as e-health, is a valuable tool for improving self-management skills amongst older people. According to Xie (2008, 45), one of the primary reasons for older people to use the Internet is to access health information. The system of e-health enables individuals to access health-related information, services and products from their own home. But as pointed out by Hirji (2004, 447) "the first step in rendering online health information available and useful is ensuring that health consumers are actually using the Internet". Thus the industry of e-health, and its potential to benefit older people, is largely dependent on narrowing the digital divide through increased Internet accessibility.

e-health is founded on a patient-centric approach to the healthcare system. As stated by Moody (2005, 158), it focuses on patients' wider access to emotional support, health education, symptom information and medication management. Whilst e-health signals a new paradigm to the traditional doctor-patient relationship, it does not discount the need for medical professionals. Xie (2008, 45) explained that older people often want to be informed about their condition or treatments even if they still prefer doctors to make the decisions. In this instance, e-health resources can be attuned to supplement already existing services.

However, due to the shortage of health professionals, governmental moves to decrease healthcare costs (Moody 2005, 158) and the medical and knowledge-based needs of older people, e-health has become a popular alternative to conventional forms of the health service industry. Hirji (2004, 446) stated the healthcare system in Canada is inadequate for all patients, but particularly older people:

> Canadian patients already routinely note difficulty in obtaining appointments with their doctors in a timely fashion, long waits in emergency rooms, inaccessibility of care or necessary equipment in rural and isolated areas, and a tendency for health care professionals to answer patients' questions in insufficient detail.

Such circumstances are currently reflected in health systems across the world (Moody 2005, 158).

Online resources can be used to combat the inaccessibility of health services, especially for patients facing physical or geographical constraints. With patients now encouraged to take a more active role in their healthcare (Xie 2008, 45), the right websites can provide patients with relevant information and data. Government agencies and medical associations are increasingly making use of digital technologies. In particular, the National Institute of Health (NIH) has created a 'senior friendly' website which presents authoritative health information in an easy-to-understand format. Features of this site include adjustable text size, contract and speech applications (see Figure 3).

Figure 3: National Institute of Health - Senior Health website

(National Institute of Health Senior Health 2010)

The Internet's ability to educate and involve older people in their own healthcare is ultimately beneficial to both individuals and the community. Shapira, Barak and Gal (2007, 477) stated that on an individual level, the ability to retrieve medical information promotes self-confidence and reduces anxiety. Xie (2008, 45) asserted the potential for improved self-sufficiency can also empower patients and improve the quality of their healthcare. Enhanced independence may in turn prevent or forestall the entrance of older people into nursing homes or hospitals. As recognised by Millward (2003, 14), the social ramifications of this lead to reduced State dependency and decreased healthcare costs.

In May 2010, the Australian Government announced funding of $467 million for the national e-Health records system. The system of personally controlled electronic health records will provide summaries of patients' health information; secure access for patients and health care providers to e-Health records via the Internet; and health care providers with the national standards, planning and core infrastructure to use the system (Roxon 2010).

Social Networking

Social networking sites and online or virtual communities offer another means to improve the lives and well-being of older people. Unlike the information-orientated realm of e-health, social networking sites concentrate on building levels of communication between community members. Swindell (2002, 4) stated such sites enable Internet users to form new relationships that would otherwise be prevented due to physical, social or geographical barriers. Participants may use social networking sites such as Myspace or Facebook (see Figure 4) to maintain contact with family or existing friends.

Figure 4: Facebook – a social networking site

(Facebook 2011)

Two Australian surveys indicated the extent to which older people are engaging in social networking sites and the Internet as communication devices and the benefits from doing so:

- Australians aged 50 years and over accounted for 31% of Blogger users, 30% of Twitter users, 29% of YouTube users, 26% of Facebook users, and 26% of MySpace users (Australian Communications and Media Authority 2010a, 26).
- A significant proportion of older people 'somewhat increased' or 'greatly increased' their contact with family (73% of participants), friends (60%), and people who share their hobbies/recreational activities (39%) (Ewing and Thomas 2010).

According to Jaeger and Xie (2009, 56), online communities can benefit older people on both interpersonal and societal levels. On a personal level, the formation of new relationships and support systems contributes to a sense of value and belonging, whilst socially virtual communities facilitate political participation in the form of discussions between citizens, organisations and government bodies. Practically, the way in which online communities operate can also assist older people. As users can participate in networking sites at their own pace, age-related barriers and cognitive

limitations are eased. The wide variety of online sharing communities and web-based forums also means the needs and interests of different demographics can be catered for.

As recognised by Millward (2003, 2), social networking sites can benefit older people in "combating loneliness, offering mental stimulation and entertainment, providing access to information around the world and improving contact with family and friends". Ultimately, virtual communities can be utilised to combat social isolation by offering a new channel for older people to form support networks, maintain contact with friends and family, and participate in different levels of the community.

Adult Learning

The process of learning to use the Internet can present positive experiences and generate future opportunities for older people. As noted by Xie (2008, 45), this age group often lacks the knowledge and skills necessary to use online resources, however, the increased accessibility of the Internet has influenced the expansion of online training programs and workshops. According to Kiel (2005, 21), learning to use the Internet generates cognitive stimulation which is therapeutic in preventing intellectual decline. The mental activity generated through Internet usage has also been linked to user self-efficacy and improved life satisfaction (Kiel 2005, 20; Shapira et al. 2007, 477). As highlighted by Shapira et al. (2007, 482), "unlike dancing, card games, lectures or sightseeing tours – which are limited to time, place, or presence of instructors and other participants – using computers is individualistic, time-flexible and entirely self-initiated". Whilst training is necessary, older people with adequate online skills can use the Internet at their own pace and for their own purposes.

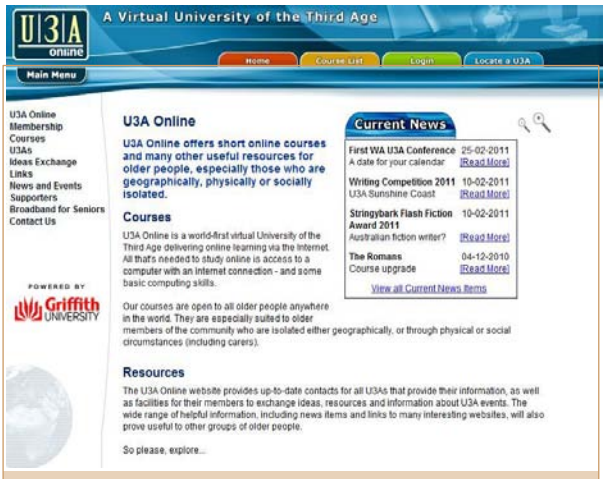

Figure 5: U3A Online

(U3A Online 2011)

An engagement with the Internet also presents new platforms for further forms of adult education. The Australian-based online University for the Third Age (U3A) presents one such opportunity (see Figure 5).

The self-help educational program is generally adopted by Internet users 60 years and over wishing to partake in cognitively challenging learning activities (Swindell 2002, 6). U3A has existed internationally for the past two decades, however, the program was originally based in the 'real world' and operated from community centres. Whilst the face-to-face method produced inexpensive education programs, older people with physical, geographical or transport-related constraints were unable to participate (Swindell 2002, 5). Thus, U3A expanded into an online format establishing a virtual learning community.

As recognised by Swindell (2002, 4), the Internet "is a much more flexible tool than any other communication technology for meeting the educational needs of isolated older people". From cognitive stimulation and sharing information to building new social networks, Internet-based adult education courses, such as those offered by U3A online, present not only educational but social opportunities for isolated older people.

The Australian Bureau of Statistics collects data about the participation of older people aged 55 to 64 years in formal learning, non-formal learning, and informal learning via the Internet. As shown in Table 4, 950,000 older people used computers or the Internet for informal learning purposes in 2006 – the second highest of all types of informal learning they participate in. Also, the Internet was the leading source that older people used to find information concerning learning opportunities, with 226,000 using this method to do so.

Table 4: Types of informal learning, older Australians aged 55 to 64 years, number of people, '000s, 2006

Type	'000s
Reading manuals, reference books, journals or other written materials	1,168.4
Using computers or the Internet	950.0
Learning from a family member, friend or colleague	752.0
Using TV, radio, video or DVD	633.3
Visiting a library	424.9
Going on guided tours at a museum, art gallery or other location	308.6
Taking part in learning groups	174.3
Other	152.6

(Australian Bureau of Statistics 2008)

Other services and products

Aside from e-health, social networking and educational opportunities, the Internet offers a range of services and products which can be utilised to improve the standard of living for older people. Jones and Fox (2009, 6) found "older generations use the Internet less for socialising and entertainment and more as a tool for information searches, emailing, and buying products". As recognised by Shapira et al. (2007, 477), online shopping and banking can assist older individuals to overcome physical handicaps and remain independent for longer. Whilst traditional stereotypes suggest older people are uncomfortable with technological advancements (Satu and Maria 2005), research into the spending habits of residents from the United Kingdom found a growing number of adults over 55 years of age have embraced the Internet as a means to buy goods and services (Precision Marketing 2007).

A study from marketing company, Experian, identified the group primarily consisted of wealthy adults approaching retirement (Precision Marketing 2007). According to the research, 3.1% of all adults in the United Kingdom fit into this category, referred to as 'virtual experimenters' (Precision Marketing 2007). Due to the flexibility and accessibility of e-shopping, the online service is no longer exclusive to younger demographics or wealthier adults. Data from Starcom found in the United Kingdom shoppers over the age of 50 years spent close to 900 million pounds buying online goods and services each year (Marketing Week 2006). Research by Ewing and Thomas (2010) found that 53% of Australians aged 50 years and over who participated in their survey were using online banking services and 37% were paying bills online. However only 11% were buying things online.

e-banking offers another avenue for self-management amongst older people. Despite the advantages of online banking, older Internet users are less likely to adopt the service than younger age groups (Mattila, Karjaluto and Pento 2003, 520). Mattila et al. (2003, 520) stated that whether or not older people adopt Internet banking is largely determined by their attitude towards computers, prior banking experience and prior technology experience. A study of mature bank customers in Finland found late adoption rates were predominantly caused by practical problems in using e-banking, concerns about the expensive start-up, security, and lack of personal service (Mattila et al. 2003, 524) (see Figure 6). The study identified distrust towards e-banking and disappointment among mature customers was generally down to a lack of training (Mattila et al. 2003, 522). Whilst Internet banking may present difficulties for mature customers, the service can enable older people to maintain control over budgeting and financial decision-making, which in turn fosters independence.

The participation of older people in the online shopping market and e-banking will inevitably expand with increased Internet training for older users, wider accessibility and more easy-to-use applications. However, some older people may still resist online shopping and e-banking because of concerns about information security. Ewing and Thomas (2010) found 38% of older people compared to 28% of all survey participants were 'highly concerned' or 'extremely concerned' about information security.

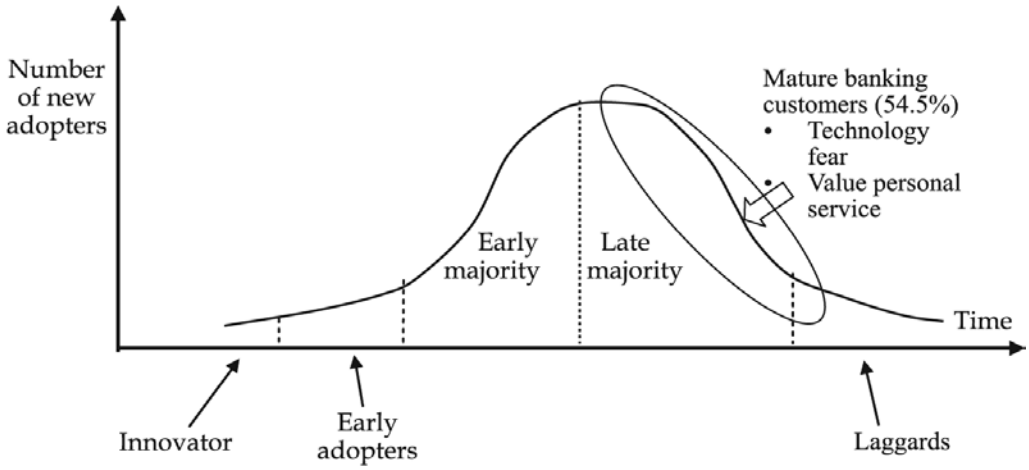

Figure 6: Mature Finnish banking customers on technology adoption curve

(Mattila et al. 2003, 518)

Strategies and initiatives to engage older people with the Internet

As explored earlier in this report, the digital divide poses a range of barriers for disadvantaged citizens to overcome. As older people are generally late adopters of new technologies (Mattila et al. 2003, 520), they can be excluded from the social, practical and educational benefits of the Internet. However, due to the multifaceted nature of the problem, steps to narrow the gap between Internet users and non-users can be taken on individual, local, national and international levels. Within Australia and overseas, governments, organisations and privately-run companies have adopted measures to increase Internet accessibility and usability.

As already discussed, the Internet provides a means for older people to engage in community issues, participate in online planning, and foster two-way communication between governments and citizens. According to Yigitcanlar (2006, 8), local governments can harness the capabilities of the web to include citizens in political decision-making processes. Online policies and planning offer a new form of public involvement. Yigitcanlar (2006, 8) stated the system democratises the participation process through engaging citizens in prioritising potential developments. Whilst such policies strengthen ties between government bodies and the public, online planning and e-participation essentially exclude non-Internet users from contributing, and consequently widens the digital divide. Thus, older people with limited or no Internet skills are disadvantaged by the shift towards digital technologies. In response to such limitations, Yigitcanlar (2006, 15) argued "e-participation should supplement, not substitute for, traditional modes of public participation". Thus, increasing Internet usage amongst older people will make room for new forms of social inclusion.

Public centres and facilities can also play active roles in introducing older people to the Internet and cultivating online skills and strategies. A computer training company in the United Kingdom, Hairnet, has created a 'Silver Surfers Day' to educate individuals over 50 years of age about the Internet as part of the annual Adult Learners' Week (Jim 2005). According to Jim (2005), Hairnet offered around 400 events in libraries, colleges, pubs, and community centres. The day aims to teach older people how to shop, bank and research online, as well as the skills necessary to e-mail and access e-government services. As recognised by Millward (2003, 13), community centres can be involved in not only providing Internet access, but teaching web-based skills. Millward (2003, 15) also stated "basic skills could be taught as part of the weekly activities, and users could be shown the potential benefits, namely e-mail and local history and holiday sites, alongside potentially more pressing matters such health pages". Such services enable participants to learn valuable skills and create new social networks, thus enhancing older people' engagement with the Internet.

From an organisational level, the National Institute on ageing (NIA) and the National Library of Medicine (NLM) have set about establishing web access guidelines to cater for older people. Jaeger and Xie (2009, 58) stated these organisations assert that websites should take into account "how age-related changes in cognitive, physical and perceptual abilities affect computer use". To be recognised as accessible, a website must contain readable text, present information in a way that is easy to understand, incorporate non-text based media formats, and be easy to navigate (Jaeger and Xie 2009, 58). Webcredible (2006) recommended that to improve usability for older web users, designers should:

- find innovative ways to communicate the fact that a page is not finished and requires scrolling
- avoid technical terms
- ensure links are consistent, obvious and attention grabbing (e.g. blue, bold, underline, red on mouse-over)
- ensure users should not have to install software (even Adobe Acrobat) to access information
- make content as concise and clear as possible
- make the writing bigger, with accompanying illustrations/icons and use high contrast to display text
- provide explicit instructions by using the imperative forms of verbs e.g. 'For more details on ... go to ...'

Such features, coupled with increased Internet training for older people, will enable individuals to maximise the potential of online resources.

However, the introduction of new or revised initiatives does not necessarily mean that older people will take advantage of them. Morris et al. (2007) found that 66% of older people who participated in their Derbyshire study and did not use the Internet indicated that they had no intention of using it even when asked if anything might encourage them to use it in the future. Those who did indicate what would help them identified free IT training, more convenient and better learning facilities, less expensive computers and Internet connections, and more time (Morris et al. 2007, 51).

2. EXISTING RESEARCH

Morris et al. (2007, 55) recommended the following measures to help address access issues:

- Better information for older people about computers and the Internet to address any misconceptions and show them how they can be of real practical use to their lives
- Better publicity about available facilities as well as an evaluation of these facilities to determine if they are actually accessible to older people
- Training courses and material designed in a way that incorporate older people's complete lack of basic IT skills and high levels of anxiety.

The Australian Human Rights Commission (2000) also identified a range of measures to enhance community access to the Internet:

- Increased business and government support for community access points for online services and for awareness, education and training for people who might otherwise remain on the wrong side of a 'digital divide'
- Increased provision, particularly by the Commonwealth, of superseded equipment through organisations such as Technical Aid to the Disabled and computer clubs for seniors
- Increased focus on the provision of appropriate equipment, software, training and information to meet the needs of people requiring adapted or customised equipment to achieve effective Internet access.

The Commission's point about ensuring that online services are used to "complement and enhance availability of direct human service rather than completely substituting for it" is particularly relevant to the many older people who prefer face-to-face access to service providers.

The European Commission launched its *Action Plan for Ageing Well in the Information Society* in June 2007 to accelerate take-up of ICTs by older people and the delivery of age-friendly technologies (European Commission 2008). It consists of a set of measures designed to break down barriers that prevent older people from using ICT products, services and applications that aim to:

- **raise awareness**, and **build consensus** via stakeholder cooperation and the establishment of a best practice Internet portal and European award scheme for smart homes and independent living applications
- overcome **technical and regulatory barriers** to market development, through market assessments, studies and benchmarking and by facilitating the exchange of best practice between Member States
- **accelerate take-up** through, for example, a set of pilot projects under the ICT Policy Support Programme and use of Structural Funds
- boost **research and innovation** to foster the emergence of innovative, ICT-based products, services and systems for Europe's ageing population.

The Council on the Ageing (WA) made several recommendations in its report, *Where do I start? Female seniors and the internet 2011*, to improve Internet availability, affordability, and accessibility for older females. The Council's (2006, 6) recommendations are applicable to both older men and women:

- Widely available, low-cost training aimed at improving digital media literacy skills, and targeted promotion of the benefits of the Internet and broadband for seniors. Female seniors will benefit if the Government's Digital Economy Strategy can deliver tailored initiatives in these areas.
- Better consumer protection and customer service in the communications market. The Australian Communications and Media Authority's 'Reconnecting the Customer' Inquiry report and implementation is a significant opportunity to deliver better outcomes for consumers.
- Advice and assistance services to enable seniors to navigate the market.
- More reliable and accessible technical support services for seniors. Provision of more targeted government-sponsored cyber security and safety campaigns.
- Consultation with seniors on e-government matters.

2. EXISTING RESEARCH

The Australian Government has taken a range of approaches in an attempt to address the digital divide. In an effort to build the country's broadband network the Government has joined with the private sector to invest up to $43 billion over eight years (Conroy 2009). The new National Broadband Network aims to provide:

> ... 93 per cent of Australian homes, schools and businesses with a 'fibre to the premise' connection providing broadband speeds of up to 100 megabits per second, with capability to provide speeds of up to one gigabit per second. For remaining premises, a combination of next-generation wireless and satellite technologies will provide peak speeds of at least 12 megabits per second.

The Government has also invested $15 million over from 2008 to 2011 to fund community centres and clubs that provide seniors services and activities to set up *Broadband for Seniors Kiosks*. The purpose of the kiosks is to help older people "gain confidence using computer technology, and to build community participation and social inclusion amongst older Australians" (Broadband for Seniors 2011). Organisations are provided with one-off support worth up to $10,000 per kiosk for desktop computers, a broadband Internet service, and training and workshops. The Government has extended the initiative by providing further funding of $10.4 million for four years from 1 July 2011.

In May 2011, the Australian Government launched the *Digital Communities* initiative, which will establish digital hubs in 40 communities across Australia at a cost of $23.8 million over three years from 2011-12. The digital hubs aim to narrow the digital divide by allowing local residents to experience NBN-related services and technology; and providing training and assistance to explain the benefits of participating online and to drive greater digital literacy skills. The initiative also aims to increase user awareness of cybersecurity and cybersafety (Department of Broadband, Communications and the Digital Economy 2011).

Other organisations helping older people to develop computer and Internet skills is the Australian Seniors Computer Clubs Association (ASCCA) and ONEseniors. ASCCA is the peak national body for seniors interested in learning about computer technology. It promotes seniors computing clubs across Australia that are members of ASCCA; undertakes projects to support IT for seniors; organises workshops, seminars and other activities; and liaises with government regarding relevant policy issues (ASCCA 2011). ONEseniors states it is the leading provider of affordable dial-up, broadband and phone services for people aged over 55 years in Australia (ONEseniors 2011).

Section summary

Whilst online resources played a useful, yet not entirely necessary role in the past, the Internet has now become engrained in day-to-day life. Due to this, the push to improve Internet accessibility and strengthen user-based skills has become part of the national agenda. For older generations, however, the switch to online forms of banking, learning, communicating and shopping can present a challenging task. Despite this, current online technologies can be specifically tailored to suit the needs and wants of older people. The potential for the Internet to benefit this age group can only be expected to expand. Such themes were addressed throughout this section and some of the notable findings are as follows:

- The elderly population (65 years and over) has become the fastest growing age group.
- Age is the most significant driver of Internet usage in the home.
- Older Australians are the least likely age group to access and use the Internet.
- Personal correspondence is the primary reason why older people use computers.
- Reasons for not having Internet access include, but are not confined to, geographical, financial or physical constraints, illness, lack of transport or the inability to use online resources.
- Reasons for not using the Internet include 'no interest', 'no time', lack of skills, cost, and concerns about information security.
- The Internet can provide older people with avenues for learning, networking, and participating in civic or political causes. It also enables them to benefit from e-health, e-banking and e-shopping.
- The Internet offers older people a means to improve self-sufficiency and prevent social isolation.
- Initiatives to encourage Internet usage by older people include free, convenient and better learning facilities (including better publicity of these facilities); less expensive computers and Internet connections; training courses and materials that incorporate older people's lack of basic skills and high levels of anxiety; and websites designers taking into consideration older web users to create all-inclusive websites.
- The Australian Government is attempting to address the digital divide by investing in the National Broadband Network, and establishing Internet kiosks and digital hubs across Australia.

Elizabeth Sparks
Coochiemudlo Island, Queensland

Background: Elizabeth worked for many years for the Australian Bureau of Statistics in Canberra and Brisbane, working with teams in Health and Welfare Statistics and Unemployment Statistics. In the early 1990s she and her husband had a change of pace and moved to the Brisbane Valley to take up an antique business. On retiring from that she settled on Coochiemudlo Island (located in Moreton Bay), becoming an owner-builder and an active member of the small community. Elizabeth enjoys reading, golf, yoga, knitting, sewing, quilting, poetry, spending time with friends, and travelling, particularly as she has family in Scotland.

Experience with computers and the Internet: I have the satellite broadband here through the Australian Broadband Guarantee because I can't get wireless and dial-up is too slow. It cost me nothing to install. The Australian Government program gets broadband into homes with very bad reception. I get 500 megabytes and 2 gigabytes bonus from 11 at night to 11 in the morning for $20 a month. The first 6 months was $10 a month. $10 to $20 a month is enough for what I use. I use my laptop once or twice a week at present. A computer savvy friend has given me a list of instructions. when I log on I must update this, this and this etc. to keep security viable. I used to do my banking online, but not anymore. Once I transferred money from my account to someone else's account. I wasn't sure it had worked and so ended up doing it twice. I also think that negative publicity made me apprehensive. We are often told how easy hackers can break into accounts and to never answer emails asking for personal banking details. I think it is safer over the phone. My level of confidence from 1 to 10 I'd say is a 4, being below reasonable. Things flash up on the screen and I have to read them but they are gone in a moment and I say 'what was that?' It makes me feel really incompetent and I get so frustrated, my logic and computer logic don't seem to match. I wish I did not get so anxious when I am on the computer but I am not a technical person and have no one handy to ask when I get into trouble. I am afraid of asking for professional advice because I feel stupid, can't explain properly, and may not be able to afford the charges.

Interest in the Internet: There are an awful lot of things that are interesting. I write down the name of the websites but I never get round to them because the need isn't there. If someone could show me exciting things on there that I could get involved in then I would do it. But sitting down and trolling through millions of bits is not me. I would rather read a book, make a quilt, knit something for someone (as I do knitting for preemies), watch a good documentary. I am really people oriented more than anything. I love being with people that is why I did mentoring and volunteer to be with people. I do all my poetry by hand. I find it very frustrating to be creative and mechanical/technical at the same time. I have had some successes. For my 60th birthday I treated myself to a trip for four months. I booked a hotel in Casablanca online. I booked a trip. Flight Centre did my airfare. On another occasion, I got on the Internet Wednesday night with my credit card (because it is double-protected). I was gone on Saturday. So I will use it for something I really need like when I start planning to go slow trekking in Nepal next year. I used to order books online but I won't buy books now as they are too expensive. I'll go to the library instead. I could go on a site to meet people, may be talk to them before I go and meet them in a group. I've just downloaded Skype because my brother is over in France. I have a sister who lives in Scotland near mum so I can talk to her. I can send her emails. My mum has an email address and she lives in accommodation where there a computer. Calls to mum's phone on Skype cost about 1.25 cents a minute. Cheaper than Telstra.

Services/groups that help older people learn about the Internet: Donald Simpson Centre has classes and so does Brisbane Seniors Online. The cost of their classes is fine. There are many people who advertise computer classes in the Bayside Bulletin but when you get their prices they are a bit much. When I went to classes, there were people who didn't know anything. Even I knew more than they did. I got very frustrated as I wanted to do something but they were too busy with people who needed to know the very basics and needed more confidence. I rang up Brisbane Seniors Online about one-on-one help. They said we don't have anyone in your area and we can't get any more mentors. The Redland libraries did an IT expo earlier this year and they did heaps of classes at Cleveland, Victoria Point and Capalaba. I went to a few of those. I enjoyed them. They were only for a couple of hours, showing us things like Facebook, photo sites, books, and security. But there was no follow up. I have never heard of Internet kiosks. What would help is having someone to ring. I am sitting in front of a computer, and something goes wrong. It freezes. What do I do. I have no one to ask. I could go across to the library with my laptop where there is a person I can ask but there is no one on staff who is actually designated to help.

Internet and daily life: I can't see any really good reason to use it. I don't find it fun. I really have better things to do. There are so many places that assume you have a computer as they are telling you to go to their website. Some TV shows give you a tiny snippet and if you want to know more go to their website. So there is this huge assumption that everyone has to be on the Internet and has to go on the computer to belong, and if you don't there is something wrong with you. I would feel comfortable providing my medical records online if they are extremely secure. If I am living out in woop woop and there is a computer system where I can sit down with my doctor and talk to a specialist in Brisbane, fantastic.

After receiving her draft case study, Elizabeth wrote: I have been to Nepal, and back. What an amazing journey. My computer skills are improving. I have been using email more and more and even have a Facebook page to keep in touch with the wonderful people I met in Nepal and with my scattered family. I am also using Gmail chat and Skype. I am starting to find I can use the computer more confidently and benefit from it mainly by keeping in touch with family and friends. I have found a mentor and she has been very helpful and encouraging, given me confidence.

3. DEMOGRAPHICS OF SURVEY PARTICIPANTS

As stated in Section 1: Project Summary, the main data collection method for this project was a survey of members of National Seniors Australia who do not or rarely use the Internet. Findings from an analysis of the demographic characteristics of the 149 members who completed the survey are as follows:

- 40% of participants were aged between 65 to 74 years (Figure 7).
- 70% of participants were female (Figure 8).
- 51% of participants lived in a metropolitan area (Figure 9).
- 38% of participants lived in Queensland.
- 33% of participants indicated technical & further education was their highest qualification and 29% of participants indicated higher education was their highest qualification (Figure 10).
- 52% of participants had previously worked (or were currently working) as a manager, administrator, professional, or associate professional (Figure 11).
- 71.1% of participants had retired from the workforce (Figure 12) and 37% of these participants had been retired for more than 10 years (Figure 13).
- 55% of participants received income of less than $30,000 per year (Figure 14).
- 40% of participants sourced income from the age pension (Figure 15).

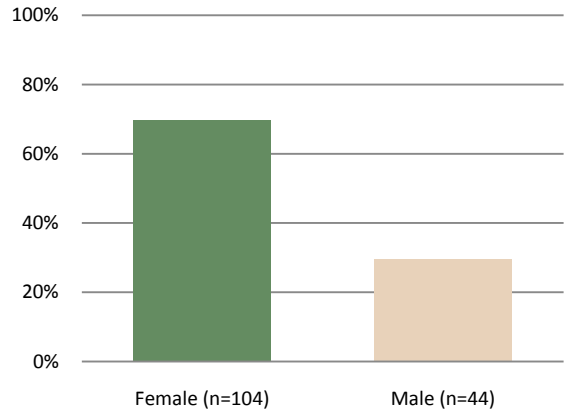

Figure 8: Gender (% of participants)

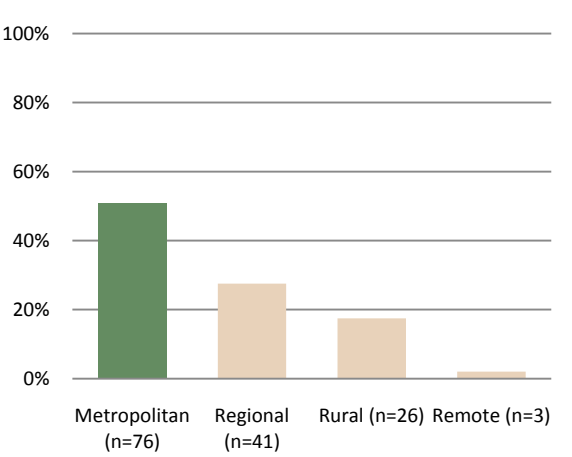

Figure 9: Location (% of participants)

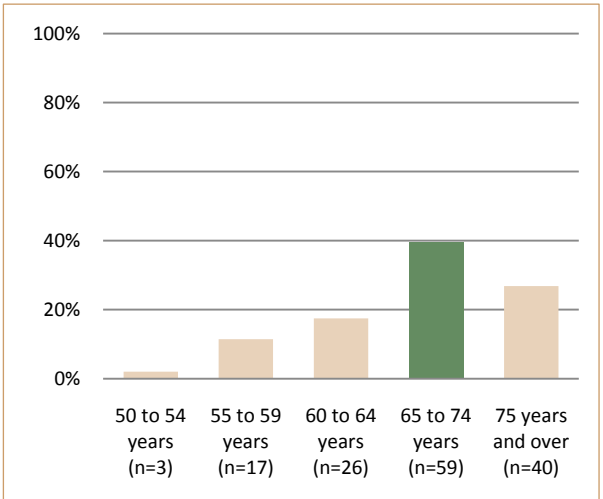

Figure 7: Age (% of participants)

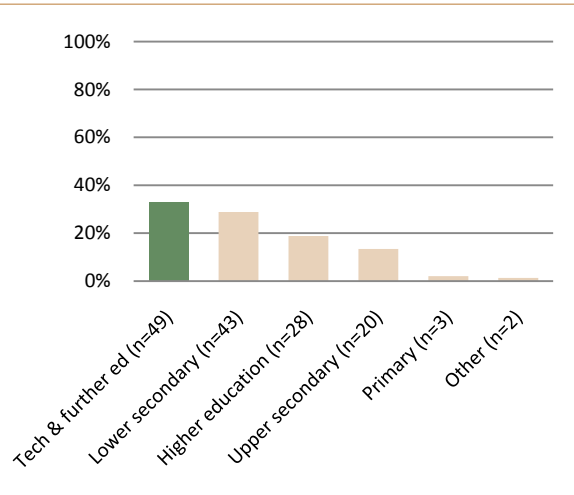

Figure 10: Highest qualification (% of participants)

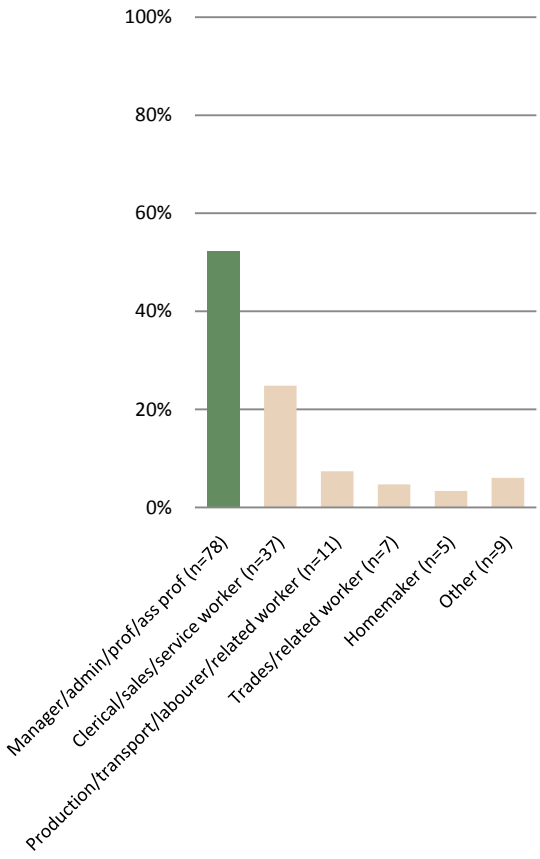

Figure 11: Previous/current occupation (% of participants)

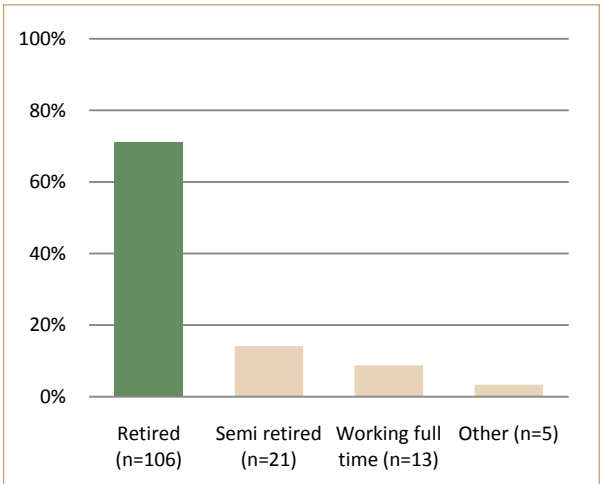

Figure 12: Workforce status (% of participants)

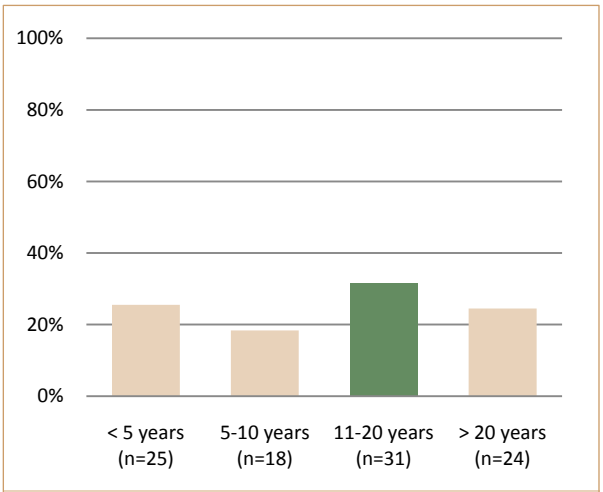

Figure 13: Years retired (% of participants)

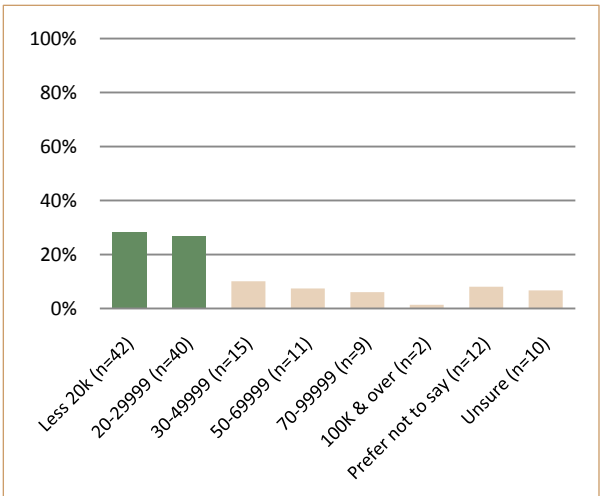

Figure 14: Income per year (% of participants)

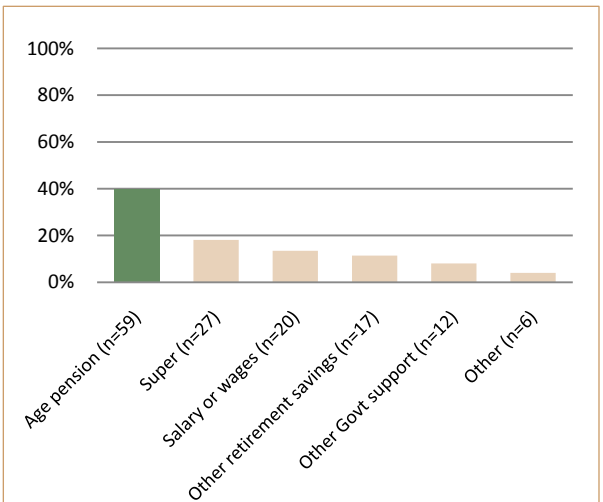

Figure 15: Income source (% of participants)

4. COMPUTER AND INTERNET ACCESS AND SKILL LEVEL

Survey participants indicated whether they had access to a computer and the Internet as well as their skill level in using computers, the Internet and other technologies. The analysis of the data found:

- 126 participants (or 85% of all participants) had used a computer (Figure 16) and 101 participants (68%) had a computer in the home (Figure 17)
- 72 participants (48%) had used the Internet (Figure 18) and 60 participants (40%) had an Internet connection in the home - 45 of these participants had a Broadband connection (Figure 19), 15 participants had a dial-up connection (Figure 20), and some participants indicated having both
- participants employed at the time of the survey were slightly more likely not to have access to the Internet connection at work (18 participants) than have access to it (14 participants) (Figure 21)
- 141 participants (95%) had previously used other technologies such as mobile phone, remote control, digital camera, video recorder, phone banking, answering machine, ATM and GPS (Figure 22)
- 98 participants (66%) had 'very low' Internet skills (Figure 23)
- 75 participants (50%) had 'very low' computer skills (Figure 24)
- 54 participants (36%) had 'moderate' skills in using other technologies (Figure 25).

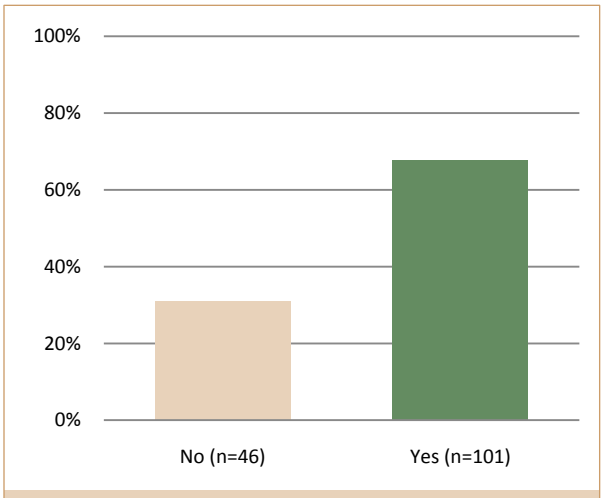

Figure 17: Computer in the home (% of participants)

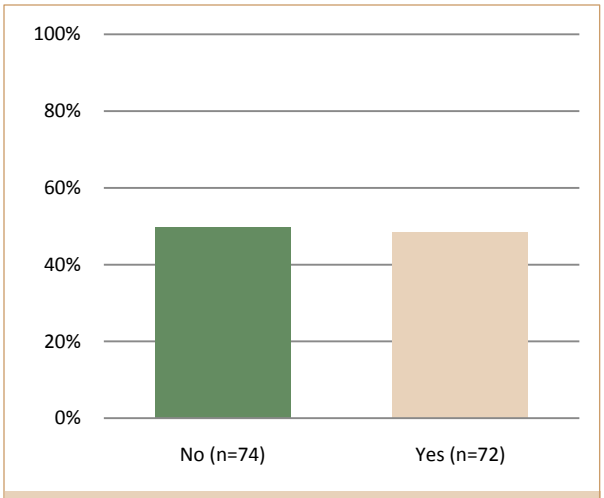

Figure 18: Ever used the Internet (% of participants)

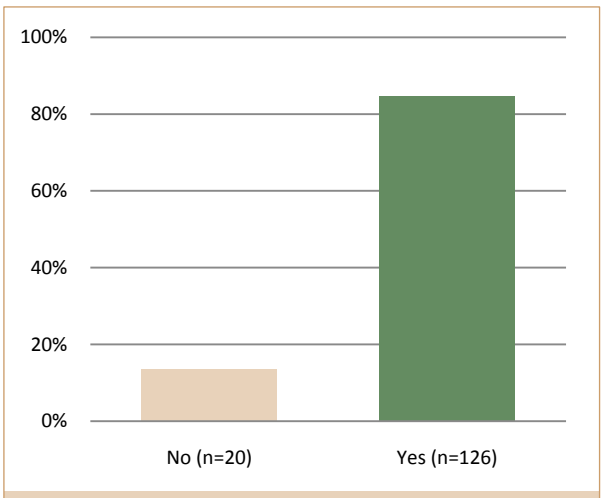

Figure 16: Ever used a computer (% of participants)

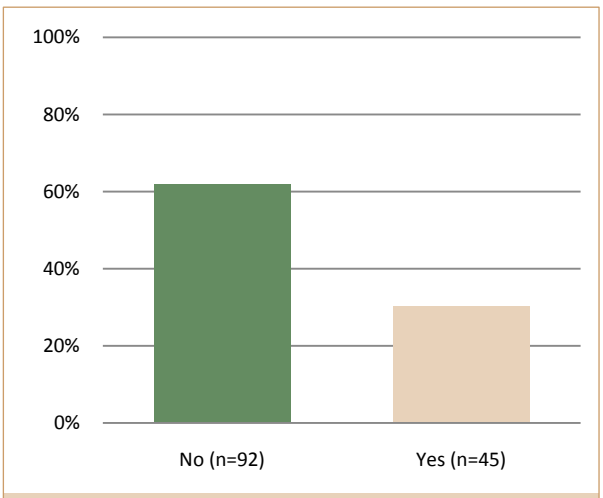

Figure 19: Broadband Internet in home (% of participants)

4. COMPUTER AND INTERNET ACCESS AND SKILL LEVEL

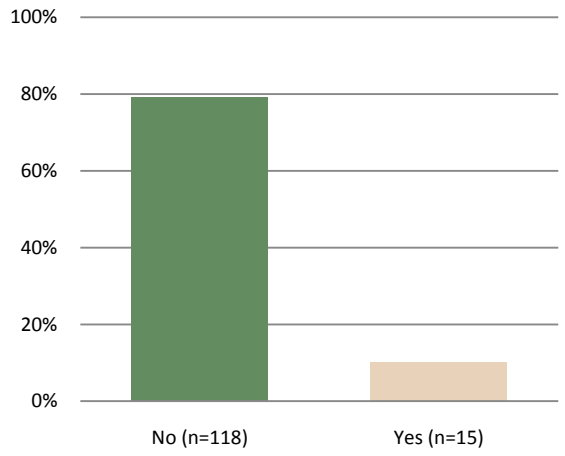

Figure 20: Dial-up Internet in home (% of participants)

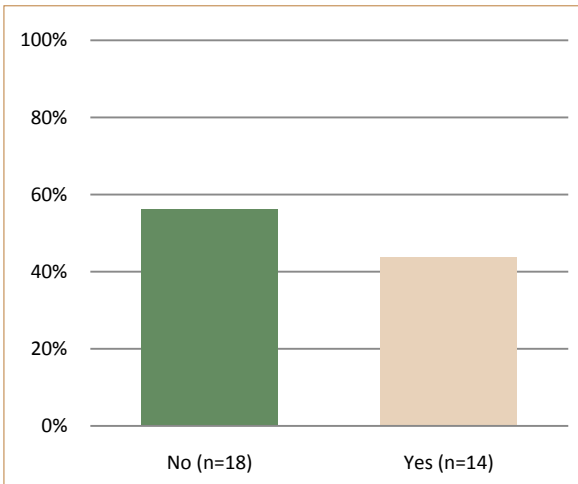

Figure 21: Internet access at work (% of participants)

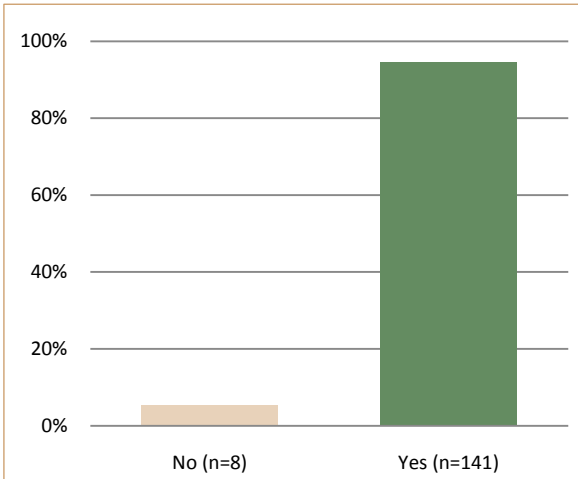

Figure 22: Ever used other technologies (% of participants)

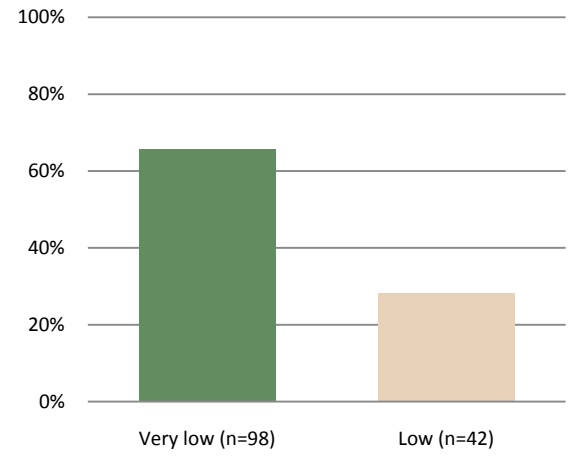

Figure 23: Internet skill level (% of participants)

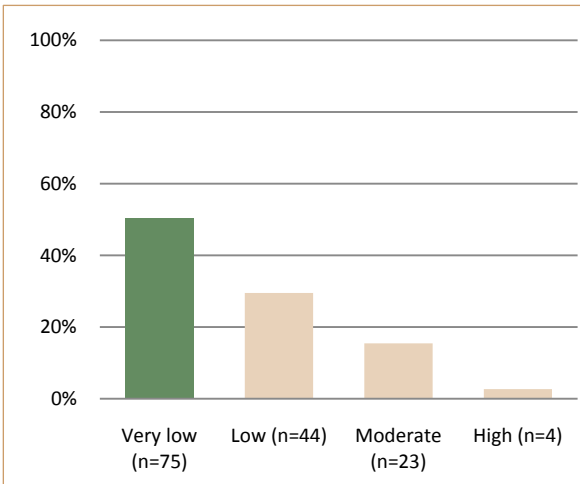

Figure 24: Computer skill level (% of participants)

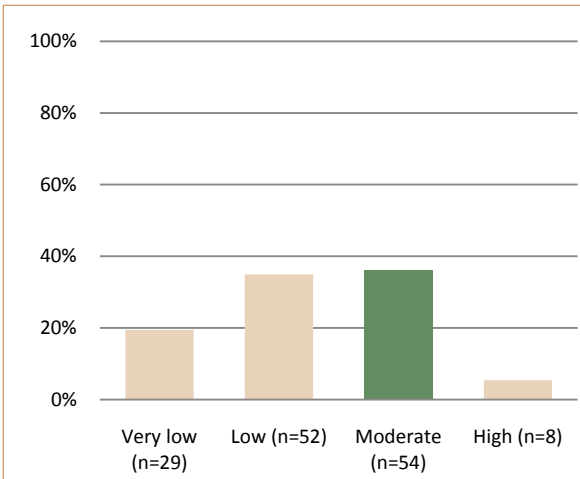

Figure 25: Other technologies skill level (% of participants)

4. COMPUTER AND INTERNET ACCESS AND SKILL LEVEL

The analysis of data using the chi-square test for independence sought to identify associations between:

- participants' level of Internet skills and their level of computer skills
- participants' level of Internet skills and their access to a computer at home
- participants' level of Interest skills and their access to Broadband at home
- participants' level of Internet skills and selected demographic characteristics of participants.

Participants' level of Internet skills is associated with their level of computer skills, indicating that participants with 'very low' Internet skills were most likely to have 'very low' computer skills (90 out of 98 participants (Table 5).

Table 5: Internet skills and computer skills

	Very low Internet skills	Low Internet skills	Total
Very low/low computer skills	**90 (91.8%)**	24 (58.5%)	114
Moderate/high computer skills	8 (8.2%)	17 (41.5%)	25
Total	98	41	139
Chi-square value: 21.731		**Significance (*p*):** .000	

Participants' level of Internet skills is associated with their access to a home computer, indicating that participants who do not have a computer at home are more likely to have 'very low' Internet skills (39 out of 96 participants or 40.6%) than 'low' Internet skills (5 out of 42 participants or 11.9%) (Table 6).

Table 6: Internet skills and home computer access

	Very low Internet skills	Low Internet skills	Total
Yes (has a computer)	57 (59.4%)	37 (88.1%)	**94**
No (no computer)	**39 (40.6%)**	**5 (11.9%)**	44
Total	96	42	138
Chi-square value: 11.097		**Significance (*p*):** .001	

- Participants' level of Internet skills is associated with their access to the Internet at home, indicating that participants with 'very low' skills were most likely not to have broadband access at home (67 out of 92 participants or 72.8%) (Table 7).

Table 7: Internet skills and home broadband access

	Very low Internet skills	Low Internet skills	Total
Yes (has broadband)	25 (27.2%)	18 (50.0%)	43
No (no broadband)	**67 (72.8%)**	18 (50.0%)	85
Total	92	36	128
Chi-square value: 6.043		**Significance (*p*):** .014	

The Chi-square analysis did not find any associations between participants' level of Internet skills and the demographic characteristics of age, gender, location (metropolitan, regional, rural and remote), location (level of advantage/disadvantage using SEIFA index), qualifications, previous (or current) occupation, workforce status (retired, semi-retired or working full-time), income, or income source.

Section summary

The purpose of this section was to determine participants' access to the Internet and a computer at home; and their skill level in using the Internet, computers and other technologies. The analysis of data found:

- many participants had already been exposed to the Internet, computers and other technologies – 85% of participants had used a computer, 68% of participants had a computer in the home, 48% of participants had already used the Internet, 40% of participants had access to the Internet at home, and 95% of participants had used other technologies
- despite the above data, almost two-thirds of participants indicated they had 'very low' Internet skills
- participants' level of Internet skills is associated with their level of computer skills as well as their access to the Internet and a computer at home i.e. participants with lower levels of computer skills and no Internet and computer at home have lower Internet skills.

Penelope Pender
Ballina, New South Wales

Background: Penelope left South Africa in her mid 20s to travel independently overseas, spending some months in London before travelling to New Zealand and then to Australia. During this time, she met her Australian husband. Before having children, Penelope operated large computers and learnt computer programming. Today, Penelope is an active member of the church, sells Avon, and enjoys choir singing. When she can, she travels to South Africa to visit her large family living there.

Experience with computers and the Internet: I know how computers function but I have never had a computer because I hate wasting time on them. I get frustrated when they break down. I've learnt that there is Facebook as my son is on Facebook. There seems to be new stuff coming out all the time. I have too much else to look forward to. I would rather go to the post office. You meet people on the way. You meet people there. I did an email course at U3A last year. She showed me what to do. We set up an email address. I sent a few emails but because I don't have a computer at home, there wasn't much point. She set it up. I went back each week. I still don't know how to start up a computer because she started it up herself. It makes me feel nervous and scared.

Interest in the Internet: My desire to learn the Internet out of 10 is probably 3 or 4. I am active and I like writing letters. I had hundreds of pen pals when young and I love corresponding with pen and paper. I would love to be able to use the Internet, mainly for emails and Skype because I have many friends and relatives overseas, all round the world. Just to talk to people that I know.

Barriers: The cost involved in having a computer and the Internet on a single pension is too high. I think people who have a computer, the pensioners, usually have two of them in one house. They can afford that. I am by myself so I really can't afford the expense. I have even been offered a computer. I said no because I am concerned that it will break down and I will have to pay somebody to fix it. I am counting costs day by day, week to week. When I see a computer I am thinking how much money am I going to lose off my pension. To the Government I would just like to tell them that I am quite sure many single pensioners out there on their own haven't got a computer or the Internet for the same reason as me. It is the cost factor. If the cost factor was eliminated I would get a computer and then go back to U3A.

Services/groups that help older people learn about the Internet: The classes at the local library were terrific but they didn't go for very long. One term is nothing. Two days later, I have forgotten everything. They really need to keep doing it as I have a slower learning curve. I did learn how to find information but I would have to go through that again with someone. I need somebody to help me because things go bleep, I get stuck and I don't know what to do. Ideally, I would like a free computer from the Government and then a 100% help for a few weeks until I got used to using the Internet. I could never afford to buy one, let alone pay monthly fees.

Internet and daily life: I am sure it would enhance my life but because of the cost factor I am not going to throw my pension away. Occasionally I think that if I had the Internet I could ask somebody, compare things with other people. I would like to be able to email people, get onto Skype and talk to people in various countries.

5. AWARENESS OF, AND INTEREST IN THE INTERNET

Survey participants indicated their awareness of particular online products and services as well as their interest in these products and services. The purpose of this section is to address the following three research questions:

- Research Question 1: To what extent are non-users aware of what the Internet offers?
- Research Question 2: To what extent are non-users interested in using the Internet?
- Research Question 3: Do non-users find particular online products and services more useful than others?

Overall, participants' awareness of most online products and services listed in Table 8 on the next page was good, with 96 of the 149 participants (or 64% of all participants) indicating their awareness of what the Internet offers was 'moderate' or above (Figure 26). Participants were most likely to indicate their interest in the Internet was 'low' (34%) or 'moderate' (36%) (Figure 26).

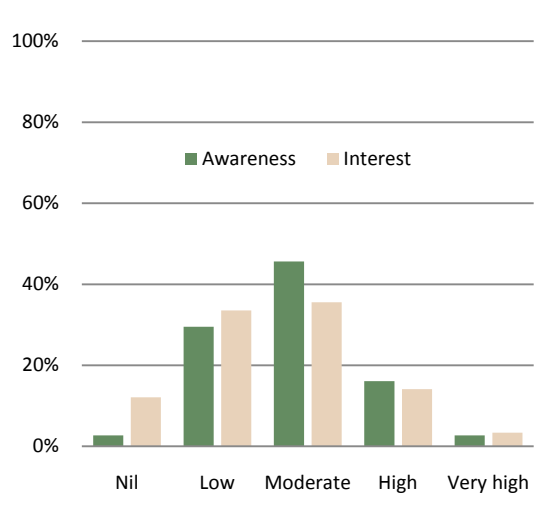

Figure 26: Participants' Awareness of, and interest in the Internet (% of participants)

Participants were most interested in using the Internet for general searching and browsing, finding information on health topics, communicating with friends and family, searching timetables/directories, making bookings and appointments, and making cheap phone calls (see Table 8 on the following page).

Participants had lower awareness of using the Internet to access medical records and make cheap phone calls. Also, these were the only products and services where participants' interest in them was greater than their awareness of them, suggesting a need for awareness-raising strategies (Table 8).

Although almost 90% of participants were highly aware that they could pay bills online and bank online, less than one third of participants indicated these online products and services were useful to their daily life (Table 8).

The majority of participants indicated using the Internet to set up their own profile, invest in stocks/funds/bonds, search for jobs, or for dating purposes was not useful to their daily life (Table 8).

Comments by case study participants explain their interest (or lack of Interest) in the Internet:

- *I would probably use it if someone provided me with a lot of help. I haven't thought too much about the range of uses it has but I know I have some shares and I know I would be very happy to look up reports associated with those. I would also obtain more information about various things that come up on the television or in the paper.*
- *If someone could show me exciting things on there that I could get involved in then I would do it. But sitting down and trolling through millions of bits is not me. I would rather read a book, make a quilt, knit something for someone (as I do knitting for preemies), watch a good documentary. I am really people oriented more than anything. I love being with people that is why I did mentoring and volunteer to be with people.*
- *I found the Internet fairly easy to use with XP because I can use Skype, get messages to and from friends, look up quite a bit of information I am interested in things like the weather pattern for the day, and radar pattern for my town which is only 20 minutes old. I use it to play chess against myself, and get in contact with people who design boats. I am very interested in a program or starting a program on life skills for teenagers. I am using the Internet to reach people with similar interests who are running 11 similar programs.*
- *I am active and I like writing letters. I had hundreds of pen pals when young and I love corresponding with pen and paper. I would love to be able to use the Internet, mainly for emails and Skype because I have many friends and relatives overseas, all round the world. Just to talk to people that I know.*

5. AWARENESS OF, AND INTEREST IN THE INTERNET

Table 8: Participants' awareness of, and interest in selected online products and services (% of participants) (n=149)

	% of participants aware of the product/service	% of participants interested in product/service
Paying bills online	89.9%	31.5%
Banking online	89.3%	28.9%
Accessing personal records from Centrelink, banks, insurance companies, super/investment funds, health care providers, etc.	75.2%	49.0%
Investing in stocks, funds and bonds	68.5%	18.1%
Finding information on health topics	84.6%	65.8%
Accessing medical records	38.9%	53.7%
Making bookings and appointments	69.8%	61.7%
Selling, buying, and researching products and services	78.5%	49.0%
Communicating with friends/family using email, Skype, MSN, Facebook	88.6%	65.2%
Sharing information with people who have similar interests and hobbies	72.5%	49.0%
Taking educational courses	68.5%	37.6%
Finding out the latest news, sports and weather	81.9%	49.6%
Playing games, and downloading movies and music	81.9%	40.3%
Searching timetables/directories e.g. transport timetables, program/ venue information, yellow/white pages, travel maps/directions	76.5%	65.8%
Setting up own profile to share your stories, views and photos with others	66.4%	24.2%
Searching for jobs	66.4%	13.4%
Making cheap phone calls	51.0%	63.1%
General searching or browsing the Internet for topics of interest e.g. art, family history, geology	82.6%	70.5%
Dating	66.4%	7.4%

- *Yet learning computers means I would be as good as the other fellows. It would satisfy my ego because it is modern technology of which one should be aware and modestly proficient. But I have a full and interesting life, adequate for my requirements.*

The analysis of data using the chi-square test for independence sought to identify associations between:

- participants' level of awareness of the Internet and participants' level of interest in the Internet
- participants' level of awareness of the Internet and selected demographic characteristics of participants.
- participants' level of interest in the Internet and selected demographic characteristics of participants

The Chi-square analysis did not find any associations between participants' awareness of the Internet and their interest in the Internet; participants' awareness of the Internet and selected demographic characteristics; and participants' interest in the Internet and selected demographic characteristics of participants.

Lower awareness of products/services	Products/services of most interest
Higher awareness of products/services	Products/services of least interest

Section summary

The purpose of this section was to address three research questions about participants' awareness of, and interest in the Internet. The analysis of data found:

- almost two thirds of participants indicated their awareness of the Interest was 'moderate' or above, although many were not aware it could be used to access medical records and make cheap phone calls
- participants' interest in using the Internet varied, with 53% of participants indicating their interest in the Internet was 'moderate' or above and 46% indicating their interest was 'low' or 'nil'
- participants indicated the Internet was most useful for general searching and browsing, finding information on health topics, communicating with friends and family, searching timetables/directories, making bookings and appointments, and making cheap phone calls.

6. BARRIERS TO INTERNET USAGE

The purpose of this section is to address the following research question:

- Research Question 4: What barriers are preventing non-users from using the Internet?

The key barriers preventing participants from using the Internet were 'don't know how to use the Internet/lack of skills', 'confused by the technology', and 'concerns about security and viruses' (see Table 9 below and Figure 27 on the next page).

Only a small number of participants indicated 'physical difficulties' and 'living in a location where the Internet is difficult to connect' were barriers preventing them from using the Internet (see Table 9 and Figure 27).

Some participants also identified 'Other' barriers that prevented them from using the Internet, which are mostly similar to those in Table 9 i.e. no interest, ineffective classes, technology, cost, fear, and physical difficulties. The following statements by participants have been grouped using these barriers.

No interest

- *So many other interests to keep me occupied, even at 85.*
- *I am an avid reader to gain knowledge as opposed to seeking information.*
- *Internet use will consume time for other things – may become addicted.*
- *I prefer personal contact by letter or by phone.*
- *I found it stressful at times and could not get work done – housework, garden, shopping, etc.*
- *Much quicker and more productive to use the telephone and/or visit the institution.*

Table 9: Barriers preventing participants from using the Internet and/or improving their Internet skills (% of participants) (n=149)

	Yes	No	Unsure	Missing
Too expensive/cannot afford the fees & charges	42.3%	44.3%	8.7%	4.7%
Don't know how to use the Internet/lack of skills	76.5%	15.4%	4.7%	3.4%
Confused by the technology	73.8%	16.1%	6.0%	4.0%
Fear	43.0%	45.0%	4.7%	7.4%
No computer at home	30.9%	62.4%	0.0%	6.7%
No Internet connection at home	43.0%	51.7%	2.0%	3.4%
No support/help	49.7%	36.9%	4.7%	8.7%
Rely on friends/family to use the Internet for me	54.4%	31.5%	6.7%	7.4%
Lack of knowledge about what the Internet actually does	56.4%	34.9%	4.0%	4.7%
No time/too busy	26.2%	53.7%	11.4%	8.7%
Not interested/not useful	30.2%	53.0%	8.1%	8.7%
Living in location where the Internet is difficult to connect	7.4%	73.8%	10.1%	8.7%
Physical difficulties e.g. eyesight	14.8%	78.5%	0.0%	6.7%
Poor customer service by Internet service providers, computer equipment stores, etc.	17.4%	54.4%	20.1%	8.1%
Concerns about security and viruses	63.8%	29.5%	4.7%	2.0%

Minor barriers

Significant barriers

6. BARRIERS TO INTERNET USAGE

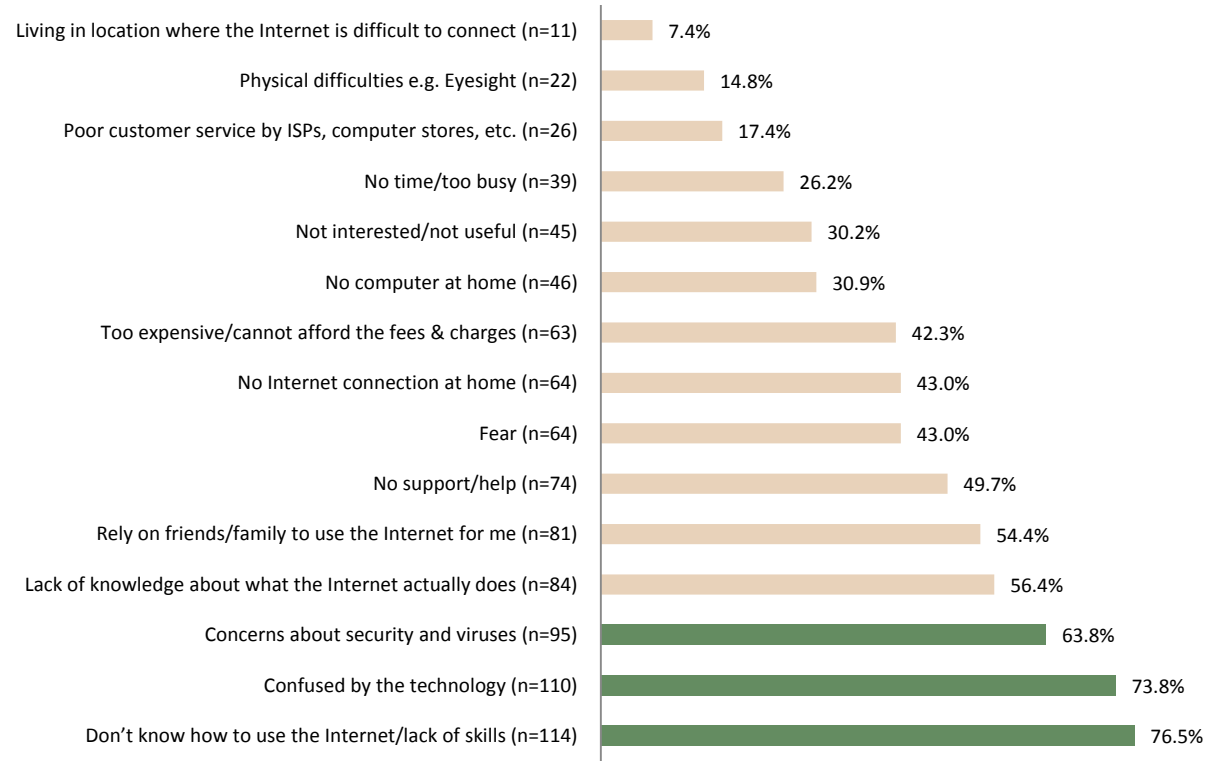

Figure 27: Barriers preventing participants from using the Internet and/or improving their Internet skills (% of participants) (n=149)

Ineffective classes

- *I find most seniors say "the beginners class is not a beginners class". If you have not learnt to type or done clerk-type work, you are too far behind to start with.*
- *I have trouble keeping up with teachers. They tend to teach people who have already learnt it.*

Technology

- *Difficulties with the terms. Can't get simple written instructions.*
- *I will be 84 in July and feel I am too old as I have difficulty with taping videos on TV.*
- *Can't cope with modern technology, terms, etc.*
- *Too much unwanted garbage.*
- *Impatience with downloading weekly virus protection, downloading on dial-up at previous address (time-based changes), fear doing the wrong thing and having to get help to fix it and cost thereof.*

Cost

- *Cost of professional advice and repair.*
- *Too costly for single age pensioners.*
- *Computer technician rips me off.*
- *Don't want the hassles when things go wrong or I make mistakes. Too expensive or a nuisance getting help.*
- *The cost involved in having a computer and the Internet on a single pension is too high. I think people who have a computer, the pensioners, usually have two of them in one house. They can afford that. I am by myself so I really can't afford the expense. I have even been offered a computer. I said no because I am concerned that it will break down and I will have to pay somebody to fix it. I am counting costs day by day, week to week. When I see a computer I am thinking how much money am I going to lose off my pension. To the Government I would just like to tell them that I am quite sure many single pensioners out there on their own haven't got a computer or the Internet for the same reason as me. It is the cost factor. If the cost factor was eliminated I would get a computer and then go back to U3A.*

6. BARRIERS TO INTERNET USAGE

Fear

- *I am afraid I will "break" the thing if I experiment. The technical side of it also terrifies me. People give me hurried verbal advice that I find almost completely useless.*
- *Fear of having a technician in to fix computer and perhaps use my details.*
- *Worried about emails I would receive.*

Physical difficulties

- *Arthritic finger joints/pain using mouse longer then say 10 minutes. No sight in one ear. Can only see clearly in a well-lit daylight in room.*
- *Poor memory and concentration.*

The analysis of data using the chi-square test for independence sought to identify any associations between:

- the three main barriers of 'don't know how to use the Internet/lack skills', 'confused by the technology', and 'concerns about security and viruses'
- the well known barriers of cost, access and lack of interest (as indicated by the barriers of 'too expensive/cannot afford the fees & charges', 'no Internet at home', and 'not interested/not useful') and selected demographic characteristics of participants.

The Chi-square analysis did not find any associations between the three main barriers and selected demographic characteristics of participants.

The barrier of 'too expensive/cannot afford the fees & charges' is associated with gender, income, and income source (Table 10). Those participants most likely to indicate the cost of Internet is preventing them from using the Internet and/or improving their Internet skills were:

- females (48 out of 85 participants)
- receiving an income of $30,000 or less a year (49 out of 57 participants
- receiving their income through an age pension/other Government support (41 out of 59 participants)

Table 10: Barrier of 'too expensive/cannot afford fees & charges' by gender, income and income source

Gender	Male	Female	Total
No (not a barrier)	28 (65.1%)	37 (43.5%)	65
Yes (a barrier)	15 (34.9%)	**48 (56.5%)**	63
Total	43 (100%)	85 (100%)	128

Chi-square value: 5.324 **Significance (*p*):** .021

Income	Less than $20k	$20-29999	$30-49999	$50k +	Total
No	11 (30.6%)	11 (31.4%)	11 (73.3%)	17 (81.0%)	50
Yes	**25 (69.4%)**	**24 (68.6%)**	4 (26.7%)	4 (19.0%)	57
Total	36 (100%)	35 (100%)	15 (100%)	21 (100%)	107

Chi-square value: 21.220 **Significance (*p*):** .000

Income source	Age pension/ other Govt	Super/other retirement savings	Salaries or wages	Total
No	18 (30.5%)	23 (62.2%)	13 (73.3%)	54
Yes	**41 (69.5%)**	14 (37.8%)	6 (31.6%)	61
Total	59 (100%)	37 (100%)	19 (100%)	115

Chi-square value: 13.358 **Significance (*p*):** .001

The barrier of 'no Internet at home' is associated with gender, with females (52.1% of female participants) more likely than males (31.8% of males participants) to indicate this barrier is preventing them from using the Internet and/or improving their Internet skills (Table 11).

Table 11: Barrier of 'no Internet at home' by gender

Gender	Males	Female	Total
No (not a barrier)	30 (68.2%)	46 (47.9%)	76
Yes (a barrier)	14 (31.8%)	**50 (52.1%)**	64
Total	44 (100%)	96 (100%)	140

Chi-square value: 4.993 **Significance (*p*):** .025

6. BARRIERS TO INTERNET USAGE

The barrier of 'not interested/not useful' is associated with location, with participants living in regional areas (54.5% of participants living in regional areas) more likely than participants living in metropolitan areas (31.3%) and rural/remote areas (26.9%) to indicate this barrier is preventing them from using the Internet and/or improving their Internet skills (Table 12).

Table 12: Barrier of 'not interested/not useful' by location

Location	Metropolitan	Regional	Rural/remote	Total
No	44 (68.8%)	15 (45.5%)	19 (73.1%)	78
Yes	20 (31.3%)	**18 (54.5%)**	7 (26.9%)	45
Total	64 (100%)	33 (100%)	26 (100%)	123

Chi-square value: 6.420 **Significance (*p*):** .040

Section summary

The purpose of this section was to identify barriers preventing non-users from using the Internet. The analysis of data found:

- the three main barriers were 'don't know how to use the Internet/lack skills, 'confused by the technology', and 'concerns about security and viruses'
- the barrier of 'two expensive/cannot afford the fees and charges' is associated with gender, income, and source of income i.e. female participants, participants receiving an income of $30,000 or less a year, and participants receiving an age pension/other Government support were most likely to indicate cost as a barrier preventing them from using the Internet and/or improving their Internet skills
- the barrier of 'not interested/not useful' is associated with location i.e. participants living in regional areas were more likely than participants living in metropolitan and rural/ remote areas to indicate 'not interested/not useful' as a barrier.

Dr Brian Ford, Cotswold Hills, Queensland

Background: Brian and his wife Patricia have been married for over 60 years. They have lived at Cotswold Hills near Toowoomba since 1989. Brian was a dentist for 40 years and a farmer and grazier at the same time. During World War II, he joined the RAAF as a radar operator based in a high secure location in the Timor Sea. Brian is an active member of the community, founding the Miles Historical Museum and Village as well as participating in Local Government, the Shire Council, the State body of the Dental Association, the local branch of the U3A, and fulfilling his role of Central Counsellor for the National Party. He recently wrote and presented a paper on people interested in aeroplanes. Brian is 86 years old.

Experience with computers and the Internet: Our family said we should have a computer. I think we have had the computer for nine to ten years and the family kept saying you must play with it, play with it and play with it, you can't break it. We do need a computer because many of our family live overseas and we like to keep in touch with them. Email is a wonderful medium of communication. We are completely wrapped in that. We do not use it to do our bookkeeping, although Patricia does our tax returns on the computer. We do not often use it to enquire about various subjects we are interested in. I have battled for ages in becoming interested in computers. My wife uses a computer quite effectively but I have never had the sheer patience to put up with the slowness of getting results. I do a lot of handwriting and I have a trusty old Remington. I can type using three fingers. I have become sufficiently pleased now for people to say isn't it lovely getting a hand written letter. People just don't get hand written letters any more. I wrote seven letters the night before last and I probably write ten letters a week. I have a wide correspondence. I get an enormous amount of satisfaction hand writing letters.

Brian's wife, Patricia, comments: If he wants to write an email I set it up, he types it and I send it. At the end of the email, he certainly would not want to attach anything. He can type the email but he will tell me when to send it. When asked why he will not press the send button he responds: because of a lack of practice and I am not comfortable with it. When I see how our grandchildren use it they are so competent. I am incompetent. Patricia says that Brian is extremely literate, writes very well, and can spell anything in long hand or on the Remington. Brian has a very good ear for music but he found practising so frustrating that he just stopped and I feel there is some connection between that and using the computer. Brian goes onto to say I feel embarrassed that I can't manage a computer. I can do other things but I can't do that. I can drive a motor car and a tractor, half fly an aeroplane, do mechanical things, master new techniques in my professional dentistry, do wood carving but the computer is a different kettle of fish, mainly because it frustrates me. Patricia says Brian is also an expert silver smith worker. He had to go to classes and learn to do that because there was a need. He wanted to.

Interest in the Internet: Patricia says to Brian: you should simply acknowledge that you don't want to use the computer. Brian responds by saying I would like to be able to go and find some knowledge instead of fossicking through my books. However, I enjoy fossicking through my books. I go there to look up something and end up being there for two hours looking at something entirely different. Whether of course I can remember anything is another thing at my age. Yet learning computers means I would be as good as the other fellows. It would satisfy my ego because it is modern technology of which one should be aware and modestly proficient. But I have a full and interesting life, adequate for my requirements.

Barriers: Time partly, because I find the computer frustratingly slow. We are not on the fast computer. There is available in town quick band or whatever you call it, which means people can use a computer faster. We have enquired with Telstra, and there is no facility in Cotswold Hills area to give us fast broadband. Broadband might make it less tiresome in waiting waiting waiting.

Also, I suppose really it is my inefficiency that is frustrating me because I don't practise enough to operate it in a quick fashion. Once I pressed the wrong button and I lost the whole thing. I found getting that back was frustrating because instead of being able to press a button and flash back on, I didn't press the right button. I lost it a number of times, even though I could save it. I had to go upstairs to get Patricia to come down and get me back online again. Patricia says he simply became discouraged when it didn't work the first time. He couldn't remember what to do.

Patricia goes on to say the more I think of it, the more I feel, when we are with other people who use computers and you feel embarrassed about the fact that you don't, you should simply take a stand and say I don't need a computer. I think that you could well quite graciously say no I don't need a computer. I have my typewriter and I hand write letters.

Services/groups that help older people learn about the Internet: I went to three classes at U3A. On each occasion, I went there full of enthusiasm. It was a group of 12 of us and there were eight computers, two of which did not work. That was frustrating for a start. The second one I went to wasn't quite as difficult as the first one but I found there were two or three fellows that commanded the attention of the instructor and they hogged it. I was sitting on the other side trying to work out what button next to press. I could type it out all right. I could do what I wanted to do there, but I was completely confused about moving the jolly thing around (the mouse). There are computers at the library, but there is no one there to train you as they are there for people who want fast Internet. If you go down to my desk, you will find a pile that high of how to use a computer.

However, I cannot read and define instructions easily. I never have. What I need is a routine from A to B to C to D. That would be the basic principles involved. I could master that. If I wanted to know the basics the ideal help would be for our daughter Annabelle to come here for a week. One-to-one.

Internet and daily life: I was on the phone last night to Qantas and instead of replying to me by voice, go on to dot dot dot and so and so. That is infuriating and frustrating because society expects you to be able to do this. I am deprived of information. I just want to fly on an aeroplane, go from A to B, on Qantas. So I turned to the railway to go by train, same thing, a disembodied voice on the phone, automatic voice, and press a button if you want to do something. To give you the answer go to www dot. For modern society to have to become dependent on that is quite irresponsible. Patricia noted: It is possible to speak to Qantas and they are most helpful and mail tickets to us.

Final comments: Patricia made a final comment: One thing I must say though about U3A. I would like the Government to help finance U3A because it is a tremendous avenue for learning. The classes are so intellectually stimulating not only for people who have been students and have been educated but also for people who haven't had the opportunity. In our generation there are a lot of people who did not have an opportunity.

After receiving Brian's draft case study, Patricia wrote: I think Brian has decided finally that he does not need a computer. He does have a fax machine.

7. IMPACT OF THE INTERNET ON NON-USERS' DAILY LIFE

The purpose of this section is to address the following research question:

- Research Question 5: To what extent do non-users believe the 'Internet is complicating their daily life' and the 'Internet would improve their daily life'?

Almost half of the participants (or 48%) indicated they 'disagree' or 'highly disagree' with the statement, *Not using the Internet is complicating my daily life* (Figure 28). Responses by some participants indicating this view are as follows:

- *I read newspapers and listen to the radio. Even if I had the ability to understand "computer talk" life's too short to be stuck indoors in front of the screen.*
- *I would rather speak to people in person or by telephone. I find a lot of people who have computers spend large amounts of time in use and this is boring.*
- *I do not see why we should be "persuaded" or "pushed" into having to use a whole lot of technical equipment we can comfortably and happily avoid.*
- *I don't think not using the Internet is complicating my daily life at the moment but I can see that in the future this could happen as more and more day-to-day transactions are carried out online.*

Only 32 participants (or 22% of all participants) indicated they 'agree' or 'highly agree' with the statement, *Not using the Internet is complicating my daily life* (Figure 28). Responses by some participants indicating this view are as follows:

- *I feel isolated from family and friends by not being able to use and afford the Internet for mostly email and photos.*
- *There are times when you want to find out about a product or service and there is only a website no phone number.*
- *I was on the phone last night to Qantas and instead of replying to me by voice, go on to dot dot dot. That is infuriating and frustrating because society expects you to be able to do this. I am deprived of information. I just want to fly on an aeroplane, go from A to B, on Qantas. So I turned to the railway to go by train, same thing, a disembodied voice on the phone, automatic voice, and press a button if you want to do something. To give you the answer go to www dot. For modern society to have to become dependent on that is quite irresponsible.*
- *In the past six months it has become even more apparent that information is only being made available on the Internet – Government, banking, travel, radio, TV, cinemas, local activities, and a myriad of other products, prices etc. are only available online. I have Government and other brochures that only have a www reference, not even a phone number. Seniors not able to access the Internet are being discriminated against because they are being denied information that should be available to everyone.*
- *Most businesses will answer a query sent by email. Competitions want you to use the Internet.*
- *I feel life is passing me by and I'm missing out on things other people take for granted.*
- *The Internet has increasingly reduced information and material that used to be available as hard copy. This reliance on the Internet has been to hinder those without access to it e.g. pay television companies can only be contracted using www. They do not have phone numbers. Product materials are often online. Companies will often no longer communicate with you unless by email. Registration by such things as accommodation priority schemes require an email address to be accepted. The list is growing every day.*
- *I do a lot of voluntary work and miss out on emails sent by the organisation I work for and other relevant information and contacts. Also, my friends say they want to send me emails.*

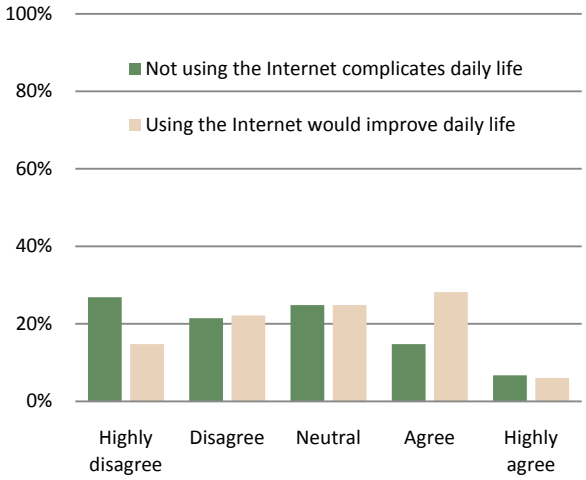

Figure 28: Impact of the Internet on participants' daily life (% of participants)

7. IMPACT OF THE INTERNET ON NON-USERS' DAILY LIFE

Responses to the statement, *Using the Internet would improve my daily life*, were mixed (Figure 28). Fifty-five (55) participants (or 37% of all participants) indicated they 'disagree' or 'highly disagree' with the statement (Figure 28). Responses by some participants indicating this view are as follows:

- *I like to have real friends in the real world who will visit me in my real home and eat my real lunch, and chat, laugh, drink wine. Don't need online friends.*
- *I do not want to have to pay for that every month when I would probably hardly use it. I don't have enough hours to want to sit in front of a machine, nor do I want to check it for messages. I feel sorry for people whose lives are controlled by these wretched machines.*
- *I use the phone. It's quick, simple and usually gets a response immediately. I have never sent an email but don't believe a reply could be quicker than speaking directly to someone.*
- *If I would/could make the time – too many other interesting activities e.g. Bridge, gardening, Probus membership, entertaining friends at our dinner table.*

Just over one third of participants (51 participants or 34% of all participants) indicated they 'agree' or 'highly agree' with the statement, *Using the Internet would improve my daily life*. Responses by some participants indicating this view are as follows:

- *I am a Reiki master. I would like to find others. I would like to find teachers in my area.*
- *There is everything I need in it. Advice on about everything.*
- *When I have time it would open up some opportunities to learn more about various factors of life. I live a fairly relaxed and happy lifestyle so I have never really thought I have been missing out on a great deal.*
- *Occasionally I think that if I had the Internet I could ask somebody, compare things with other people. I would like to be able to email people, get onto Skype and talk to people in various countries.*
- *There is a huge advantage in being competent with the computer and the Internet. For people who understand it well, the Internet provides them with wonderful contacts, which is very important for old people who are losing their contacts, friends are dying or are far away, the family is far away. If I didn't use the Internet it would be a problem to me because there would be a whole chunk of information I couldn't access.*
- *One wouldn't have to wait months, etc. As one does, for example when waiting for replies to letters.*

The analysis of data using the chi-square test for independence sought to identify associations between:

- participants' views about whether *Not using the Internet is complicating their daily life* and their awareness of, and interest in the Internet
- participants' views about whether *Not using the Internet is complicating their daily life* and selected demographic characteristics of participants
- participants' views about whether *Using the Internet would improve their daily life* and their awareness of, and interest in the Internet
- participants' views about whether *Using the Internet would improve their daily life* and selected demographic characteristics of participants

The Chi-square analysis did not find any associations between the two statements and participants' awareness of the Internet. Nor did not find any associations between the two statements and selected demographic characteristics of participants.

7. IMPACT OF THE INTERNET ON NON-USERS' DAILY LIFE

Participants' views about whether *Not using the Internet is complicating their daily life* is associated with their interest in the Internet, with participants who 'disagree/ highly disagree' with this statement most likely to indicate 'nil/low' interest in the Internet (42 out of 65 participants) (Table 13).

Table 13: 'Not using the Internet is complicating daily life' and interest in the Internet

	Nil/Low interest	Moderate/high/very high interest	Total
Disagree/ highly disagree	**42 (64.6%)**	29 (39.2%)	71
Neutral	15 (23.1%)	22 (29.7%)	37
Agree/highly agree	8 (12.3%)	23 (31.1%)	31
Total	65 (100%)	74 (100%)	139
Chi-square value: 10.424		**Significance (*p*):** .005	

Participants' views about whether *Using the Internet would improve their daily life* is also associated with their interest in the Internet, with participants who 'disagree/ highly disagree' with this statement most likely to indicate 'nil/low' interest in the Internet (47 out of 66 participants) (Table 14).

Table 14: 'Using the Internet would improve daily life' and interest in the Internet

	Nil/Low interest	Moderate/high/very high interest	Total
Disagree/ highly disagree	**47 (71.2%)**	7 (9.3%)	54
Neutral	13 (19.7%)	24 (32.0%)	37
Agree/highly agree	6 (9.1%)	44 (58.7%)	50
Total	66 (100%)	75 (100%)	141
Chi-square value: 61.456		**Significance (*p*):** .000	

Section summary

The purpose of this section was to determine whether not using the Internet was complicating the daily life of participants and whether using the Internet would improve the daily life of participants. The analysis of data found:

- almost half of the participants (48%) indicated not using the Internet was not complicating their daily life whereas 22% of participants indicated not using the Internet was complicating their daily life
- slightly more participants (37%) indicated using the Internet would not improve their daily life than participants who indicated it would improve their daily life (34%)
- participants views about whether not using the Internet is complicating their daily life and whether using it would improve their daily life are associated with their level of interest in the Internet i.e. many participants with 'nil/low' interest did not believe that not using the Internet was complicating their daily life and using it would improve their daily life.

Margaret Coote
St Lucia, Queensland

Background: Margaret was born and raised in Sydney. She moved to Brisbane with her late husband Alan soon after their first daughter was born in late 1966. They owned a real estate business before moving to Woodgate to run a general store. They worked up to 18 hours a day at the store during the summer period. During their time at Woodgate, they also completed a couple of land subdivisions. They returned to Brisbane so their eldest daughter could start high school in the city. Margaret has lived in St Lucia for the past 10 years.

Experience with computers and the Internet: I belong to U3A. It would have to be 15 years ago when we were attending classes out at the Mt Gravatt campus. Three of us from U3A and my husband would go out there once a week and attend classes. At that stage we didn't have a computer which was a bit silly when you are going to classes and not having something to practice on back at home. My husband eventually bought a computer. He was far better at using it than I was. We did have someone from BESOL coming out to our home - Brisbane Seniors Online through the Brisbane City Council. We didn't have to pay. They were wonderful people, very generous with their time but it was difficult when it was a two-to-one situation and we only had one computer. It really didn't work so I found myself sitting out here and watching television while Alan and the tutor were inside. Alan was more interested than me. At that stage I thought if he is that interested I don't need as much input into it as he does. I also didn't practice because of time constraints.

Awareness of the Internet: I notice an awful lot on what can be done on the Internet that I can't do. I am currently using the computer mainly for emails. I do Internet banking. Internet banking doesn't worry me. Sometimes I think maybe it should because it is not always suppose to be safe. I can also do Google searches. Alan used to keep his shares on it, and he put a lot of photos on the computer. Sometimes I sat beside him. I got frustrated at times because I couldn't follow what he was doing.

Interest in the Internet: I am sure if I had a better grasp of what the Internet can do I would use it more. It does still frighten me to an extent. I have surprised myself sometimes when I do things and it works out. I think the frustration of knowing how slow my computer is, and every so often I'd be half way through something and my screen would just go black and I don't know why that happens. It is basically learning what to do and not being scared of it if I mess something up. So it is just understanding what the computer can do. If you make a mistake, how to fix it. I keep getting these error notices up from Microsoft and people like that. I don't know what I have done to cause the problem. Getting this new computer is a big barrier at the moment because I do get quite frustrated with the one I have. What I need is a new plan and a new computer. I would be a lot more confident then.

Services/groups that help older people learn about the Internet: I have done some classes at U3A and Brisbane Seniors Online but it is very difficult to get into them. They are very popular. Even though I am one of the early members of U3A that doesn't give you any status in attending classes. The classes are advertised in their newsletter. They send out a newsletter four times a year. The people running the classes were very patient and very knowledgeable. I found it a good experience. There were about 10 people in each class which ran for two hours. We each had a computer and got notes. I learnt at the classes but coming home I didn't put what I learnt into practice. I have also been to a couple of classes at the Council library at Toowong and Indooroopilly. I haven't heard of Internet kiosks.

Internet and daily life: I am not sure if it would improve my life. However, I could get a lot more information. For example, there are certain programs on television and if you miss that program on that particular night, I don't know how to download it on the computer. Probably the thing to do is to practice.

8. INTERNET SUPPORT AND SERVICES

The purpose of this section is to address the following two research questions:

- Research Question 6: To what extent are non-users aware of Internet support and services that are available to them?
- Research Question 7: What support/services do non-users need to use the Internet?

Participants were asked to indicate their awareness of Broadband for Seniors Internet kiosks*; seniors computer clubs (which are members of the Australian Seniors Computer Clubs Association); University of the Third Age (U3A) classes; TADAustralia Connect (now known as ONEseniors~); and classes offered by their local TAFE institution, library and/or community centre. Figure 29 shows that:

- only 26 participants (or 17% of all participants) were aware of Internet kiosks
- only 36 participants (24%) were aware of seniors computer clubs
- only 16 participants (11%) were aware of TADAustralia Connect
- participants' awareness levels were significantly higher for local classes (62% of participants) and U3A classes (48% of participants).

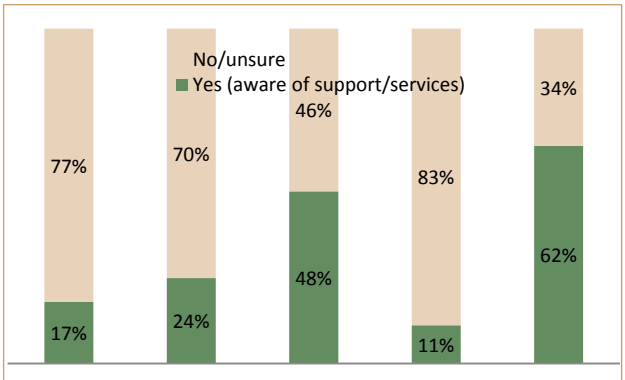

Figure 29: Participants' awareness of Internet support/services available to older Australians (% of participants)

As shown in Figure 30, 48 participants (or 32% of all participants) indicated participating in Internet classes; 81 participants (54%) indicated receiving help from other people to learn how to use the Internet; and 44 participants (30%) indicated reading books, articles and other resources on how to use the Internet.

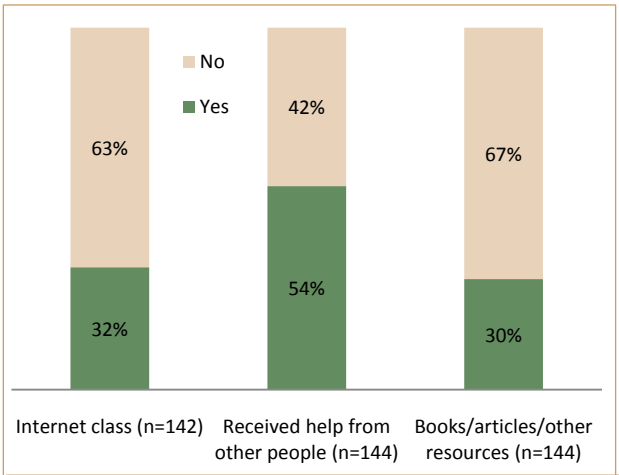

Figure 30: Participation in activities to develop Internet skills (% of participants)

For those participants who had attended Internet classes, received helped from others, and/or utilised resources, their views about the effectiveness of this support varied significantly (see Table 15 on the next page). For example, 20 of the 48 participants who attended Internet classes indicated the classes were 'ineffective' or 'highly ineffective' whereas another 16 participants indicated classes were 'effective' or 'highly effective'.

Responses by some participants who indicated classes were 'ineffective' or 'highly ineffective' are as follows:

- *Inadequate facilities at the time.*
- *Organisation was a major problem.*
- *Each course was so "minimal". To go on was too expensive for many.*
- *I have done some classes at U3A and Brisbane Seniors Online but it is very difficult to get into them. They are very popular. Even though I am one of the early members of U3A that doesn't give you any status in attending classes ... I learnt at the classes but coming home I didn't put what I learnt into practice.*

* The Australian Government has funded local community organisations to set up 2,000 Broadband for Seniors Internet kiosks around Australia to train older people how to use computers and the Internet. Organisations are provided with one-off support worth up to $10,000 per kiosk for desktop computers, a broadband Internet service, and training and workshops.

~ ONEseniors states it is the leading provider of affordable dial up, broadband and phone services for the over 55's.

8. INTERNET SUPPORT AND SERVICES

Table 13: Effectiveness of activities to develop Internet skills (no. and % of participants)

	Internet class	Received help from other people	Books/articles/other resources
Highly ineffective	11 (22.9%)	11 (13.6%)	0 (0.0%)
Ineffective	9 (18.8%)	11 (13.6%)	12 (27.3%)
Neutral	11 (22.9%)	18 (22.2%)	17 (38.6%)
Effective	15 (31.3%)	36 (44.4%)	8 (18.2%)
Highly effective	1 (2.1%)	5 (6.2%)	7 (15.9%)
Total	48	81	44

- *When I went to classes, there were people who didn't know anything. Even I knew more than they did. I got very frustrated as I wanted to do something but they were too busy with people who needed to know the very basics and needed more confidence. I rang up Brisbane Seniors Online about one-on-one help. They said we don't have anyone in your area and we can't get any more mentors. The Redland libraries did an IT expo earlier this year and they did heaps of classes at Cleveland, Victoria Point and Capalaba. I went to a few of those. I enjoyed them. They were only for a couple of hours, showing us things like Facebook, photo sites, books, and security. But there was no follow up.*

- *With no home computer and no one to help me at the library (they are too busy) I can't use the knowledge I learnt at TAFE. I have forgotten everything*

- *I went to three classes at U3A. On each occasion, I went there full of enthusiasm. It was a group of 12 of us and there were eight computers, two of which did not work. That was frustrating for a start. The second one I went to wasn't quite as difficult as the first one but I found there were two or three fellows that commanded the attention of the instructor and they hogged it.*

Responses by some participants who indicated classes were 'effective' or 'highly effective' are as follows:

- *A good computer teacher explaining the basic use of computer.*

- *The class I attended, one of the first offered by Monash City Council, was effective but I did not follow up with practice sessions to consolidate the learning.*

Participants were generally more satisfied with receiving help from other people, with half of all participants who received help (41 out of 81 participants) indicating it was 'effective' or 'highly effective'. Responses by some of these participants are as follows:

- *Family have found and booked flights and accommodation with the information I have given them.*

- *Explanation of sequence of steps in simple, written notes, on own computer in own home, has been most effective.*

- *Annette at the Catholic Presbytery taught me to send emails. She was wonderful and patient.*

Responses by some participants who indicated receiving help from other people was 'ineffective' or 'highly ineffective' are as follows:

- *Wife and daughter try to educate me but I'm not a very good listener.*

- *Although my niece would like me to be on the Internet she's a busy professional person and lives at a comparative distance from me although I'm sure she'd love to help. I don't want to ask for help.*

- *At times my husband says "you could do it yourself, just ...." What he says and does just does not get in my brain.*

- *My grandchildren move through directions very speedily – find it hard to take in – even notes don't seem to help.*

- *Most of my friends are old and pretty useless to be frank. My relatives live in other States.*

- *I felt threatened by their expertise and their inability to understand my lack of knowledge - "I'll do it, it will be quicker" is often heard.*
- *I need someone with me 100% of the time as the computer invariably goes blank when my "helper" walks away – it happens every time.*
- *Everyone is too fast or have no time.*

Responses by some participants who indicated books/articles/other resources were 'ineffective' or 'highly ineffective' are as follows:

- *Can't understand them. Like most manuals you need to know how to operate item first before reading them.*
- *Mostly they just overwhelm me and I finish pressing the wrong keys and messing things up.*
- *I could not find the answer to the question in the books.*
- *By the time a book is published the computers have moved on and the book is out of date. I bought a Microsoft book on Windows 7 ($40) – already outdated.*
- *Could not find answers to my questions, my logic and theirs don't meet, but there's also confusion because of references to things I know nothing about e.g. I'm using Vista and book refers back to XP.*
- *Can't understand books. I have very limited understanding of anything technical – health disability from the age of 7 years.*

One response by a participant who indicated books/articles/other resources were 'effective' or 'highly effective' is as follows:

- *Effective in basic points. Like going back to a time your computer worked OK.*

The analysis of data using the chi-square test for independence sought to identify associations between:

- participants' awareness of Internet support and services, and their level of Internet skills, awareness and interest
- participants' awareness of Internet support and services and the demographic characteristics of gender, age, and location (i.e. metropolitan/regional/remote/rural, level of disadvantage, State/territory).

The Chi-square analysis did not find any associations between awareness of Internet support and services and awareness of, and interest in the Internet.

The Chi-square analysis did not find any associations between awareness of Internet support and services and the demographic characteristics of age or location.

Participants' awareness of Internet kiosks is associated with their level of interest in the Internet, with those with a 'moderate/high/very high' interest in the Internet most likely to indicate they were not aware of Internet kiosks (65 out of 74 participants) (Table 16).

Table 16: Awareness of Internet kiosks and interest in Internet

	Nil/Low interest	Moderate/high/ very high interest	Total
Yes (aware)	17 (26.2%)	9 (12.2%)	26
No/unsure (not aware)	48 (73.8%)	**65 (87.8%)**	113
Total	65 (100%)	74 (100%)	139
Chi-square value: 4.455		**Significance (*p*):** .035	

Participants' awareness of seniors computer clubs is associated with their level of Internet skills, with those with 'very low Internet' skills most likely indicate they were not aware of these clubs (73 out of 92 participants) (Table 17).

Table 17: Awareness of seniors computer clubs and Internet skills

	Very low Internet skills	Low Internet skills	Total
Yes (aware)	19 (54.3%)	16 (45.7%)	35
No/unsure (not aware)	**73 (75.3%)**	24 (24.7%)	97
Total	92 (100%)	40 (100%)	132
Chi-square value: 5.356		**Significance (*p*):** .021	

Participants' awareness of U3A classes is associated with gender, with females (59.2% of female participants) more likely than males (31.7% of male participants) to indicate they were aware of U3A classes (Table 18).

Table 18: Awareness of U3A classes and gender

	Male	Female	Total
Yes (aware)	**13 (31.7%)**	**58 (59.2%)**	71
No/unsure (not aware)	28 (68.3%)	40 (40.8%)	68
Total	41 (100%)	98 (100%)	139
Chi-square value: 8.733		**Significance (*p*):** .003	

8. INTERNET SUPPORT AND SERVICES

Participants' awareness of local classes is associated with gender, with females (72% of female participants) more likely than males (50% of male participants) to indicate they were aware of local classes (Table 19).

Table 19: Awareness of local classes and gender

	Male	Female	Total
Yes (aware)	**21 (50.0%)**	**72 (72.0%)**	93
No/unsure (not aware)	21 (50.0%)	28 (28.0%)	49
Total	42 (100%)	100 (100%)	142
Chi-square value: 6.334		**Significance (*p*):** .012	

Many participants identified the type of support and services they need to help them use the Internet, which are grouped as one-on-one help, classes, equipment, a help line, and clear instructions.

One-on-one help

- *One-on-one instruction plus mentoring/cooperating with similarly inclined people who feel they are being forced to use computers against their wishes by advancing technology that does not want to take into account older people who don't like to change.*
- *Someone to explain the basics one to one using my computer then someone I can contact when I have a problem – a patient, long-suffering person who will try not to make me feel like an idiot.*
- *I would have someone come to my home or else just a couple of people, not a whole class, and actually show me the computer plus all the attachments etc. and explain it very slowly. Also where would I purchase a computer etc.*
- *I would wish to have someone who started me right from the beginning from a complete lack of knowledge to being able to understand the computer. My concern about classes is that they may be too advanced or not make it simple enough for an absolute beginner. I may be wrong in that. One feels as though they need a personal tutor, someone who is very patient to understand what it is like not to know anything about such a thing. Getting an older person to teach me is better as some of the younger ones may jump over things that you want to learn more about. I don't want to be the one in the group asking questions and feeling as though you are dumb. I'd need a computer, and someone to help me set it up, plug it in, begin training me either on my own or with a group of like-minded people.*
- *I'd love to learn and I'd love someone I could sit down with one on one – to learn what each programme does and have support when I get stuck, make a mess or just didn't know what the hell this means or what to do with it.*

Classes

- *I would go to those free Internet training centres at say, my local library, for training, preferably in a non-threatening, kindly, patient environment.*
- *Group meetings every week or so.*
- *I need more help – practise – more cheap classes need to be available within easy access from or at home.*
- *Adult education classes, case study active learning opportunities, advice on essential side issues such as Internet security, firewalls, pitfalls in "lay person" Internet use, and most of all, economic options that allow pensioners access to the Internet at good response rates. Public library facilities have dreadfully low Internet capability.*
- *The classes at the local library were terrific but they didn't go for very long. One term is nothing. Two days later, I have forgotten everything. They really need to keep doing it as I have a slower learning curve. I did learn how to find information but I would have to go through that again with someone. I need somebody to help me because things go bleep, I get stuck and I don't know what to do. Ideally, I would like a free computer from the Government and then a 100% help for a few weeks until I got used to using the Internet. I could never afford to buy one, let alone pay monthly fees.*
- *Instructors/teachers who understand people with slow learning skills.*
- *I have been to local classes and I have expressed interest in the next lot but transport could be a problem.*

Equipment

- *All equipment, including audio, tuition and backup support.*
- *Lower price and connection. I wish our village would get once and pay as you go.*
- *I am interested in learning. I would like a free computer to start with. I would need 100% help for a few weeks until I got used to using the net.*

8. INTERNET SUPPORT AND SERVICES

Help line

- *Phone connection with a help line to talk you through a problem you have at the time.*
- *I need a contact person who would show me how to get started, advise me on cost and choice of Internet companies, and be available (by phone, probably) when problems/questions arise. I have no understanding whatsoever of such things as gigabytes and broadband.*
- *I would have to have a full learning service as after turning on a computer I would not know what to do.*
- *A help line to answer problems when I'm actually using it and something goes wrong or I don't know what to do next.*

Clear instructions

- *I cannot read and define instructions easily. I never have. What I need is a routine from A to B to C to D. That would be the basic principles involved. I could master that.*
- *I would like a program that first of all approached the use of a computer from the most general of terms to give me an idea of the environment of a computer, and a general plan of how a computer functions.*
- *Information for oldies need to be carefully structured to suit brains with short term memory loss i.e. held in the morning, not complicated by difficulty getting there, and uses the same terms consistently.*
- *Every new computer program should be supplied with an operation system and a book that suits that machine and system. Should be legally compulsory. Windows series of Dummies is very well written – no buzz word. Guess what – it's on a waiting list at the library.*
- *I really need a program I can walk my way through and it has to have examples so I can pick up a little bit of information or repeat the sample or examples of it and then move onto the next. When that first piece is firmly fixed in my mind, I can then move onto the next piece.*
- *Instructions need to be simple, given slowly and the "helper" would need to be very patient.*

Section summary

The purpose of this section was to determine to what extent participants were aware of Internet support and services that are available to them as well as the types of support and services that would help them to learn the Internet. The analysis of data found:

- participants were least likely to indicate they were aware of Internet kiosks, seniors computer clubs and TAD Australia (now ONEseniors), and most likely to indicate they were aware of U3A classes and local classes
- those participants who participated in activities to develop their Internet skills were more likely to indicate receiving help from other people than attending Internet classes and reading books/ articles/other resources. Participants' views about the effectiveness of these services/support varied.
- participants' awareness of Internet kiosks is associated with their level of interest in the Internet i.e. those with a 'moderate/high/very high' interest in the Internet were most likely not to have heard of Internet kiosks
- participants' awareness of seniors computer clubs is associated with their level of Internet skills i.e. those with 'very low' Internet skills were most likely not to have heard of seniors computer clubs
- participants' awareness of U3A classes and local classes is associated with gender, with female participants more likely than male participants to indicate they were aware of these classes
- participants identified a range of support and services they need to help them use the Internet, grouped in this section as one-on-one help, classes, equipment, a help line, and clear instructions.

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APPENDIX 1. RESEARCH APPROACH

As stated in Section 1 Project Summary, the main purpose of this project was to explore what older Australians (aged 55 years and over) who never or rarely use the Internet (non-users) know about the types of online products and services available to them, and how they might use these products and services to improve their daily life. The project sought to:

- explore the extent to which non-users are aware of the types and benefits of online products and services, (such as e-shopping, e-banking, e-health, social networking, job search engines, and general browsing and research) as well as their interest in them
- identify how the Internet can improve the daily life of older Australians
- review the effectiveness of strategies and initiatives designed to educate and encourage older people to engage with the Internet
- recommend strategies that aim to raise non-user awareness of current and emerging online products and services, and provide non-users with the skills and knowledge needed to use those products and services that they believe can improve their daily life.

Achieving these project aims involved addressing the following research questions:

- Research Question 1: To what extent are non-users aware of what the Internet offers?
- Research Question 2: To what extent are non-users interested in using the Internet?
- Research Question 3: Do non-users find particular online products and services more useful than others?
- Research Question 4: What barriers are preventing non-users from using the Internet?
- Research Question 5: To what extent do non-users believe the 'Internet is complicating their daily life' and the 'Internet would improve their daily life'?
- Research Question 6: To what extent are non-users aware of Internet support and services that are available to them?
- Research Question 7: What support and services do non-users need to use the Internet?
- Research Question 8: Are there particular demographic features of non-users that influence the above? (addressed as part of Questions 1 to 7)

As shown in Figure 31, three main activities were completed prior to the write up of the draft and final reports:

- Development of a sampling strategy together survey design, testing, distribution and collection, followed by data analysis
- Interviews with members of National Seniors Australia to form six case studies
- A review of existing research focussing on levels of Internet participation by older Australians, barriers to Internet usage, benefits of the Internet to older people, and strategies and initiatives to engage older people with the Internet.

Key stakeholders received the draft report in June for comment. Stakeholders included Peter Matwijiw from National Seniors Productive Ageing Centre, Trevor Barr and Scott Ewing from Swinburne University of Technology, and four case study participants. The final report incorporating these comments was released in late June 2011.

Figure 31: Methodology by activity

APPENDIX 1. RESEARCH APPROACH

Older Australians and the Internet Survey

The recruitment process for the survey involved a small marketing campaign together with a mail-out by National Seniors Australia to its members based on a stratified sampling approach. This approach sought to attract a mix of participants by a) gender, b) age, and c) location. In terms of location, the project team was interested in attracting participants by:

- State and territory
- metropolitan, regional, rural, and remote areas, using the *Rural, Remote and Metropolitan Areas* (RRMA) classification
- level of advantage/disadvantage using the *Index of Relative Socio-economic Advantage and Disadvantage* (IRSAD).

The small marketing campaign consisted of a story about the project in National Seniors Australia's *50 something Magazine*, which generated around 100 telephone enquiries about the project. A database was then set up, and those people who expressed an interest in participating received the survey in the first mail-out round in March 2010. A reminder email was sent out six weeks later. In April 2010, National Seniors Australia distributed the survey to around 500 members living in different locations in Australia. In total, 178 completed surveys were received, however 29 surveys had to be discarded because participants indicated they had 'moderate' or 'high' Internet skills. This project was focussing on non-users i.e. older people who never or rarely use the Internet. As a result, the project team was left with 149 completed returns from non-users, which represents a response rate of around 25%.

The 106-item paper-based survey consisted of questions grouped into five categories:

- Current use of the Internet and other technologies
- Awareness of the Internet
- Usefulness of the Internet
- Support/services needed to use the Internet
- Demographic information

Five participants piloted the survey, which led to some changes before the survey was distributed widely.

A large number of participants were female, aged 65 years and above, living in metropolitan areas, and living in Queensland (Table 20). Possible reasons for these characteristics of participants are the member profile of National Seniors Australia, the project team being based in Queensland, and the likelihood that older females are less likely to use the Internet than older males. As well as the over-representation of survey participants with these characteristics, another limitation was the small sample size. The project team used frequencies and the chi-square test for independence to analyse the data as the small sample size restricted the use of more rigorous procedures.

Table 20: Survey returns by sampling criteria

Sampling criteria		Returns
Gender	Male	44
	Female	104
	Missing	1
Age	50-54 years	3
	55-59 years	17
	60-64 years	26
	65-74 years	59
	75 years & over	40
	Missing	4
State/territory	Victoria	16
	New South Wales	28
	Queensland	56
	South Australia	14
	Tasmania	8
	Western Australia	11
	Northern Territory	7
	Aust. Capital Territory	8
	Missing	1
RRMA	Metropolitan	76
	Regional	41
	Rural	26
	Remote	3
	Missing	3
IRSAD	800-899	14
	900-999	62
	1000-1199	62
	Missing	11
TOTAL		149

APPENDIX 1. RESEARCH APPROACH

Case studies

Six of the 77 members of National Seniors Australia who responded 'yes' to the question in the survey about their interest in participating in a case study were invited to participate in an interview. As the project was located in Brisbane, case study participants were from South-East Queensland and northern New South Wales. Therefore, the project used a purpose sampling approach to recruit these participants. The interviews with six members focussed on their background; experience with computers and the Internet; Awareness of, and interest in the Internet; impact of the Internet on their daily life; barriers preventing them from using the Internet; and support and services that help older people to learn about the Internet. Participants were asked the following questions:

1. Tell me about yourself? e.g. work history, life history, hobbies
2. What have been your experiences with computers and the Internet?
3. What do you think the Internet can do?
4. How interested are you in the Internet? If yes, why and what for? If no, why not?
5. Has not using the Internet (or using it in a limited way) created any difficulties for you? e.g. organisations referring you to the Internet for information.
6. Has anything prevented you from using the Internet? i.e. barriers
7. Do you know of any services/groups that help older people learn about the Internet?
8. If you do want to use the Internet, what would you need to help you?
9. Overall, do you think the Internet could improve the way you live from day to day? If yes, how?
10. Do you have any further comments or questions?

Prior to the interview, participants received a letter, consent form, and a template containing the above questions, which enabled them to think about their responses to the questions beforehand. The interviewer recorded the interviews and took photographs of the participants in their homes. Each participant received a draft version of his/her case study for comment, with four of the six participants sending back comments.

Existing research

The review of existing research focussed on sourcing literature, data and policies related to:

- older people's access to and use of the Internet
- barriers facing older people accessing the Internet
- the potential of the Internet to help older people
- strategies and initiatives to engage older people in the Internet.

Findings from the review of existing research are presented in Section 2 of this report.

The principal researcher for this project successfully applied to QUT's Creative Industry Faculty for funding from its *Vacation Researcher Experience Scheme* to recruit a Research Assistant (Siobhan Hegarty) to assist her with the review of existing research.

Queensland University of Technology

Older Australians and the Internet Survey 2010

NationalSeniors Productive Ageing Centre

Section 1: Current use of the Internet and other technologies

1. Your computer and Internet use

Options	No	Yes	Unsure
a. Have you ever used a computer?			
b. Have you ever used the Internet?			
c. Is there a computer in your home?			
d. Do you have a **dial-up** Internet connection at home?			
e. Do you have a **broadband** Internet connection at home?			
f. If currently employed, can you access the Internet at work? (ignore this question if you are not currently employed)			
g. Do you use any other technologies e.g. mobile phone, remote control, digital camera, video recorder, phone banking, answering machine, ATM, GPS, etc?			

2. How would you describe your skill level in using computers, the Internet, and other technologies?

Options	Very low	Low	Moderate	High	Very high
Computers					
The Internet					
Other technologies (like those above)					

Note: Please do not complete this survey if your Internet skills are moderate, high or very high.

3. Do the following barriers prevent you from using the Internet or improving your existing Internet skills?

Option	No	Yes	Unsure
a. Too expensive/cannot afford the fees & charges			
b. Don't know how to use the Internet/lack of skills			
c. Confused by the technology			
d. Fear			
e. No computer at home			
f. No Internet connection at home			
g. No support/help			
h. Rely on friends/family to use the Internet for me			
i. Lack of knowledge about what the Internet actually does			
j. No time/too busy			
k. Not interested/not useful			
l. Living in location where the Internet is difficult to connect			
m. Physical difficulties e.g. eyesight			
n. Poor customer service by Internet service providers, computer equipment stores, etc.			
o. Concerns about security and viruses			
p. Other. Please specify:			

Section 2: Awareness of the Internet

4. Did you know you can use the Internet for the following purposes?

	No	Yes	Unsure
a. Paying bills online			
b. Banking online			
c. Accessing your records from Centrelink, banks, insurance companies, super/investment funds, health care providers, etc.			
d. Investing in stocks, funds and bonds			
e. Finding information on health topics			
f. Accessing your medical records (will happen more in the future)			
g. Making bookings and appointments			
h. Selling, buying, and researching products and services			
i. Communicating with friends and family using email, Skype, MSN, Facebook, etc.			
j. Sharing information with people who have similar interests and hobbies			
k. Taking educational courses			
l. Finding out the latest news, sports and weather			
m. Playing games, and downloading movies and music			
n. Searching timetables/directories e.g. transport timetables, program/venue information, yellow/white pages, travel maps/directions			
o. Setting up your own profile to share your stories, views and photos with others			
p. Searching for jobs			
q. Making cheap phone calls			
r. General searching or browsing the Internet for topics of interest e.g. art, family history, geology			
s. Dating			
t. Other. Please specify:			

5. How would you rate your overall **awareness** of what the Internet offers?

Options	Nil	Low	Moderate	High	Very high
Tick correct box					

Section 3: Usefulness of the Internet

6. If you had access to a good Internet connection and a good understanding of how to use the Internet, would the following online products and services be **useful** to your daily life?

	No	Yes	Unsure
a. Paying bills online			
b. Banking online			
c. Accessing your records from Centrelink, banks, insurance companies, super/investment funds, health care providers, etc.			
d. Investing in stocks, funds and bonds			
e. Finding information on health topics			
f. Accessing your medical records (will happen more in the future)			
g. Making bookings and appointments			
h. Selling, buying, and researching products and services			

Question 6 (continued). If you had access to a good Internet connection and a good understanding of how to use the Internet, would the following online products and services be **useful** to your daily life?

	No	Yes	Unsure
a. Communicating with friends and family using email, Skype, MSN, Facebook, etc.			
b. Sharing information with people who have similar interests and hobbies			
c. Taking educational courses			
d. Finding out the latest news, sports and weather			
e. Playing games, and downloading movies and music			
f. Searching timetables/directories e.g. transport timetables, program/venue information, yellow/white pages, travel maps/directions			
g. Setting up your own profile to share your stories, views and photos with others			
h. Searching for jobs			
i. Making cheap phone calls			
j. General searching or browsing the Internet for topics of interest e.g. art, family history, geology			
k. Dating			
l. Other. Please specify:			

1. How would you rate your overall **interest** in using the Internet?

Options	Nil	Low	Moderate	High	Very high
Tick correct box					

8a. To what extent do you agree/disagree with this statement?

	Highly disagree	Disagree	Neutral	Agree	Highly agree
Not using the Internet is complicating my daily life.					

8b. You may want to explain your response to the above question:

9a. To what extent do you agree/disagree with this statement?

	Highly disagree	Disagree	Neutral	Agree	Highly agree
Using the Internet would improve my daily life?					

9b. You may want to explain your response to the above question:

Section 4: Support/services needed to use the Internet

10. Are you aware of the following support/services available to older people who want to use the Internet?

Options	No	Yes	Unsure
Broadband for Seniors Internet kiosks			
Seniors computer clubs which are members of the Australian Seniors Computer Clubs Association (ASCCA)			
University of the Third Age (U3A) classes			
TADAust Connect			
Classes offered by your local TAFE institution, library, community centre, etc.			
Other. Please specify:			

11a. Have you ever undertaken any Internet classes?

Options	No	Yes	Unsure
Tick correct box			

If YES to Question 11a:

11b. How effective were these classes?

	Highly ineffective	Ineffective	Neutral	Effective	Highly effective
Tick correct box					

11c. You may want to explain your response to the above question:

12a. Have you ever received help from other people to use the Internet? e.g. family and friends

Options	No	Yes	Unsure
Tick correct box			

If YES to Question 12a:

12b. How effective was this help?

	Highly ineffective	Ineffective	Neutral	Effective	Highly effective
Tick correct box					

12c. You may want to explain your response to the above question:

_____

_____

_____

13a. Have you ever read any books/articles/other resources on how to use the Internet?

Options	No	Yes	Unsure
Tick correct box			

If YES to Question 13a:

13b. How effective were these books/articles/other resources?

	Highly ineffective	Ineffective	Neutral	Effective	Highly effective
Tick correct box					

13c. You may want to explain your response to the above question:

_____

_____

_____

14. If you are interested in learning how to use the Internet, what kind of support/services do you need?

_____

_____

_____

_____

_____

_____

Section 5: Demographic information

15. Gender

Options	Female	Male
Tick correct box		

16. What is your postcode?

Options	
Enter postcode	

17. How would you describe your location?

Options	Tick correct box
Metropolitan	
Regional	
Rural	
Remote	

18. What is your country of birth?

Options	Tick correct box
Australia	
Other. Please specify:	

19. How old are you?

Options	Tick correct box
50-54 years	
55-59 years	
60-64 years	
65-74 years	
75 years & over	

20. What is your marital status?

Options	Tick correct box
Single	
Married/De facto	
Divorced	
Widowed	
Other. Please specify:	

21. What is the highest qualification you have completed?

Options	Tick correct box
Primary	
Lower secondary e.g. Years 8, 9 or 10	
Upper secondary e.g. Years 11 or12	
Technical and further education (e.g. Certificate/Diploma)	
Higher education (e.g. Bachelor degree, Masters degree)	
Other. Please specify:	

22. What is your current status in workforce?

Options	Tick correct box
Working full-time	
Unemployed	
Semi-retired (working part-time)	
Retired (not in paid work)	
Other. Please specify:	

23. If you have retired from paid work, what year did you leave the workforce?

Actual year (e.g., 2004)	

24. What was your main previous (or current) occupation?

Option	Tick correct box
Manager, administrator, professional, or associate professional	
Clerical, sales or service worker	
Tradesperson or related worker	
Production, transport, labourer, or related worker	
Homemaker	
Other. Please specify:	

25. Do you have children and grandchildren?

Options	No	Yes
Children		
Grandchildren		

26. What is your current income per year?

Options	Tick correct box
< $20,000	
$20,000-$29,999	
$30,000-$49,999	
$50,000-$69,999	
$70,000-$99,999	
≥ $100,000	
Prefer not to say	
Unsure	

27. What is your main source of income?

Options	Tick correct box
Government age pension	
Other Government support payment/pension	
Superannuation	
Other retirement savings or investments	
Salary or wages	
Other. Please specify:	

Do you have any other comments?

29. Final questions

Options	No	Yes
a. Would you like to receive a report containing key findings in June/July 2010?		
b. Can researchers acknowledge your contribution to the project in the final report?		
c. Can researchers use your name and town/city if they quote you in the final report?		
d. Would you be interested in participating in a case study?		

Please enter your name and address below if you indicated YES to Questions 29a, 29b, 29c, or 29d.

Name: _____ Telephone: _____

Address: _____

Town/city: _____ State: _____ Postcode: _____

Thank you for your participation.

APPENDIX 3: PROJECT PARTNERS

ARC Centre of Excellence for Creative Industries and Innovation (CCI)

CCI was established in 2005 to focus research and development on the contribution that the creative industries and their contributing disciplines can make to a more dynamic and inclusive innovation system. Queensland University of Technology in Brisbane is the administering institution and core collaborating partners are Swinburne University of Technology, Australasian CRC for Interaction Design, Australian Film Television and Radio School, Edith Cowan University, University of Wollongong, and The University of New South Wales. Funded by the Australian Research Council from 2005 to 2013, CCi is acknowledged as a global leader in this emerging field. It is a broadly-based, cross-disciplinary, internationally focused Centre embracing both fundamental theoretical and highly applied research in media, cultural and communication studies, law, education, economics and business and information technology, addressing key problems and opportunities arising for Australia, the Asian region, and for the wider world, from innovation in both the creative economy and the broader service economy. It addresses the nature of the field as rapidly-moving and internationally-focused, with extensive research links and international nodes established or planned in Britain, Singapore and China. The Centre plays a significant role in theoretical and strategic debates with academic, policy, and industry interlocutors, as well as working extensively on new empirical and technical methodologies, including, for example, the creation of new statistical approaches to measuring the creative economy, new software solutions for creative enterprise, and ethnographic action research.

Queensland University of Technology (QUT)

QUT is a highly successful Australian university with an applied emphasis in courses and research. Based in Brisbane with a global outlook, it has 40,000 students, including 6,000 from overseas. Courses are in high demand and its graduate employment rate is well above the national average for Australian universities. QUT has one of Australia's fastest growing research profiles, and aims to become research-intensive in selected areas of strength and priority. QUT has national leaders in a number of fields. Research is characterised by quality, relevance and partnerships. The university's focus is to undertake high-impact research that is both of the highest academic quality and also aimed at making a real and practical difference to the world around us.

auDA Foundation

The auDA Foundation is a charitable trust established to promote and encourage educational and research activities that will enhance the utility of the Internet for the benefit of the Australian community. The general objectives of the Foundation are to promote and encourage education and research activities that will enhance the utility of the Internet for the benefit of the Australian community, including:

- the provision of open scholarships and prize funds to encourage and reward academic and applied excellence
- the funding of pure and applied research including academic positions and the publication of results for the benefit of the Australian community
- the funding of community demonstration projects and the publication of results for the benefit of the Australian community
- the funding of public education and awareness initiatives through all relevant mediums and institutions.

The trust was established by .au Domain Administration (auDA) in 2005 and the Board of Directors of the auDA Foundation. If an Internet address has .au at the end of it, it is registered in Australia and a part of the .au domain space which is regulated by auDA. auDA is the government endorsed policy authority and industry self-regulatory body that manages the .au domain space by performing the following functions: develop and implement domain name policy, license 2LD registry operators, accredit and license registrars; implement consumer safeguards, facilitate the .au Dispute Resolution Policy, and represent .au at ICANN and other international fora.

National Seniors Productive Ageing Centre

National Seniors Australia (NSA), formed in 1976, is the only strong, independent voice for people aged 50 years and over in Australia. With a membership of over 280,000, it aims to ensure that concerns of older people are heard and acted on by decision makers across government and business. It established the National Seniors Productive Ageing Centre (NSPAC) to advance knowledge and understanding into all aspects of productive ageing to improve the quality of life of people aged 50 and over. Based in Canberra, NSPAC is co-funded by NSA and the Department of Health and Ageing. NSPAC undertakes consumer-oriented research into productive ageing, and provide education about all aspects of productive ageing through promotion and information. Specifically, the work of NSPAC focuses on developing and disseminating quality research informed by the lived experience of people aged 50 years and over. Key objectives are to:

- support quality consumer oriented research informed by the lived experience of people aged 50 years and over
- inform Government and the community on productive ageing across the life course
- raise awareness of research findings which would be of use to individuals
- become a leading centre for research, education and information about productive ageing in Australia.

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