WiredCommunity@Collingwood Final Evaluation Report

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Table of Contents

Executive Summary

There is increasing evidence that the lack of access to information and communication technology (ICT) or the 'digital divide' severely limits education, employment and economic prospects. The Wired Community@Collingwood project is based in one of the Victorian Government Neighbourhood renewal communities on the Collingwood Housing Estate. The estate is a public housing estate located around three kilometers from the Central Business District of Melbourne and provides low cost housing to people with a low socio-economic profile and recent migrants and refugees. Infoxchange, a not-for-profit community ICT provider with a mission that clearly states the direction of the organisation as establishing technology for social justice, led the partnership based on the success of a similar strategy at Atherton Gardens. The Wired Community@Collingwood project aims to provide communication, learning and employment opportunities through ICT to all Collingwood estate residents across approximately 950 dwellings.

The $3.6 million Wired Community@Collingwood initiative is the largest project of its kind in Australia and includes $1.9 million funding from the Victorian Government and $1.7 million from in-kind and philanthropic contributions. The network is part of 'whole of community' community building and economic development project utilising ICT as a tool to provide equal access for all residents to local community and worldwide communications, alongside education, skills development, improved health and well-being, better access to health and community services and employment opportunities.

This report is the final of a two year evaluation of the project that focussed on the impact of the project on residents and the efficacy of the Wired Community@Collingwood project in forming the basis of a sustainable social enterprise.

Contextualising the Digital Divide

A snapshot of literature was reviewed for the purpose of developing the evaluation tools but also to locate this project within the global discussion on the digital divide. Servon outlines that, even in a developed country such as Australia, a deep divides remain between those who possess the resources, education and skills to reap the benefits of the information society and those who do not. Persistent gaps remain between different racial and ethnic groups, people with and without disabilities, single and dual parent families, the old and the young, and people with different levels of income and education. Low-income persons and minorities, particularly when they reside in inner cities, are among the groups being left behind (Servon, 2002).

Servon is supported by other literature from around the globe which also considers the efficacy of technology programs in communities. In particular, the literature points to the impact that digital connection can have on communities that are faced with seemingly insurmountable social and economic barriers. What is notable is that the literature acknowledges the existence of the digital divide whilst discussing the availability of ICT to all individuals in communities within a cost–benefit framework. This includes the benefits to the broader community for implementing the social good that is access to information and online services. A common theme is the need to localise approaches and for the solutions to be driven by a place-based approach. Gaved et al, 2010, suggests that approaches to overcome the digital divide should consider the significance and possible benefits of taking a locality-based approach. Communities of locality—communities of individuals residing within

geographical proximity and connected by an existing network of social relationships—may provide one of the most effective methods of ensuring meaningful and sustained usage of the Internet.

Evaluation Profile and Method

The prime purpose of the evaluation is to understand how individuals and the community at the Collingwood estate use ICT technologies and the impact it has on their lives in the areas of; education and training; community and culture; support and development of citizenship and democracy; health and well-being; economic equity, opportunity and sustainability; and information and communication. The research was underpinned by a participatory action research methodology in an aim to facilitate a transfer of skills and knowledge to the Wired Community@Collingwood project group.

This meant that the research team spent time on the estate building relationships to support a greater participation in the evaluation and its subsequent project lessons. It takes time to build relationships, time in the training rooms, time attending community events, time sitting and talking to people, time solving their ICT problems along side of them, time attending social groupings on the estate, time eating lunch with residents and time with children and parents.

A multi-method approach was implemented including:

- Qualitative Analysis: incorporating both interviews and focus group sessions with residents and key stakeholders
- A survey of residents at two points (2009 and 2010) provides two separate snapshots of resident access, usage and impact. The surveys included qualitative and quantitative dimension including; perceptions of self/community, citizenship, engagement, well-being and changes in skill, education, employment and unintended outcomes.
- Document analysis: implementation plans, progress reports and minutes of key program provider and related committees
- Quantitative data analysis: a range of socio-economic data provided by a range of service providers and other key government stakeholders

Ensuring Cultural Diversity.

For both the case studies and the survey collection it was decided that a more focussed strategy using culturally appropriate research assistants may be more successful in gathering information. On that basis three residents from the estate were employed that spoke the most dominant community languages, being Mandarin, Vietnamese and Arabic were employed to assist with this evaluation.

The Implementation of the Wired Community@Collingwood project

The project has engaged approximately 45% of residents throughout the implementation and establishment phase of this project. The fact that engagement is varied makes it more difficult to be exact. Some residents, who were a part of the project at the outset, undertook

training and got connected to the internet and have since changed their internet service provider (ISP) to connect to a commercial provider. A successful project outcome and evidence of an established commitment to maintaining their internet connection is the evidence that residents are privileging these monies for their internet subscription, the cost of which represents a significant percentage of their personal discretionary income.

Delivering a Project with a Community Development Framework of Practice

The importance of developing a project implementation plan that is underpinned by community development principles was pivotal to this project and essential when working in this community. Infoxchange had established a partnership with the Victorian Government Office for Housing in the Department of Human Services and Neighbourhood Renewal in the same department as well as the (then) Department of Planning and Community Development securing capital funds to complement the extended in-kind support they had gained from Telstra, Microsoft, National Australia Bank, ANZ, local residents and the Yarra City Council. Developing partners in this project was essential, not the least of which was required to ensure the funding. However, it was a project that Infoxchange understood would require a community development approach in the estate itself.

The project engagement strategies were customised for a diverse community facing numerous social and economic challenges. To support this advocacy Infoxchange have put into practice two key consultative forums to support the project implementation. The first is a resident committee of ICT users. A network of users who have met monthly during the second phase of the project to exchange information, consider new ideas and generally provide feedback to Infoxchange. The building of capacity has made this project far more robust. The resident group is the same model that Infoxchange has utilised to establish a community agency user network; the second key forum to support project implementation in 2010.

Infoxchange have encountered significant barriers to advancing the project as detailed at length in the implementation section of the report. An unfortunate legacy of this is that the project cannot afford to maintain a greater staff presence in the next phase of the project. The Wired Community@Collingwood project requires a critical mass of resident internet subscribers to generate the income necessary to support the staffing levels observed during the implementation phase. The Wired Office that will accommodate project support staff in 2011 and beyond will be limited to the existing technology support person (help-desk) and resident volunteers.

Partnering with Government

The nature of the contract between the infrastructure providers, Infoxchange and the Cabling contractor and Government are discussed at length in this section. It is a seemingly intractable problem facing community programs. On the one hand success would be optimised by a partnership that limited the number of contracts. On the other hand Government requires accountability for the delivery of public services using public funds. Both positions are credible, however, the result impacted on project implementation and the achievement of intended project outcomes.

Given the challenges of engaging residents, and the level of financial investment it seemed that the most benefit would be derived if both Government and non-government services

and those involved in project governance saw their role as project facilitators in partnership with Infoxchange. The discussion in this section canvasses both the barriers and the possible solutions.   However, the research is clear in its assertion that this project needed a partnership approach. A partnership approach may have encouraged greater collaboration, a shared understanding of project objectives and more timely and creative responsive to project challenges. This was particularly important for the two key project contractors but also for other service provides located on the estate.

Nowhere was this issue more apparent than in the ongoing difficulties that the project faced with service reliability and the speed at which the internet operated. This was partly the responsibility of the wiring contractor and resolution was always difficult and time consuming, often leaving residents with no internet for several days at a time. The process of accountability in this case highlights one aspect of the program governance challenges. However, the other, which not only highlights governance but focuses on the issue of partners, draws attention to the ability of Infoxchange to buy bandwidth. It is the amount of bandwidth that dictates the speed of internet delivery. As a community provider Infoxchange had found it difficult to get the major telecommunications provider to respond in a timely manner to sell and deliver the required bandwidth.

The reliability of the income stream from users affected the ability of Infoxchange to make upgrades to the system affordable, nevertheless, it is a further example of the benefits and in this case the leverage that Government in partnership with Infoxchange may have brought to the purchasing power of the community provider.

Case Study Data

This section of the report reports on the qualitative data collected through interviews and focus groups to examine the impact of the Wired Community@Collingwood project. This data, collected from residents and project stakeholders has provided a rich source of examples and stories of how access to ICT was impacting on daily lives.

Technology, according to residents has made a difference to the lives of residents. Increasingly it is an accepted part of job search techniques, employment, and educational success and more and more it is also a personal information tool. If you are isolated, suffer poor health, or do not speak English, then the internet can improve your ability to communicate with family and friends, feel connected to your community and improve your health and well-being. In particular it was the discussion with residents about an improvement to their health and well-being that was a little surprising, foremost for the fact that participants themselves made the connection.

It was very common for people to discuss their connection to the world, this was largely through email, being able to read the news and use social networking sites. For participants who are culturally and linguistically diverse (CALD) email and a site like Facebook became their connection to home.

Education and training was limited to a minority of residents who were actively looking for work. For these residents the availability of ICT in their homes was critical to employment search and as a resource to support education and training.

Social Enterprise Employment Model

The Wired Office is the base for the estate-based Social Enterprise, established to delivery social outcomes by utilising income generated from ISP subscriptions. An "employment model" of social enterprise has been established and provides direct employment (full-time, part-time and casual) and volunteering opportunities for housing estate residents. The social enterprise has been successful in employing residents in a range of positions including administration, help-desk technicians and several casual positions over the life of the project. Residents have also volunteered in a range of roles including updating intranet content, administration and assisting with the promotion of the project to fellow residents. Resident staff became well known to other residents and provided a familiar local face that provided real-time troubleshooting, training and other support to residents.

Strong partnerships are critical to effective social enterprises and, as detailed in the review of program implementation, the lacklustre engagement by several stakeholders was identified as an impediments to its effectiveness, including associated activities such as the intranet as a potential source of rich information and service access for residents.

Resident Survey

This section of the report focuses on computer and internet access, ISP quality and satisfaction, usage patterns and changes in resident behaviour and capability. The analysis enables an exploration of the impact and benefits that internet access has provided for residents.

Around 54% of resident respondents to the 2009 survey were using computers for the first time as part of the project. This is a significant outcome in bridging the digital divide considering that around 80% of Australians were using the internet in 2009. Internet access is only one dimension of access. Other important elements include affordability and quality of service. The project has been very successful in substantially increasing internet penetration rates on the estate via the provision of a low-cost service. Around 60% of residents subscribed to the Infoxchange service.

The internet service was however marred by resident dissatisfaction with the reliability of the service. This was an ongoing problem that reflected both infrastructure and bandwidth challenges. While 43% of respondents indicated they were dissatisfied with the service, around 42% and 36% of respondents in 2009 and 2010 respectively are satisfied with the reliability of the service. This was consistent with the 44% of respondents in 2010 that reported they have never or seldom had drop-outs or slow speeds. Further analysis revealed a strong association between subscription level (fee) and reliability of service. Thus while there is an association between service provider and service reliability, there is also a direct relationship between the monthly subscription fee and slow-speeds or drop-outs ("connection reliability"). The majority of Infoxchange customers are on low-price packages which typically have slower speeds and download allowance.

Further evidence of the effectiveness of the social enterprise employment model is that around 60% of residents report they are satisfied with the prompt and helpful assistance provided by staff at the help-desk. The overall satisfaction with the service is further evidenced by the 60.3% of residents that believe the Infoxchange internet service provides value for money. The estate-based ISP clearly impacts the quality of customer service with

around 8 in 10 Infoxchange customers rating it as excellent or good (47.6% and 31% respectively). Notably, Infoxchange accounts for 83.3% of residents that rate their ISP customer service as excellent. The Chi-Square test for statistical significance reveals that the two variables – ISP and customer service are related at the 0.1% level of significance ($p<0.001$) confirming the strength of the relationship between ISP and customer service.

Intensity of use is an indicator of e-inclusion and can be measured by the percentage of individuals who access the internet every day (or nearly every day) or every week (Bentivegna and Guerrieri, 2010). Survey results reveal the following intensity of usage patterns across several activities:

- Access to news and current affairs is the most frequent daily activity with 29.3% of residents reading or listening to online news "daily or almost every day", with a further 18.3% accessing news on a weekly basis (around 5 in 10 overall).
- Using email is the next most frequent use of the internet with 25.3% of residents using email daily, with a further 20.5% using email every week.
- 19% use social networking media (Facebook, Skype, Myspace etc.) as another form of communication each day, with a further 14% using social media each week.
- Study or research is the next most significant activity with around 18% and 12% using the internet for this purpose on a daily and weekly basis respectively.
- Using the internet for entertainment is the next most frequent activity for 16.1% of residents, with a further 23.9% using it for entertainment on a weekly basis.
- Around 7 in 10 residents (67%) were not using the internet to access information about services such as health and housing, representing a significant missed opportunity for service providers, particularly those operating on or around the estate to better engage and support residents.
- Given the number of first time users in the survey it is not surprising that online banking, shopping and bill payment are the least frequent uses for the internet with around 80% to 85% of residents never using the internet for these purposes.
- 50% of those unemployed used the internet for employment search, with 37.5% of those looking for work online on a weekly basis.
- Even those who were employed were using the internet for employment search, with almost 70% of those employed on a part-time basis using the internet to look for jobs.

Of particular interest is the impact of this ICT initiative on resident behaviour and capability. Residents were presented with a series of capability statements and asked to indicate the extent to which access to ICT had impacted on these. The results are summarised as follows:

- Around 50% of respondents to the 2009 and 2010 surveys report a significant (19.8%) or moderate (30.5%) change in their ability to stay in touch with friends and family.
- Around 42% of residents report a significant (16.5%) or moderate (25.6%) change in their ability to learn new things.
- Consistent with the data presented earlier on the use of the internet for employment search, around 40% report a significant (15.1%) or moderate (24.5%) change in their ability to search for employment.
- Around 40% report a significant or moderate change in their ability to pursue their hobbies and interests.
- The provision of ICT access has had a moderate or significant impact on residents' ability to do their job (32.8%) and on their ability to share ideas and creations with others (36.4%).

- Consistent with internet usage patterns noted above, around 53% indicate that there has been no change on the way in which they access health and other services. A relatively small 19% or 2 in 10 residents report a significant or moderate impact on services access.
- Around 6 in 10 residents report some improvement in their sense of well-being attributable to the provision of ICT with 7.3% and 29.4% reporting significant and moderate change respectively.
- A similar proportion (6 in 10) residents report a change in their access to news and information with 8.1% and 37.8% reporting a significant and moderate change respectively.
- A relatively small but notable proportion of residents (13.5%) report a significant or moderate change in their sense of community at the housing estate.

Recommendations

It is recommended:

1. The digital divide Connecting Communities program framework that focuses on the most disadvantaged of our community should be applauded for the progress it has made and should be extended to other communities, in particular to public housing estates. The Victorian Government Connecting Communities strategy (Multimedia Victoria 2001) is now inextricably connected to the broader social goal of building social capital and a socially inclusive society.

2. Future project implementation plans for digital inclusion projects such as Wired should be required to outline their own place-based project strategy and how they will establish a partnership with residents and local service providers.

3. Project communication strategies such as resident reference groups and community organisation networks should be required of all future projects to ensure that the residents and the local service providers that will be using the internet and intranet service are partners in the implementation strategy.

4. Residents are employed as a part of the implementation strategy wherever possible but in particular those aspects of the implementation that are responsible for connecting project to residents. The project office, as the first point of contact with residents, will be most successful where it reflects the resident demographic both in culture and language.

5. This project required a governance structure that reflected its community development framework of delivery. Government needed to partner a single provider. In essence one provider for all elements of the project - the wiring, delivery of computers, training and internet - would have consolidated the delivery and project implementation.

The provision of resources to support an estate-based community of practice model to assist program sustainability

Conclusions

What is evident from this evaluation is how the Wired Community@Collingwood project has benefited residents and the significant impact of these benefits for many residents. It may be Jack talking about getting new recipes from the internet or buying DVD's from Ebay, Anita articulating how important the internet was to her recovery from cancer or Joan speaking about her passion for the Chinese opera and how happy she is that she can now stream the opera to her flat in Collingwood. However individuals interpreted their needs and their community they were able to identify how the internet had made a difference to their lives by improving their connection to these things. Being on the wrong side of the digital divide in the twenty first century disconnects you from a part of a world that many take for granted. At Collingwood these participants are making those connections on a daily basis and are excited about the new possibilities of being a part of the available technology.

One of the key learning's for this project is the importance of partnership, collaboration and organisational management.   Where there has been an absence of these elements they have been identified as barriers to the projects successful implementation.   To support change in communities that are faced with long term disadvantage it will require Government to consider how they do business.

The project required greater support on the operational issues of hardware and also from the community organisations on the estate. The project required each to be a partner and for Government to lead that partnership as opposed to managing the contracts. It is acknowledge that it is a difficult tension given the accountability requirements of allocating public funds. Nevertheless, large public investments require Government to invest more than their funds, it also needs their expertise, their advocacy and where necessary their political leverage.

Contributing to the sustainability of this project is still possible if the support to the Communities of Practice and resident groups is provided. It is acknowledgement that long term change requires a series of stages to be successful. Given the complex social and political dynamics on the estate, the three year implementation plan developed by Infoxchange was ambitious and was hampered even more so by the problems with connectivity, wiring, the purchase of bandwidth and the poor relationships between contractors involved in the projects' implementation.   Though the main obstacle, as identified, is the lack of collaboration and partnership that was evident with the stakeholders of this project funds to support the ongoing community development activities and further build the capacity of the fledgling networks would assist the sustainability of the project. Further funds that complement the community development role of the project will enable the project to continue to engage local services and residents.

Introduction

There is increasing evidence that the lack of access to information and communication technology (ICT) or the 'digital divide' severely limits education, employment and economic prospects. An individual's ability to use and access computers and the internet is vital to schooling and education generally, to participate effectively in the economy, and in many cases, to access everyday services. Research demonstrates that people on low incomes, without tertiary education, living in rural/remote areas, of Indigenous heritage, with disabilities, with a language background other than English and aged over 55 can lack opportunities to access the internet. This lack of ICT access adds to the burden of difficulties besetting those groups and compounds disadvantage.

The Victorian Government, through their own work, recognised that although the level of computer usage and Internet uptake has increased significantly in the last five years, there are still people and places that are being left behind, creating a 'digital divide'. The Connecting Communities: the second wave (CC: the 2nd wave) program framework aims to ensure an acceptable level of Internet access and training is available to all people on an equitable basis (Multimedia Victoria, 2001). This work identified the groups who are missing out on access to the internet: including people with a disability, older Victorians, unemployed people and people from a Culturally and Linguistically Diverse (CALD) background. Statistics on internet usage confirms that although there has been an extraordinary growth in internet access, there remain groups and places that have significantly lower rates of computer and internet access. This project, alongside other work, has formed the basis of a community driven strategy to change access to information for some of the most disadvantaged members of our society.

The Wired Community@Collingwood project is based in one of the Victorian Government Neighbourhood renewal communities and aims to provide communication, learning and employment opportunities through ICT to all Collingwood estate residents across approximately 950 dwellings. The project will also create a social enterprise at the Collingwood housing estate. The project has involved the installation of a network-ready computer in each apartment at no cost to the resident, the establishment of a communications network within the buildings and across the estate, an ICT training hub, an estate-wide intranet, email and affordable internet access for residents.

An understanding of the history of the project is important as it will illuminate various challenges that the project faced in its implementation; discussed later in this report as well as provide a context for the project implementation. An excerpt from the report evaluating the Atherton Gardens estate ICT project (a predecessor to Collingwood) by Swinburne University in 2005 identifies the Infoxchange vision that led the implementation of that project (and as they outline a vision that aimed for a similar project on all public housing estates) combined with the funding challenges faced by Infoxchange. It provides an important context for this project and the partnerships that were beginning to be formed.

> *The Atherton Gardens estate e-ACE project has grown out of work undertaken by Infoxchange. Infoxchange developed its digital divide strategy during the latter half of the 1990s. In 1998 and 1999 Infoxchange developed the plan to give all residents of the Atherton Gardens public housing estate free reconditioned computers, software, training and network access. At the time*

the plan was conceived, the Office of Housing (the state government housing department) was considering trialling a concierge project, in which all tenants would be able to communicate electronically with a security officer at the entrance to the estate. The concierge project would require new wiring to be installed, and it was hoped to use this wiring to develop an intranet.

The Victorian Office of Housing agreed in March 2001 to fund the rewiring of the four Atherton Gardens towers and a contract was awarded in September 2001. The scheme now had official support, but this did not extend to recurrent funding. To address this problem, the steering committee agreed to solicit the support of a newly restructured government agency that had been given the task of developing a program of community building. The Community Support Fund (CSF), established with funds from state gambling taxes, was identified as the agency most likely to support the non infrastructure elements of the project such as training. In June 2002, a month later, the Minister announced that the Community Support Fund was to provide $820,000 over three years for staff and support for the e-ACE initiative.

By the end of 2002, the project team had stitched together a complex patchwork of funding and support. Some support came from the Community Jobs Program, a state government program that supports community organisations, local government and other government agencies to employ jobseekers on community projects. This application was for funds to employ long-term unemployed people to rebuild older PCs donated to Infoxchange by a range of public and private organisations, which were intended to be the PCs that would be distributed to the high rise tenants. An application was also submitted to BYTE, a program being administered by the Australian Youth Foundation on behalf of Lucent Technologies, a major global player in the commercial development of the internet which has subsequently fallen on hard times (Meredyth et al, 2005, page 14).

The work being undertaken in this period in partnership with the Victorian Government also intersected with the new State Government focus on disadvantaged communities. In 2001 the (then) Victorian Government established Neighbourhood Renewal. The aim of this initiative by Government was to narrow the gap between disadvantaged communities and the rest of the State. Identified as a place based approach, Neighbourhood Renewal aimed to bring together the resources and ideas of residents, governments, businesses and community groups to tackle disadvantage in areas with concentrations of public housing (Office for Housing, 2005).

A key Neighbourhood Renewal objective was to 'lift employment, education and economic opportunities' and consistent with the State Government's CC:2nd wave program framework that aims to improve access to ICT in disadvantaged communities. Because significant numbers of people in Neighbourhood Renewal areas were unable to afford a computer, computer training or Internet services, Neighbourhood Renewal projects are focusing on establishing basic ICT infrastructure. Computer, internet and training facilities are located in Neighbourhood Renewal community hubs, Neighbourhood Houses, schools and libraries.

As is often the case for community advocates such as Infoxchange who work at the grassroots with communities, their vision and hard work and the hard work of residents and other community stakeholders is not always enough, though many would argue it should be. It often waits in line for a synergy of ideas to occur which are then utilised to implement the

strategy and form strategic partners. The work by Multimedia Victoria, Neighbourhood Renewal and the establishment of a Community Support Fund became the foundation on which Infoxchange were able to build their community strategy for ICT projects in public housing estates, in effect wiring residents to the world of information. Hence the name Wired Community@Collingwood.

A brief journey through the development of this body of work and the subsequent community projects that have been a part of the implementation doesn't always do justice to the enormous amount of time that building partnerships require. In this case it was unfunded time. Infoxchange had to fund this work from their commercial business. It also meant that there were a number of political masters and community stakeholders. Matches like this require a considerable amount of strategic planning combined with the a substantial amount of diplomacy to draw, what often forms a community based patchwork, together. They also require a commitment to partnering as opposed to funding which, as is reported later, remains one of the barriers to success of the Wired Community@Collingwood project. Government funded projects when it needed a framework of collaborative partnerships. The Wired Community@Collingwood project and the Atherton Gardens Estate project still need genuine collaborators.

This report is the final of a two year evaluation of the project that focussed on the impact of the project Wired Community@Collingwood project on residents and the efficacy of the project informing the basis of a sustainable social enterprise. The Wired Community@Collingwood project has been developed by Infoxchange Australia, in collaboration with the Office of Housing (OoH), Department of Human Services (DHS) and the Department of Planning and Community Development (DPCD).

Background

About the Collingwood Estate

The Collingwood Housing Estate is a public housing estate located around three kilometers from the Central Business District of Melbourne and provides low cost housing to people with a low socio-economic profile and recent migrants and refugees. This section illustrates the diversity of the estate population and gives some clues to the challenges for the evaluation in terms of language and literacy.
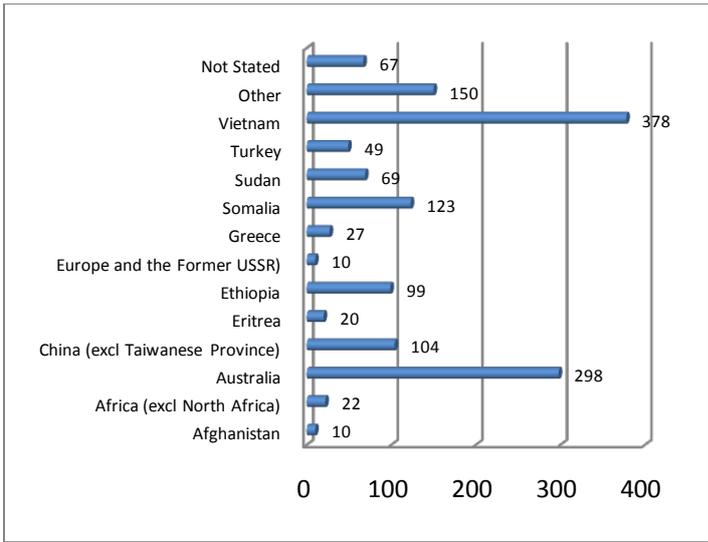
Figure 1 Country of Birth (Source: Estate Profiles January 2009 (DHS))

Figure 1 illustrates the ethnic diversity of residents with Vietnamese representing the largest single ethnic group on the estate (26.5%), followed by those born in Australia (20%) and a substantial number of residents originating from African, particularly Somalia, Ethiopia and Sudan.

Figure 2 presents the age distribution of residents, the vast majority in the 25-54 age cohort (40%), with around 20% over 55 years of age. Figure 3 reveals that single parents is the most common household type (33%), followed by couples with children at around 20%. Only 46% of those residents completed the income section of the survey. Of those that did, only 5.6% indicated that they received income from wages or self employment, the rest indicating that they received some form of government income support, including unemployment benefits, age or disability pension (reflecting the 11.3% of residence that indicate they have some form of disability).

This demographic data suggests that the digital divide is likely to be particularly severe on the housing estate. Prior to the commencement of the project, a scoping study revealed that just over 50% of households had access to telephony services.
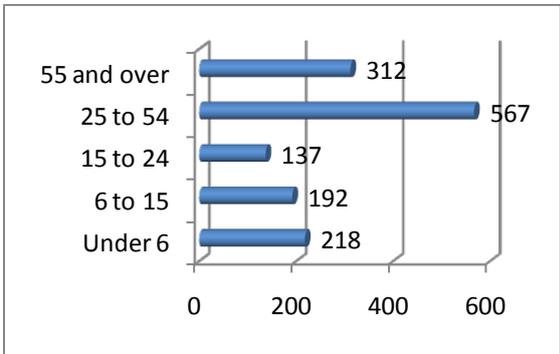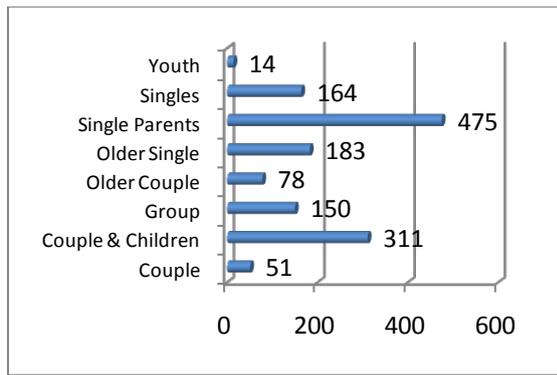

Figure 2 Age Distribution

Figure 3 Household Type

The Wired Community @ Collingwood Project Model

The $3.6 million Wired Community@Collingwood initiative is the largest project of its kind in Australia and includes $1.9 million funding from the Victorian Government and $1.7 million from in-kind and philanthropic contributions.

The network is part of 'whole of community' community building and economic development project utilising ICT as a tool to provide equal access for all residents to local community and worldwide communications, alongside education, skills development, improved health and well-being, better access to health and community services and employment opportunities.

The business model for Wired Community@Collingwood aimed to achieve financial self-sustainability and community control after three years of operation. Establishing a social enterprise to manage the provision of computers, training and community building aspects of the project is the focus of this strategy.

The key components of the project are:
- supply of computer software and hardware for no cost to the residents;
- intranet services;
- low cost internet services, free email services and computer helpdesk support;
- computer training for no cost to residents;
- installation of technological hardware to support ICT services; and
- evaluation of outcomes.

The project objectives are to:

- improve the social and economic circumstances of the Collingwood Public Housing Estate;
- strengthen the capacity and cohesiveness of the community and its networks; and
- provide access to ICT for those normally excluded from its benefits thereby increasing skills and access for Collingwood housing estate residents.

Intended Outcomes

The primary focus of the Wired Community@Collingwood project is to provide access to ICT for those normally excluded from its benefits thereby increasing skills and access for Collingwood Housing Estate residents. This includes: the supply of computer software and

hardware (at no cost to the residents); the provision of Intranet service; low cost internet subscription; email services and computer support; the provision of computer training; installation of technological hardware to support ICT services; and the provision of Help Desk services.

The key priorities for the project and the expected outcomes are summarised in the following table.

Table 1 Intended Project Outcomes

Priority	Intended Outcome
Training and Education	Increased ICT usage and skills
	Skill development that results in employment
	Homework usage
	Increased school retention
	Inclusion of people with languages other than English
Community and Culture (Strengthen the Capacity and Cohesiveness of the Community and its Networks)	Forums for interest groups
	Use of technology to record community history
	Recreation and community facility information
	Involvement in the arts
	Community calendars
Citizenship	Improved information flow
	Early intervention framework and cases
	Improved Safety
	Improved tenant relationships and sense of belonging
Economic	Increased pathways to skill development and employment
	Reduced reliance on income support
	Income derived for community benefit
	A model that can demonstrate similar benefits for like communities
Communication	Pathways to knowledge and skill development
	Opportunities to contribute
	Opportunities for agencies/government to communicate with residents who access the internet

	Sustainable social enterprise
	Financial Self Sustainability
Establish Social Enterprise	Community capacity building and cohesiveness
	Community control & self determination

Contextualising the Digital Divide

An individual's ability to use and access computers and the internet is vital to schooling and education generally, to participate effectively in the economy, and in many cases, to access everyday services. Servon in her book on the digital divide noted in 2002 that the digital divide is now recognized as an international issue. High income OECD countries account for over three-fourths of the world's Internet users. In virtually all countries, Internet users tend to be young, urban, male, and relatively well educated and wealthy. In short, the diffusion of technology both within and between countries has been extremely uneven. This snapshot of literature aims to locate this project in the current literature about the impact of access to the digital age or in this case lack of, on individuals.

The significance of access to the internet is possibly best seen through the eyes of those passionate about what access may bring to their developing country. Pandey, et al, 2010 espoused the benefits to India of ensuring the broadest access. Pandey, et al, 2010 states that it is now time to take computers and allied technologies to every village of the world. Only through such a mass-scale deployment can we create a platform on which can be layered other programs whose power can now be amplified dramatically. From primary education to adult literacy, from providing a two-way flow of information to enabling transactions, from increasing governance transparency to reducing corruption, from jobs to marriages, computers can indeed be the manna for the world's villages. By themselves, computers will do little. They need applications to make a difference. They need change in governments processes. But by making computing available to every citizen, they will force a seismic change through the lines of governance. They will become the platform which can be built upon to layer a whole range of different services (Pandey, et al, 2010).

Servon, outlines that even in a developed country such as Australia, deep divides remain between those who possess the resources, education, and skills to reap the benefits of the information society and those who do not. Persistent gaps remain between different racial and ethnic groups, people with and without disabilities, single and dual parent families, the old and the young, and people with different levels of income and education. Low-income persons and minorities, particularly when they reside in inner cities, are among the groups being left behind (Servon, 2002).

The digital divide is, therefore, a symptom of a much larger and more complex problem Servon noted; the problem of persistent poverty and inequality. According to her part of the solution must be enabled by effective public policy in cooperation with concerted efforts by the private for-profit and private nonprofit sectors (Servon, 2002).

In Australia, existing material and economic inequalities determine access. According to the latest figures from the Australian Bureau of Statistics (ABS) the percentage of Australian

households with access to a computer at home has continued to increase, from 75% in 2007-08 to 78% in 2008-09 (ABS, 2009). The use of the internet at any location was significantly higher than average (74%) for those with the following characteristics: people aged 15 to 17 years (94%); people from households in the top two income quintiles (93% for the highest and 87% for the second highest); people with higher levels of educational attainment (93% for people with a Bachelor degree or above) and the employed (85%). In contrast, older people (31% for people 65 or over), people with lower household incomes (44% for people in lowest quintile), people not employed (54%) and Indigenous people (62%) reported significantly lower than average levels of internet access (ABS, 2009)

Notley and Foth (2008) noted in their paper on digital divide policy frameworks that some of the starkest inequalities identified include:

- Indigenous Australians who were 69 per cent less likely than non-Indigenous people to have any internet connection and were about half as likely to have broadband access.
- People who were isolated by geography continued to impact on household internet connectivity. For example, 66 per cent of dwellings in major cities have access to the internet, compared to 42 per cent for very remote Australia.
- Those with educational attainment influenced overall and broadband internet access.
- Those with a higher income was considered the single largest determinant of internet access and broadband, with results showing that higher income increased the likelihood of a person having any internet connection.
- People with a disability: only 28 per cent of people requiring assistance with core activities had broadband access, in comparison with 48 per cent for people not needing assistance.
- Single parents with dependent children under 15 years had 77 per cent internet and 52 per cent broadband access compared with 92 per cent and 68 per cent respectively for comparable dual parent households (Notley et al, 2008).

The project resonates with international experience. The Government of the United Kingdom, (UK), also took a much broader view of the digital divide recognising that social inclusion was the correct framework to consider the divide as this was now a communication technology that without it people were going to be increasingly excluded from mainstream community and individual activities. The UK government subsequently published the report Inclusion through innovation in 2005 and funded a Digital Inclusion Team to implement the report's recommendations. The Digital Inclusion Team defines digital inclusion as: 'the use of technology either directly or indirectly to improve the lives and life chances of disadvantaged people and the places in which they live' (Digital Inclusion Team 2007).

What is also useful to this project is the growing number of qualitative studies that have explored how people use the internet in projects intended to address social inclusion; more importantly that expands upon the link between social inclusion and the digital divide.   For example, the Swinburne University study of the first wired-community initiative suggested that internet use may have more benefits in terms of educating individuals rather than building a traditional notion of 'community' (Meredyth, et al 2004; Hopkins 2005).

Meredyth, et al, (2005) found that the e-ACE project initiated and implemented by Infoxchange on the Atherton Gardens Public Housing estate has enabled low-income people, who previously had low rates of computer access and connectivity, to make use of information and communications technology. They go on to suggest that residents were able to pursue educational and employment opportunities, seek information on social services and to obtain news, information and entertainment from across the globe. Internet access is being incorporated into residents' everyday activities: instant personal messaging, audio/video sharing, online banking, job search, shopping, and finding out about local businesses, airline deals, local films and entertainment options. Residents are using their computers to make contact with other people online, often in languages other than English. The internet is also being used by residents to enhance their leisure options and provide entertainment. Games sites, music, film and television sites are popular, both in English and in other languages. (Meredyth, 2005)

Fernback, 2005, also found that, 'inner-city residents find ICTs to be a key element in neighbourhood and community revitalization' (Fernback 2005). Fernback suggests that ICT use can have a positive impact on an individual's social inclusion and on a community's collective social capital. It has been argued that, in a similar way, the concept of digital inclusion can be used to extend the notion of the digital divide away from a singular focus on technology access and towards a focus on the way technology access and use can impact on different forms of deprivation and disadvantage (Warschauer 2003).

According to Servon, (2002), the Internet enables the creation and support of networks. These networks are organized and maintained for social and economic purposes. The value of networks increases as the number of people who belong to and actively participate in the network increases. The Internet makes joining and remaining engaged much easier, and enables participation across space, thereby increasing the potential for a greater number of users to join. More importantly online networks have the capacity to strengthen and enhance place-based community networks, extending the reach of existing community-based organizations and institutions. These two attributes – the openness of the Internet and its capacity to support networks – are revolutionizing the way in which individuals, communities, firms, governments, and other institutions and organizations engage with the rest of the world (Servon, 2002).

Gavad et al, 2010, in their work on the benefits to communities of social networking agree. They summarised their work in eight communities by stating that despite the opportunity provided by the Internet allowing social networks to be purely via online connections, the Internet reduces the friction of space, but does not remove the importance of place (Hampton 2004 in Gaved et al, 2010).

Gaved, et al, 2010, goes on to say that approaches to overcome the digital divide should therefore consider the significance and possible benefits of taking a locality-based approach. Communities of locality—communities of individuals residing within geographical proximity and connected by an existing network of social relationships—may provide one of the most effective methods of ensuring meaningful and sustained usage of the Internet. Such communities offer shared purpose and existing interactions, bringing a reserve of social capital (Putnam 2000 in Gaved et al, 2010) as a mechanism to overcome barriers, and resolve the lack of formal support (Gaved, et al, 2010).

One of the key elements of this project is to develop social capital through the bridging of the digital divide. This resonates with the literature on the impact of changing the current digital divide. Governments internationally are focussed on how better access can improve all aspects of individuals life and just as importantly improve community life.

Evaluation Profile

The prime purpose of the evaluation is to understand how individuals and the community at the Collingwood estate use ICT technologies and the impact it has on their lives. The provision of ICT infrastructure and establishment of the Wired Community@Collingwood Social Enterprise are designed to reduce a number of impediments to digital participation by reducing social costs and economic costs (establishment costs, transaction costs and search and information costs). Importantly, it is not provision per se but how ICT access enables and empowers communities. Access to ICT infrastructure in the digital age is arguably as important a "merit good" as education and health, in which genuine opportunity is fundamental to reducing economic and social disparity. Reducing the digital divide is not about infrastructure provision but rather supporting ICT-enabled solutions to improve social and economic outcomes by empowering local communities.

The purpose of the evaluation is to ascertain the impact of the Wired at Collingwood community project in the areas of; education and training; community and culture; support and development of citizenship and democracy; health and well-being; economic equity, opportunity and sustainability; and information and communication. Social impacts include the social and cultural consequences - the ways people live, work, play, relate, organise and generally participate as members of a community and society. Economic impacts are those that relate to the efficiency and equity of productive resources, including education, employment and income. Social and economic impacts are interdependent and impact assessment approaches need to be integrated. Establishing an understanding of community values and concerns is an important first step in conducting a socio-economic impact assessment to determine quantitative changes and community/individual perceptions.

Evaluation Objectives

The evaluation is based on three main evaluation purposes; formative, summative, and learning for the future. Collectively these broad purposes will enable achievement of two other important goals of evaluation; success optimization and provision of evaluation to meet internal and external needs or purposes. Internal needs include, for example, improvement of implementation, optimal stakeholder engagement and knowledge sharing. External need/purposes include the satisfaction of accountability requirements and identifying good practice benchmarks and models that optimise benefits and impact. The evaluation will therefore has both development-facilitation and merit-performance assessment strands (Boyle, 2008) and placed high value on:

- Ongoing systematic engagement with key project stakeholders
- Evidence-based determination of the merit and worth of the intended outcomes;
- Capturing and assessing the value of significant unintended outcomes;
- Assessing the efficacy of processes; both project implementation and those developed as project outcomes;

- Supporting an information-driven reflective and improvement focused approach to project implementation and management;
- Learning and recording learning that will help to enhance future project design and implementation.

Evaluation Reference Group

The evaluation has been guided by the Evaluation Reference Group (ERG), comprising representatives from Infoxchange Australia, Collingwood housing estate representative, the Department of Planning and Community Development, Neighbourhood Renewal, and Department of Human Services, to oversee the progress of the evaluation and the primary group to which progress milestone reports are delivered. The evaluators also presented to the overall Wired Community@Collingwood Project Advisory Group and the Estate Residents group both of which comprise of representatives from a range of stakeholder groups including the Office of Housing, Department of Human Services, local community welfare providers, the City of Yarra and resident associations.

Throughout 2010 members of the research team attended the two user groups that formed the basis of Infoxchange consultation mechanisms; they were the agency user group and the resident user group.

Approach

The research is underpinned by a participatory action research methodology to facilitate a transfer of skills and knowledge to the Wired Community@Collingwood project group. A collaborative approach to evaluation recognises that information and knowledge about people and communities resides within communities. The strategy of the research team is to share knowledge and empower the community through evaluation and to support the development of the social enterprise model of self efficacy. The evaluation is framed so that it can make a contribution to practice and knowledge, rather than simply validating existing performance, monitoring for compliance or for social marketing purposes.

Given the scaffolding nature of interventions, a focus of evaluation on outcomes is not sufficient. We also need to understand the underlying systems/processes or mechanisms if we are to understand why certain outcomes were achieved, or not. This approach facilitates the identification of critical success factors (CSF) specific to particular groups and contexts. This is particularly important in an environment such as the Collingwood housing estate where there are a series of programs and interventions and the causal relationships are difficult to disentangle.

In this context, a multi-method approach combining qualitative and quantitative techniques is critical and recognises that social transformation and empowerment is about identifying what is important and valued by the community. Action research facilitates an ongoing review of program outcomes and metrics to ensure that these are consistent with the aspirations and goals of individuals and communities. In this approach, qualitative dimensions such as building confidence and a sense of community connection are as important as the more tangible quantitative outcomes such as gaining employment.

Evaluation Framework

The evaluation framework (Appendix 1) is framed around the intended project logic by aligning the key project objectives of the Wired Community@Collingwood project with associated tasks, outputs and intended outcomes as identified in the original plan by Infoxchange. We identify metrics for each of the intended outcomes which are conducive to reporting and facilitate an understanding of the activity and performance. Finally, the framework presents the methodology employed to collect the data and information required to inform decision making and judgements. The key domains and dimensions of the Evaluation Framework are presented in Table1.

Table 2 Evaluation Domains and Dimensions

Domain	Dimension
ICT	Computer Ownership
	Training
	Experience
	Internet access
	Internet service quality
Information and Communication	Internet usage patterns
	Behavioural change & capability
	Daily use
	Estate information and news
	News services
Citizenship	Civic activism
	Group Membership
	Collective benefit
	Efficacy
	Cost of involvement
	System benefits
	Social norms
Community and Culture	Arts and culture
	Social Embeddedness
	Informal network
	Social support
	Attachment
	Neighbourhood cohesion
	Trust in others
	Safety
	Trust in institutions
	Neighbourliness
Health and Wellbeing	Personal wellbeing
	Health
Economic	Food security
	Financial stress
	Education
	School retention
	Employment status
	Income

The evaluation framework and intended project logic represents the front-end evaluation and foregrounds the intended social, behavioural and economic transformative affects of ICT infrastructure on residents of the Collingwood Estate community. This serves to clarify the theoretical construct underpinning the project, identifying and aligning key project resources

and activities to outputs and outcomes, and the intended benefits and impact on beneficiaries. The intended logic model facilitates a shared understanding of the intended outcomes and the expected causal relationships between key project components (ICT Infrastructure and Social Enterprise Model) and intended outcomes.

The project logic model provides the foundation for the evaluation framework ensuring that proposed methods identify key interactions between resources (ICT infrastructure, training, communications network, social enterprise model), reasoning (behavioural changes), context (social, geographic, diversity/cultural dimensions) and outcomes. Ultimately our goal is to develop a good understanding of what works, how it works, for whom it works and in what contexts. This will provide a clearer picture of critical success factors (CSF) to inform how we might enhance the model, its implementation and transferability.

Evaluation Methodology

An action research methodology will be adopted to provide a participative and reflective approach to evaluating the project (Greenwood and Levin, 1998). Action research is iterative and balances problem solving with evidence-based analysis to illuminate underlying causes enabling future predictions about personal and organizational change (Reason & Bradbury, 2001). Action research has traditionally been represented in the action research spiral, involving planning, acting, observing and reflecting (Kemmis and McTaggart, 2001).

A multi-method approach was used and including:
- Qualitative Analysis: incorporating both interviews and focus group sessions with residents and key stakeholders
- Survey of residents: the surveys undertaken at two points in time (2009 and 2010) have a qualitative and quantitative dimension including; perceptions of self/community, citizenship, engagement, well-being and changes in skill, education, employment and unintended outcomes. A third survey of Infoxchange users was conducted in October 2010 to capture the impact of the service upgrade.
- Document analysis: implementation plans, progress reports and minutes of key program provider and related committees.
- Quantitative data analysis: a range of socio-economic data provided by a range of service providers and other key government stakeholders.

The baseline data was collected at the outset (2009 resident survey and other quantitative data supplied by service providers) to facilitate the comparative analysis at key project milestones for assessing outcomes and impact. The 2009survey was undertaken by residents immediately following training and the post program survey was conducted in 2010 up to one year following the training.

A brief literature review was undertaken when the surveys and interview questions were designed to assist in establishing benchmarks of good practice and critical success factors aligned to other government and community initiatives such as *Neighbourhood Renewal and Connecting Communities: The Second Wave*.

Stakeholder Analysis

The evaluation team conducted a stakeholder analysis in the first phase of the evaluation to review the evaluation plan and to assist in formulating the key guiding questions.

The steps include: identify key stakeholders; identify what each stakeholder perceives as the key or critical success factors (CSF); use CSF to develop a shared understanding of the project and in planning activities to help focus the project team.

Building Relationships – A critical component of the methodology

Many living on the Collingwood estate are typical of communities that have a range of problematic social indicators. These are not only physical in relation to people with disabilities, elderly and those suffering from poor mental health. It also includes their well being. Commonly referred to as social capital it is an important *yardstick* of the health of a community and in this case can also be measured by the willingness of the community to participate in community activities that may be broadly seen as for the common good. For people within these communities their lack of social capital translates into a lack of trust and reciprocity.

In 2002 the Australian Housing and Urban Research Institute, AHURI, conducted a study examining the role of resident participation in neighbourhood renewal in Australia. Their findings are just as relevant to the issues facing this project and the evaluation in 2009.
They found that levels of crime and the experience of poverty affected residents and resulted in a reduced inclination for local engagement. Residents reported high levels of cynicism and scepticism. Previous poor experiences of consultation, however, played a large part in moulding these attitudes.

Some had problems with basic literacy and there were other major language barriers for some. Several residents and professionals commented about the difficulties of involving people from non-English speaking backgrounds. Others were upset by the levels of conflict they experienced in the community meetings. This had clearly put people off.

In summary, the combined experience of poverty and the extensive use of drugs in these localities were reported to be highly stressful for residents and it was apparent that these experiences had an effect upon self-esteem and levels of morale among the local population.

When asked what had discouraged them from participating in renewal initiatives common responses included 'it won't make any difference', 'your voice won't be heard' and 'what's the point in complaining?' Residents were therefore starting from a low base in terms of their collective self-esteem and experience of expecting their views to be either regarded by the professionals or making a difference (Wood, 2002)

These were views that were apparent throughout the data collection, in particular residents felt over researched seeing little improvement for their investment. This focus on building relationships, therefore, began to drive the methodology in practice, because success or otherwise of the data collection would depend on how the research team built relationships and could gain leverage from any existing networks. In the absence of a connection to the *common good,* people are less willing to participate in the evaluation of a project on the basis that their experience will assist others. They do not have a connection to how a

community activity can reflect and improve and on that basis do not see their role in that process.

It takes time to build relationships, the research team spent time on the estate. Time in the training rooms, time attending community events, time sitting and talking to people, time solving their ICT problems along side of them, time attending social groupings on the estate, time eating lunch with residents and time with children and parents. An unwillingness to participate in community wide programs means that each individual must be engaged in their role in the evaluation. They must feel personally connected to the issues and have the opportunity to share their perspective in a way that does not pass judgement.

Lennie in her paper on increasing the rigor and trustworthiness of action research, says that building mutual trust and open communication through actively listening to participants in an empathetic way, facilitating the discussions and gathering continuous feedback on the evaluation process through face to face meetings is vital. The development of such relationships is integral to achieving high-quality outcomes and more trustworthy and richer data. It is imperative, Lennie says, that researchers use processes that aim to be inclusive and empower for a diversity of participants (Lennie, 2006).

Ensuring Cultural Diversity

For both the case studies and the survey collection it was decided that a more focussed strategy using culturally appropriate research assistants may be more successful in gathering information. The research team had access to the Infoxchange data that identified who had done the training, received a computer, their address and their cultural status and preferred language. On that basis three residents from the estate were employed that spoke the most dominant community languages, being Mandarin, Vietnamese and Arabic were employed. They were provided with addresses and phone numbers as well as the questionnaires. They were asked to arrange times whereby they could converse with residents which could be in their homes or at the Wired office. They used both.

They all agreed that they were more successful because they could use their shared cultural connection between resident and research assistant as an engagement point. Their work provided the research with 60% of the resultant surveys. In interviews after the completion of the data collection the three research assistants agreed on some common issues.

> *It was important to be willing to sit with people, which also meant talking about their children and their life on the estate.*
>
> *You (the anglo-saxon research team member) would never have got in the door, it was because I am young and African, I look like them and I am Muslim - that is why they let me in.*
>
> *It took one hour with each person; not only listening to them but interpreting the survey. It was also important to assure them that the survey was confidential.*

> *I told them about the prizes and they would smile, but I know that would not normally motivate them to do the survey.** (Research Assistants)*
>
> *** Each participant that gave their personal details were put in a draw for three prizes, that was subsequently drawn at the end of the collection period.*

Collecting Stories

The participants were engaged at all of the above informal conversations and through the survey collection by the CALD research assistants.   They were then followed up by phone and asked to meet the researcher.   All were provided with gifts at the end of the interview to show appreciation of how much the research valued their participation.

There was a need for interpreters for the Chinese community. The participants of Chinese cultural heritage were commonly elderly with very poor English skills. So the same research assistant that was employed for the surveys was also employed to assist with the collection of case studies. Normally this may have presented ethical issues if the information was too personal.   In this case the questions were asking about the service and their experience of the internet.

Regardless, the issue of the trust within the established relationships was balanced with the issue of privacy.   Participants were provided with other choices but it was evident that without the level of trust and reciprocity that had been previously established between the research assistant/resident and the participant they would not have wanted to contribute.   It should be noted here that the research assistant/resident was active in her support for the community and was well known as a community stakeholder within the Chinese community.

As a consequence of the relationships that had been built, twenty-two case studies were collected, a rich data source of the lived experience of the project.   The case studies were collected in the Wired office, in homes, in fact wherever it suited. Such is the nature of working alongside community participants.

Who Participated

Participants of the case studies were identified through the Wired office.   One of the research team spent approximately one day a week at the office for a period of 6 months speaking with;

- service users who came to pay their internet
- participants in the Wired training
- using the CALD research assistants to identify participants for a case study interview.

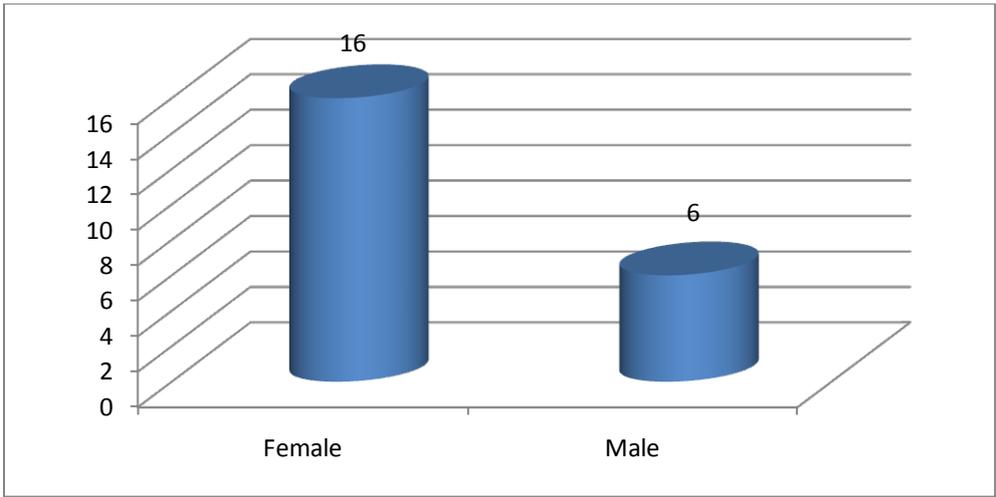The Figures below identify the demographics of who was interviewed.
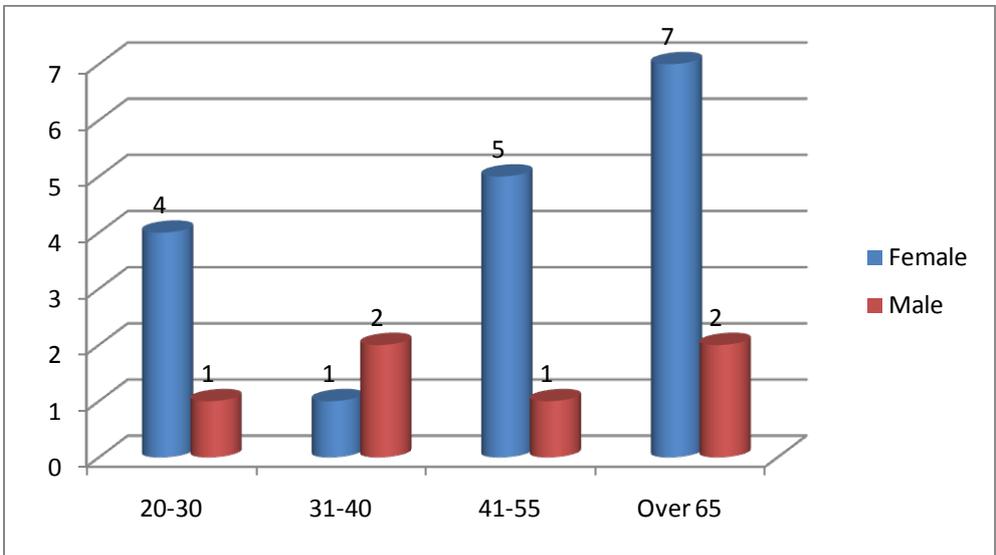
Figure 4 Gender

Figure 5 Age by gender

Figure 6 Ethnicity

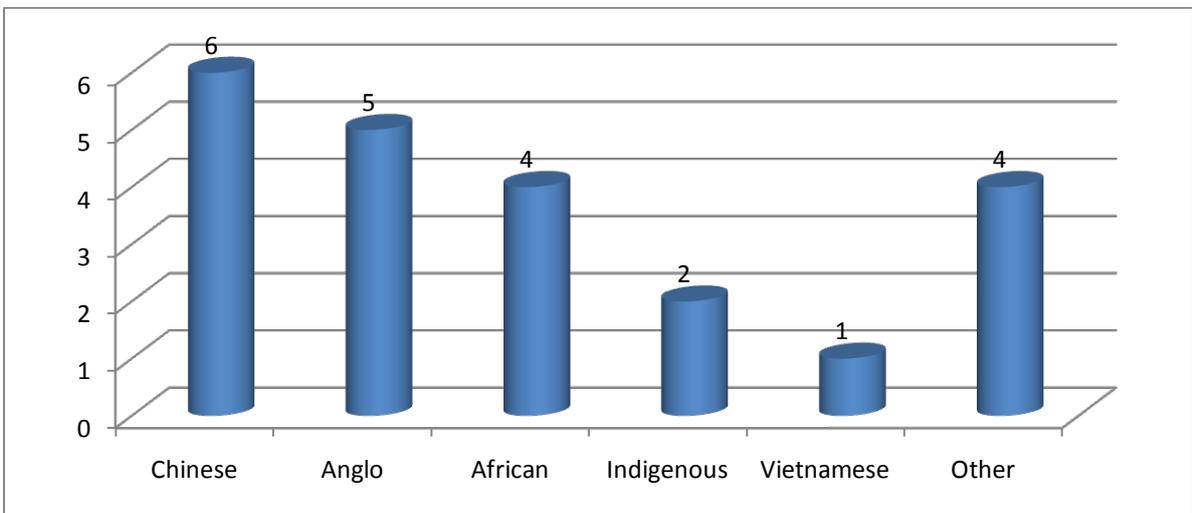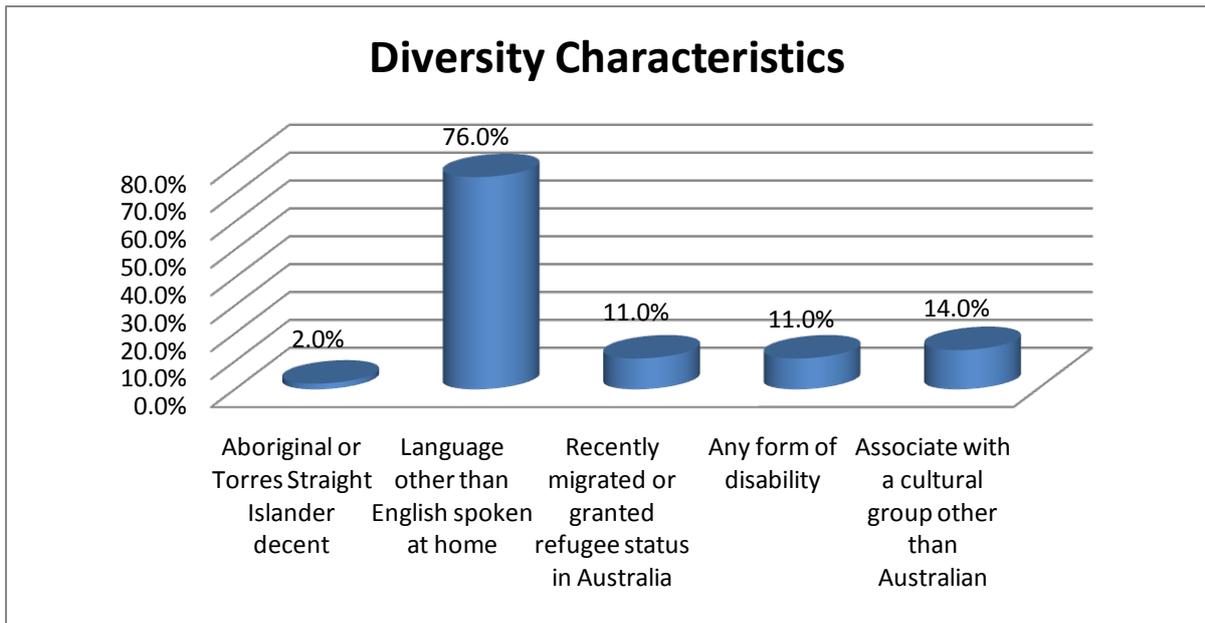**Figure 7 Diversity**

Diversity Characteristics

Figure 7 Diversity

Implementation of the Wired Community@Collingwood Project

The Scope of the Project

This section of the report provides an overview the implementation and subsequent establishment of the project. This part of the evaluation has been built from the qualitative research undertaken over the past two years. Members of the research team, as outlined in the methodology, have spent a considerable amount of time on the estate collecting case studies, attending resident meetings and engaging with several stakeholders including other on-site service providers. The qualitative work has informed this project section of the evaluation with a view to reflecting on the successes and lessons learnt.

The project has engaged approximately 45% of residents throughout the implementation and establishment phase of this project. The fact that engagement is varied makes it more difficult to be exact. Some residents, who were a part of the project at the outset, undertook training and got connected to the internet and have since changed their service provider to connect to a commercial provider. A successful outcome and evidence of an established commitment to maintaining their internet connection as privileging these monies for that purpose is a significant percentage of the personal income of many of the residents.

From the outset it needs to be said that this was and will continue to be a very ambitious and difficult project. Throughout the project this has been illustrated by the many residents who, in the absence of their own social capital, personal and associational networks, require individual support to even get in the front door of the Wired Project Office. Some residents do not move outside of a very restricted survival regime on the estate and are unable to participate in new initiatives, for fear of further failure, because of lack of income and in many cases because of their fragile mental health.

Realistically, a 60% resident participation benchmark is achievable and likely given the new level of service provision attached to the Wired Community@Collingwood service. Levels of participation beyond that may be hoped for, but in the absence of a much more integrated approach to health, well being, education and employment of residents that is unlikely. The complexity of their lives means that for many the barriers to participation cannot be solved by a community ICT project, it is but one component. That is not to dismiss the very exciting outcomes that have clearly been a missing component for many others.

Model of Delivery on the Estate

Delivering a Project with a Community Development Framework of Practice

From the beginning this was a project that required a community development framework of delivery that aimed to build the social capital of this community utilising the ICT project. Whalen (1999) and Fegan and Bowes (1999) define social capital as the "web of relationships and social mechanisms that people draw upon in their everyday lives". Eva Cox, in her 1995 Boyer Lectures (Cox, 1995) promotes the concept of social capital.

> *Social capital refers to the processes between people, which establish networks; norms and social trust and facilitate co-ordination and co-operation for mutual benefit. These processes are also known as social fabric or glue… (p.15)*

Her argument is that we collectively create the existence or absence of social cohesion through personal choices, individual actions, public policies and social commitments. Essentially, she says, our social well being depends on trust and trust leads to goodwill and to cooperation (Cox, 1995, pp15-16). Trust is developed through our positive experiences with others. Our social system and social institutions, which give opportunities for the growth of trust and cooperation, increase our social capital. Social capital is, in effect, a measure of the health of society (Russell and Withers, 1998, p. 59). The absence of social capital may mean that individuals or families no longer have the resources of extended family, friends or neighbours to turn to for advice, company or support as part of everyday life. Conversely, people with diverse networks of quality relationships are healthier than people who are socially isolated (Bowe and Hayes, 1999).

Building these networks to engage residents in the new technology was an essential component.   It was the word of mouth, the assistance with interpreting often provided by friends and neighbours that linked the project to the community.   The project engagement strategies were customised for a diverse community facing numerous social and economic challenges. Bilingual information, attendance at community festivals and community events; working with a range of community stakeholders and community governance, are all elements of the implementation plan. Infoxchange have also led the development of the estate intranet which has been well received by residents and continues to foster engagement and build a sense of community.

In 2010 Infoxchange has implemented a door knock to talk to residents about the project. Using bilingual community workers the aim was to increase knowledge of the project and to provide residents with a voucher which could be used to redeem their re-manufactured and refurbished computer. The challenge of engaging new participants has been evident to the research team in our meetings with residents. It is apparent that the role of personal networks and social capital play a pivotal role in the engagement of people in community activities. Personal health, income, resilience, social and community connection, ICT skill levels and connection all interplay with individuals and impact on their willingness and ability to participate in projects such as Wired. The implementation plan is a work in progress as Infoxchange establishes the next phase of the project.

Building the resident networks was complimented by the underpinning community development principles that drove this project.   Because this project also aimed to enact community change its advocacy role should not be underestimated.   It is well established that those that do not have access to the digital age are increasingly being locked out of essential community information.   Infoxchange were providers and advocates for the Collingwood estate.

 Susan Kenny in her seminal work *Developing Communities for the Future: Community Development in Australia* (1994) discusses the nature of community development in terms of principles and processes. She sees the principles of community development as:

- objectivity and impartiality
- social justice
- citizenship and human rights
- empowerment and self-determination
- collective action

- tolerance of diversity
- working for change and involvement in conflict
- liberation and participatory democracy
- accessibility of human services

The UK based Community Development Foundation as discussed in Wood, et al, (2002) has a very similar definition:

Community development is a range of practices dedicated to increasing the strength and effectiveness of community life, improving local conditions, especially for people in disadvantaged situations, and enabling people to participate in public decision-making and to achieve greater long-term control over their circumstances.

Wood (2002) also reminds us that Community Development is different to the current dialogue around Community Strengthening. Wood goes on to say that if this sounds just like community strengthening, it needs to be remembered that many community development workers do not see themselves as working within the existing system:

...community development aims to transform unequal, coercive and oppressive structures in society. To fulfil this aim it challenges, provokes, presents unpalatable information, and even disturbs....community development challenges the presumed inevitability or naturalness of existing power structures and social systems. (Wood et al, 2002).

To support this advocacy Infoxchange have put into practice two key consultative forums to support the project implementation. The first is a resident committee of users. A network of users who have been meeting monthly for the past six months to exchange information, consider new ideas and generally provide feedback to Infoxchange. This model of supporting a loose connection of users has worked very well. The numbers in attendance have ranged from 10 to 25. The meetings have focussed on improving practice as well as providing residents a forum to discuss any other day to day service issues that they have. The building of capacity has made this project far more robust. The resident group is the same model that Infoxchange has utilised to establish a community agency user network; the second key forum to support project implementation in 2010.

Infoxchange refer to the groups as formulating a Community of Practice. This conceptualisation of community development fits the context of this project and the working framework of Infoxchange. A Community of Practice asks community stakeholders how their project intersects with the goals of Wired Community@Collingwood and how their work may be able to contribute to these goals.

Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger, E, 2008).

At this point the staff member that is leading this group will only be operational on the project until the end of the year and it is likely that it will take longer to make cultural change in the practices of community agencies. It is not enough to think about good ideas, a workforce of *immigrants* to ICT, as opposed to generation x and y who are *natives* to the technology will take ongoing support to make significant changes to their work practice. However, the

community of practice meetings have provided an insight to these agencies and some such as Centrelink will make changes to utilise the Collingwood site and consider how residents can make notifications online because they have the organisational capacity to do so.

This group have also engaged the police, the health centre and a number of other agencies that work on the Collingwood estate to consider their information systems. Enabling residents to make notifications online, lodge a maintenance request with Office for Housing, even make a note to crime stoppers provides residents with choice. This is the sort of choice that everyone else who have access to ICT systems have had for some time. It is this group that are also most likely to be able to continue the life of the Collingwood intranet by making the information exchange on the intranet relevant and current to the community. On that basis the community of practice established in 2010 is an important network that is critical to the sustainability of the project.

> *Recommendation: That there is a provision of funding allocated to support an estate-based community of practice model to assist program sustainability.*

The Wired Project Office

Communities are about people and the Wired Project Office is where front line staff engages with residents and build trusting relationships. The team in the Wired Project Office are integral to the success of that aspect of the program. In the course of 2009 Infoxchange developed a robust staff team on the estate. In 2010 there were some changes to the team, though those changes brought substantial community knowledge into the project. This is always of benefit to a community partnership where one of the partners is a community that can be very mistrustful of a possible interloper. This project needs such a team, who understand the community development framework but can also manage the range of complex relationships that exist on a public housing estate of long term disadvantaged and culturally diverse residents.

The appointment of bi-lingual residents to the Wired Project Office was universally supported in the discussions with residents. Ming and Thomas were consistently referred to by residents as being known, as being trusted and as being helpful in connecting them to the project. Similarly the trainers that implemented the initial training were also highly regarded. From observation in several of those training sessions it was evident that the trainers had a very good understanding of participant knowledge, how to engage them in the information and the patience required to work alongside people, many of whom had very limited computer and internet skills.

Sometimes the computer it drops out, it is down and up, when it is down I immediately call the office for help and they will either fix it here, or they send someone The staff here are really really good, they always respond, when we call for help, they always come.

My computer is here at the moment getting fixed. I don't know what is wrong with it perhaps it just needs a spring clean. Anyway Thomas is helping me with that. Do you know you can get a newer computer for just a bit of money. So I am thinking about that, especially if Thomas tells me that it may be time to do something about my computer. The service is fantastic. Thomas is always willing to help.

I am really thankful for Ming working here! She is great, she help me with my job! For a lot of

the Chinese community the computer has been very important because now for example they can read the Chinese news paper.

The Infoxchange service has been good, when I had problems, Thomas came here and he fixed the problem and since then it has been really good!

Ming has been very helpful I know I can come here and ask questions. I came to the training that Ming had in Chinese that helped me a lot on my computer.

(participant comments)

This team have managed significant barriers in advancing the project to a successful point of operation. Some of these barriers, in particular the relationship with some agencies on the estate including the Office for Housing and the wiring contractor will be discussed later. Suffice to say that on several occasions in the current life of this project staff have had to endure residents complaining about service reliability, regardless of their lack of responsibility for the incident. Rarely has the wiring contractor, who has not always acted in a timely manner, had to tolerate the anger of residents. They are not based on the estate. It is unfortunate, therefore, that the project cannot afford to maintain a greater staff presence in the next phase of the project. Without further establishment funds it becomes a business question. The Wired Community@Collingwood project has to deliver a critical mass of residents consistently paying Infoxchange as their internet provider to support a greater financial staffing commitment. The Infoxchange office that will support the project in 2011 and beyond will be limited to Thomas and resident volunteers.

> *Recommendation: The research team suggested in 2009 that the project required a larger component of funds to support the sustainability of the project long term. That position has not changed. Project sustainability is a whole of government and community responsibility not just the responsibility of Infoxchange. It is the responsibility of the communities of practice, stakeholders and government to partner Infoxchange and the community in establishing long term sustainability of the Wired Community @Collingwood project.*

Gaved et al, (2010) in their work that look at a number of Grassroots Initiated Networked Communities and Master-Planned Neighbourhoods identified similar concerns in the projects that their research was focussed on. In their research they reviewed eight externally initiated ('top-down' or 'master-planned') and self-organised ('bottom-up' or 'grassroots') projects with the aim of gathering some lessons to inform the development of new community networks. Findings are set against the emerging requirements of an inner-city master-planned residential development in Australia seeking to establish a community association to support the medium and long-term economic and social sustainability and governance of the local ICT infrastructure.

They would concur that such a 'project-based' approach to community networks may make them less socially sustainable – users may be encouraged to participate but are then left unsupported and disenfranchised as a result. Day & Cupidi (2004) recommend that community technologies should be approached as open ended initiatives rather than closed term projects, as the latter is detrimental to social sustainability. If a community network is to

be of long term benefit it must be seen as part of long term infrastructure strategies. Exit strategies must be formulated to ensure the network can continue after funding has finished; these should consider not only infrastructure funding but also community support, training, and staffing (Gaved, et al, 2010).

> *Recommendation: If any funds are targeted to support the ongoing work of this project some should be directed at the Communities of Practice model to support the capacity of residents and agencies to engage and substantiate their knowledge and ownership of the project.   This project could benefit substantially from funds to support infrastructure that requires updating over the next three years and a community coordinator that will continue to work alongside the community for a further period of three years.*

Building on Project Learning

Project Governance

Governance of the project has, at times, made for a challenging project environment. The research team were not a part of the initial project development committees so it is difficult to ascertain where exactly, coordination could have been improved. However, when the research team began the project we were met with a consistent level of project criticism from a range of stakeholders.

As is often the case in place-based projects the criticism was frequently based on hearsay making it even more difficult to challenge or even assist in strengthening the communication channels. That environment improved over time but was still apparent at the time of this report.

Project politics are not unusual or necessarily unhealthy in community projects, often making them even more robust and in some cases improving their accountability to their clients. However in this case there are a number of factors that when combined present considerable risk to the ongoing sustainability of the project. The research team reported on these concerns in 2009 in line with the action research methodology that has sought to work with project stakeholders throughout the life of the project. The concerns that were raised in 2009 are similar to those in 2010 and some remain unresolved.

Collingwood Whispers

The majority of the participants in the first year of the project are from groups on the estate that may be determined as more excluded than others. It is reasonable to suggest that already they are disempowered by not having access to ICT and the range of information that is available. That is coupled with participants who are older adults and where English is not their first language. Their voice is more difficult to represent and it is likely that they are underrepresented in the current estate governance committees.

The research team were often met with project criticism that is not from the user group but from others, who are often the more empowered members of the community and are not necessarily participants of the project; already having access to digital technology. It is a project tension that could not be ignored.

Wood, 2002, found that renewal professionals were often concerned about the dominance of key community representatives and the representativeness of the community forums. This is also a recurrent theme in the renewal literature. The concern, on the one hand, is about the extent to which representatives speak as individuals rather than putting forward the views of the community and, on the other, about the extent to which they represent the views of the whole community rather than just one particular part. There was a danger, for example, expressed by a number of renewal professionals that the focus had been on recruiting representatives from existing community groups and organisations.

Continued criticism of the project in community forums discouraged residents from participating in the project and trying the service. In particular, as were discussed earlier, re-engaging people who may have initially considered the project or who have been distracted by the range of project challenges was an unexpected obstacle that had to be overcome.

Are Government partners or contract managers?

Given the challenges of engaging residents, and the level of financial investment it was essential that both Government and non-government services and those involved in project governance saw their role as project facilitators in partnership with Infoxchange. In particular, it was important that place based services on the estate were active in their support of the project; using their connection with residents to encourage them to participate in the Wired project. To engage some of the most disadvantaged residents has taken a coordinated approach using a range of relationships to get people in the project front door.

At the end of this establishment stage of the project it is the governance that remains an unresolved project barrier. The lack of resolution on this issue has been a major incapacitating component of the entire project. The research team are not set to criticise but to critique a way of working that is current Government practice. The Office for Housing in the same way as is current Government practice engaged Infoxchange as a contractor to deliver a service on the Collingwood Housing Estate. The Office for Housing is a large contractor of services so have a set process and protocol of their contractual expectations. This is probably very well suited to maintenance; however, it is less suited to complex community projects that twist and turns like a game of snakes and ladders in a community. Infoxchange do not provide wiring expertise, in this project they have provided the community coordination, built the community capacity to implement the project, developed the project framework and implemented the project in their dual roles as an ICT trainer and service provider. There was a contractor for the wiring that was not accountable to anyone but the Office for Housing. When things went wrong, residents understandably referred problems to the Wired Project Office who were perceived as being responsible for the entire project. This was a significant barrier to the overall success of the project. Essentially every component of this project needed to be linked in a partnership agreement, it was not and the barriers that have arisen are detailed below.

A Provider for the Wiring and a Provider for the Internet and Project

Throughout this project there has been ongoing discussion within the project governance groups about the estate internet connections and cabling. The original contract for the cabling was the responsibility of the Office for Housing. The existence of separate cabling and ISP contracts has resulted in some confusion among residents about the respective roles and responsibilities of contractors. The research team have not been a participant in the project meetings with regards to the cable contractor but have been the recipient of consistent complaints about its suitability, process of connection and service response.

Stakeholders seem confused about who is responsible for the different components of the project implementation. As a result the public face of the project, Infoxchange, have needed to manage resident dissatisfaction as the front line service staff in the Wired Project Office are the face of the project; even when the problems were not within their control. This was highlighted by several incidents when, as a result of a power outage on the estate, the cabling switches did not reconnect. The result has been that residents were left without any internet connection for days at a time on several occasions. The damage to the credibility of the project cannot be measured except it is obvious when speaking with residents that the damage was considerable. In line with the earlier discussion on Collingwood whispers this was also a damaging component to the lack of a partnership agreement that shared project responsibility whilst striving to resolve the problems as they arose.

The fault for internet outages lay with the cabling/wiring contractor, who was managed by the Office for Housing; not with Infoxchange. However and understandably, when the internet connection failed residents rang the Infoxchange office which meant that the residents frustration had to be met by front line staff in that office even though they had no control over the incident. Therefore, the fault line should not have stopped there; the wiring contract should not have been separated from the internet delivery in a way that did not link the two in a partnership agreement. This would be the same partnership agreement that linked Government stakeholders. Instead of managing contracts what this project needed is a solution focussed governance group that worked together to solve issues and work towards every aspect of successful implementation.

The research team have not been a part of the contractual meetings but in discussions with Infoxchange it would seem a number of meetings have occurred in an attempt by all stakeholders to improve coordination. They have been genuine attempts by Government and Infoxchange to rectify the implementation challenges; however, it was the culture of the agreement and the expectations of manager and contractor that underpinned this project that continued to act as a barrier to its overall success.

Government as a Consumer

As has been outlined one of the key implementation barriers to this project was the service reliability and speed of which the internet operated at. It was consistently raised by residents to the research team, to Infoxchange and in the resident's user group. This has taken some time to resolve. Infoxchange have worked consistently to build a robust system; increasing the volume on the network and fitting new routers to all computers by the end of the first year. It was hoped that this would negate any lingering impact of the initial project perceptions about the efficacy of the project delivery that was still impeding participation by some residents. However, it was the speed of service that was a constant topic of discussion into the second year of the project.

One aspect of the solution to this issue was the ability of Infoxchange to buy bandwidth. It is the amount of bandwidth that dictates the speed of internet delivery. As a community provider Infoxchange have found it difficult to get the major telecommunications provider to respond in a timely manner to sell and deliver the required bandwidth. The result is that there have been several delays in the delivery of that upgraded bandwidth and the subsequent promised improvement of service to residents.

The reliability of the income stream from users have also affected the ability of Infoxchange to make upgrading of the systems affordable, nevertheless, it is a further example of the benefits and in this case the leverage that Government in partnership with Infoxchange may have brought to the purchasing power of the community provider. Purchasing power of Government is a complex issue that is beyond the scope of this project but it does highlight the need to further investigate the delivery strategy of community place-based projects such as this one.

> *Recommendation: Partnership agreements should be considered where there is a Government initiative with several contracted stakeholders implementing a place-based project in a complex community setting.*

Internet Price Sensitivity

One of the project key constructs is the provision of an internet service to the estate residents. Like all goods and services, demand is subject to willingness (perceived need and value) and ability to buy (income). Increasing internet penetration on the estate is undermined by the low income of residents' and their subsequent sensitivity to price. Price sensitivity increases as income decreases; reflecting a reality for many low income households that, after the purchase of essentials, there is little if any income remaining for discretionary items. Indeed, what is considered essential and discretionary expenditure varies depending on household income. This is not universal, however, it was a consistent message raised with the research team. Individuals discussed their inability to pay for the internet, or that payment timelines often depend on their own cycle of income support. The research team, even with a depth of experience, were still a little surprised at the level of price sensitivity.

Interestingly, it was also raised with the research team as one side of the service scale that would be weighed against the other side, being the speed of the connection. Residents who were part of the first cohort of project participants frequently raised the issue of internet speed in their interviews with the research team. Conversely, it was often raised in the context of the trade-off between price and quality, in this case the speed of the internet service. Even as a relatively new consumer of the internet most were reasonably informed about their options in relation to other internet providers that may be able to provide a faster service. Nevertheless, it was consistently relayed to the research team that this was not an affordable option and on that basis it made the Infoxchange service very good value.

> It is very good for the price. I can afford $15 I don't think I could afford it if I had to pay more than that so I am happy with it. The value for money is wonderful. You cannot argue with $15 a month. I think it is a good service and don't find it too slow but I don't do anything big on my computer, like movies or anything like that.

When I first got my computer it has improved, every now and then it takes a while to change a page. But I just turn it on and get a cup of coffee and its OK. The only time it is frustrating is when someone comes in at the last minute when I am buying something on Ebay and you think how did you do that so quickly. But there is always something similar to buy.

I get my internet from Infoxchange. It has been good value. Can't complain about that (the 15 bucks a month).

I have my internet from Infoxchange, it drops out some times but it is a very good service. $15 is very good.

The internet has been a good service. At the end of last year I got the computer from here, but with the internet there has always been something wrong, and I was always coming over here looking for Ming, and Ming and Thomas have been to my house so many times trying to help and still it won't work, until finally they got someone from Infoxchange to come in and put a box in my computer and now it is very good!

People's service has been good. And the $15 a month is good value.

Every time they have any more training I always come as I am keen to learn more

I get the internet from Infoxchange and it is a very good service. It is cheap though sometimes it drops out, but I don't worry about that.

But I like it because it is very cheap and that has given me a new chance to understand the computer and use all of the information on the computer.

And my mouse it often dies! So I come to the office and they give me another one! The staff they are very good!

And the price is fantastic, you cannot argue with $15 a month it is just such great value.

I think the Infoxchange service is very good. They help us.

I looked into other internet (before Infoxchange hooked up the internet) and they said it could cost up to $50 a month. So the $15 at Infoxchange is very good.

In 2010 Infoxchange released a new payment plan which ranged from $5 email to being able to buy a significant amount of gigabyte each month.

$5/month,	1GB	download,	128kbps
$15/month,	15GB	download,	256kbps
$25/month,	25GB	download,	256kbps
$35/month,	35GB	download,	512kbps

Infoxchange have designed the 2010 service provision into individual components to improve affordability. This is a good strategy as it reduces the "entry price" and provides a "taster" to the internet and an opportunity to build skill and confidence with using ICT. As perceived value increases so too will willingness to buy – that is, price sensitivity will fall.

Interestingly, concurrent to this plan there also seemed to be a shift in the expectations of existing consumers in 2010. Increasingly, the frustration with the level of service was raised and was more evident in discussions with residents. Resident's expectations of the service are a tension within the project, which quite possibly comes with a familiarity of the service

being available on the estate.   However, their expectations were not matched by the cost of the service, in that the current delivery of bandwidth is now at a premium level.

Residents are increasingly savvy about service provision as their ICT skills and confidences grew also articulating their requirement for a fully functioning help desk.   It is suggested that the latter is not realistic, given the pattern of subscription rates, the limits of the project funding and the consumer price sensitivity.   Infoxchange will have a help desk that will support a computer technician on the estate.   For residents is may not be adequate.

It is a tension in a project that is delivered by the public monies for the public good but then expected to operate as a private enterprise within a very short time period.   A time period that has been seriously compromised by the implementation hurdles discussed in this section. It is an anomaly in the project framework that will make the next stage of the project even more difficult.

Recommendation: Consideration should be given to funding the next stage of the project to support the social enterprise.   An ongoing functional presence on the estate could be used for ongoing training opportunities bolstering employment opportunities while assisting the sustainability of the project into the future.

Program challenges led to lower than expected subscription levels resulting in lower project income that undermines long term sustainability. A self-sustaining social enterprise is still achievable but requires additional work and resources.

A Snapshot of Wired Community@Collingwood in Practice

Introduction
This section of the report uses the qualitative data collected through interviews and focus groups to examine the impact of the Wired Community@Collingwood project. This data, collected from residents and project stakeholders has provided a rich source of examples and stories. In analysing the data the program objectives (as detailed in the program outline) were used as the guideposts for these conversations, and provide a context specific perspective and evidence base for this section of the report.

Citizenship; Improving health and well-being
The discussion with participants about an improvement to health and well-being was a little surprising, foremost for the fact that participants themselves made the connection. Sophie, though a little unusual in her hobbies and interests first made that connection. Sophie, through her computer, has become connected to the world; a factor that she admits has enabled her to feel better about herself and her health. She has graduated from using the local library to manage her veracious reading habit, to using the internet. Sophie was knowledgeable about world affairs and world history; keen to sit and discuss topics such as Prussian history; a particular interest of hers, the position of Iran in world politics, the Iraq war, and her political position on a Jewish state. Her currency of knowledge has been improved through her connection to the world wide web. More importantly her connection to the world has been improved.

The improvement to well-being is also closely intertwined with the connection to culture that is outlined below.   Sophie discusses her ability to read news on line as an important part of her day. John says that he likes to Google about health and food because he wants to stay in good health and so he keeps informed about what is good for him, in particular which western foods (John is Chinese) could improve his overall diet.

Anita discussed her general use of the computer and the internet including information that is now much more accessible to her. She says she will Google information about health issues, information about local services and has learnt to converse with services on line and through email. While she was recovering from her recent health issues, the connection to services was vital and she found that to be very helpful.

Ryan also feels like the computer has been an important to connect him to friends and the world in general. He now emails and is venturing to look at some of the social networking sites. Both the skills and the social connection are very important to Ryan, as they should be, to support him to feel connected to people and to community.

Joan is limited in her ability to be involved in activities on the estate, due to a language barrier. Joan plays the accordion and is involved in a band that plays for social occasions. Joan uses the computer to understand public transport to get to the venue in Fitzroy. Joan also uses the computer to stay connected to friends and family and maintain her connection to social activities. Interestingly Joan sees the computer as its own health and well being strategy. The computer keeps the mind active. One of the common factors in the interviews is how empowered residents feel now that they also know the secret; the secret of what is on the WWW.

I play the accordion in Fitzroy. In China my husband was a director of music. It has been our life and still important to me. I like doing it and it is good for the mind. It is easier now because I have email to know what is happening with practice. I also use the computer to tell me times of the bus that I must get.

I email my friends from china and also my friends that live locally. I can talk to them whenever I want on the email and it doesn't cost very much. (Joan)

The computer keeps my mind active. I got a typing program from the internet because I wanted to learn how to type better on the computer. I practice every day. It is very good for you to do something like this, it is the connection between your fingers and your mind, is good for your mind and keeps you active. So I don't always go on the internet. I also have games on the computer which I really like and sometimes I play games, that also keeps my mind active as it must talk to my fingers. (Myra)

The computer has been fantastic, because I am so isolated, I have problems leaving my apartment. But I don't go to the clinic as often now as I think I feel better just being more active, even if it is in my flat. Because I am isolated the computer and the internet keeps me in touch with what is happening around the world, and I feel included in the world. Where before we had the internet, I would sit at home and just read all day.

Because my home is such low stimulation for me, I am not allowed to be in high stimulation situations or I get anxious, my doctors say keep everything low stimulation, so at home I am quite often by myself, so I will either read news on the computer or play backgammon. (Sophie)

I was recovering from cancer, and I was just in my own little world trying to get well again, and I had a stroke and I was just starting to walk when I got into the social network and I went onto Oasis and that's where I met will and john. It has just been so good, it has been an incredible journey, meeting people and it helped my recovery, before I used to just listen to music or watch a show on SBS, (Anita)

I use email – I send my friends emails and photos. It helps me feel connected. I always thought, when I saw my friends with computers that I would never be able to get the hang of that, you know clicking too many times and all of that, but the training was really good! I use the computer lots now! (Joan)

I love the computer because I am lonely. My mum sleeps in the afternoon sometimes morning. My husband left me, has been 7 years now. I want to do something, so my son he gave me this chance. And it's really a window open to the world. You can see everything, and I am happy. (Maria)

Education and Training

Education and training was limited to those that were actively looking for work which was not the majority of the participants. The Wired project has been focussed on enabling entry to the digital age from those that are the most disconnected. In this case, the Digital Divide is most apparent in older adults, those from a CALD background and those that experience barriers to participation in employment or education because of poor health. Nevertheless, there were certainly a percentage of the case study participants who were actively looking for employment or who were currently engaged in education.

A common theme for participants that discussed education and training was the recognition that their computer skills were not adequate to gain employment leaving them unable to compete in the current employment market. Ryan was an example of someone who presented very well with good social skills. His motivation to join the Wired program is that he has very poor computer skills and recognizes that he is being left behind in the current age of technology. More importantly he is concerned about his ability to re-enter the workforce without that knowledge.

Mandy also sees the computer as essential not only as it is an important skill but also it has assisted her to connect to places of employment. Mandy also uses the computer to practice her English from a language disk. She says that the internet has been useful in her comprehension as she checks the meaning of words.

Joel found his current employment on the internet. He had developed his resume on his computer and was able to email it to prospective employers that had advertised jobs in places such as Seek. Joel gained his current employment from his own internet searches. In addition Joel discussed his goal to undertake Nursing course in 2010 which he currently was seeking information about the various options through course information online.

I have done a course on 'small skills' about computers before and I have also done this course at Infoxchange   The course here was good.

I use my computer for searching for a job and that is how I got the job that I have now at the City of Yarra.

More things I would like to learn on the computer so I need to be able to do my own essays on the computer and know how to print it and save it. Last year I studied nursing and I faced some difficulties and they said I should do an English course so I can improve my English and writing skills. So now I am trying to improve my English. I also use the internet to understand English words – I can look them up if there is something I don't understand its meaning.

When this job is finished I will think about study. I just want to change something a little bit, I don't really want to go back to VU because it's a little bit far for me. Maybe RMIT would be good.   I am looking on the website at courses. (Joel)

I came to Infoxchange to learn new skills on the computer. Because I don't have a job, I want to look for a job, I want to use the computer to write my resume and to look for jobs.   I know that the computer is very important for me, for work.   I also have an English language disc that I use to practice my English.

For example, before if I was looking for a job I have to send my resume through the post. Now I can send on the email. It is very easy! I feel very happy about it.

I know that the computer is very important for me, for work.   I also have an English language disc that I use to practice my English. (Mandy)

Community and Culture

This was a very broad topic interpreted in many different ways by participants, as diversely as their culture and their interpretation of community and their place within both. Ryan, for example, uses his computer to find out what is happening as he reads the Intranet and the grass roots site. He says he has got used to the Intranet to remind him of days where there may be lunch at the Information Centre or when there are events. He read about the harvest Moon Festival and was very excited that his picture was on the Intranet as it was snapped whilst he attended the Festival.

Judy, like many young people, is confident with the computer and had some prior experience through her connection to secondary education. Judy now uses her computer in her flat for connection to community, information and culture. Judy spent much of her adolescence in Africa and so identifies strongly with her culture. She notes that good African music can be found on YouTube which was clearly an important link to familiar cultural icons. Judy is connected to other young African women on the estate who all have Infoxchange computers.

Dave is able to engage in the community and uses the intranet to keep up to date with activities. His son goes to a local school and plays football locally; factors that he is clearly focused on. Most of the conversation was about his son and his focus on his success in education and in sport. Dave also uses the internet for banking and for Centrelink.

I do use that (the Collingwood intranet site) I like to see the weather. It is Melbourne I need to be able to see what the weather is! I also like to see what is happening and sometimes we need a bit of help and you can see where you can get extra food and other things.

I also use it for Metlink, it takes all of the hard work out of working out which way to go. I just put in my address and where I want to go and it does it all for me. I use that mostly to get my son to footy because he plays away games and we need to get him there on time by public transport. I really like Metlink for that reason.

The internet is important for my son for school etc. it's good for him to check his football club site to make sure nothing has been changed. It is good for him he can check the updates. (Dave)

I am using ebay occasionally and it is good for using ebay! And also for selling!

The computer has been great because now, for example, instead of having to drag the boy (his son) to the bank, I can drag him to the park for a kick. (Dave)

I look for information, for example I lost my year 12 certificate so I downloaded the form (from the internet) and sent it back.

I use it for public transport information

One of my friends she don't know how to speak English but now she is trying to teach herself and using the computer to help.

I have friends who like the computer because they study so far away and they used to have to go to the school library after school but then when they left to come home it was a bit dark.

Now when school finishes they can just come and use the computer at home.

I use Google to search for words/language, when I don't understand English words.

I use it to search for African music through you tube. (Judy)

I look at the Collingwood page because I like to see what is happening and I have got used to being reminded about what is going on. I was really surprised one day when I went onto the site and there I was eating at the Harvest Festival. I enjoyed the afternoon, I came down with a friend. I look up my computer for everything now. (Ryan)

I was also able to look up about my heritage which is wonderful, and I can just get on to MSN, what the latest goss, you know I love to read about Posh and Becks and all those celebrities.

But my family history and reconnecting all of that has been wonderful. I got on to Facebook, I love Facebook, and I had a nephew contact me after 30 years from Malaysia. I now have reconnected to some of my family overseas including my cousins and my step sister and brother. I just think it is amazing. I didn't know that this world existed before I learnt the computer and got my computer in my house. Even at my age you are never to old to learn and be a part of life.

I have been able to catch up with a lot of people from my early teens, late teens, twenties. Everybody seems to be on Facebook and you just get connected through just saying some of the things you are interested in.

I always read the local Collingwood information. It just makes you feel like you have a community – you know with things happening and it even has its own space on the web. I really like that and I think it is good for the residents who live here. I have also been using my internet to email to local services. I never go into Centrelink now and I sometimes even make appointments. (Anita)

I use Google for everything. Sometimes it is just information about something I want to know. I often get information about my health or things that I am concerned about. There is everything out there. (Joan)

Communication - Connection to the World

It was very common for people to discuss their connection to the world, this was largely through email, being able to read the news and use social networking sites. For participants who were from a CALD background email and a site like Face book became their connection to home. This was where they shared photos, connected with family and could discuss issues in their own language. Almost universally, the participants from a CALD background discussed the importance of being able to read the news in their own language, most *streamed* the BBC in Chinese or Vietnamese and simply felt more connected to the world around them.

Jack, who is an older adult was keen to discuss his use of Ebay. He has learnt how to use Ebay and was enthusiastic to showcase what he had purchased on Ebay. For Jack, it was

also important that Ebay delivered to his door as he doesn't go out very much and does not drive. All of which he has managed to negotiate through Ebay.

Dave uses email to connect with friends and family as he was originally from country Victoria. He regularly uses email to connect with school, his sons football club and in general. Dave uses google for information about anything and seems confident with the use of his computer.

Sophie connects to people from her flat, playing Backgammon or writing to the United States President. It provides her the ability to connect to issues of interest and to world politics. Sophie says that she regularly reads the news from around the world and loves the computer for her ability to get BBC and CNN.

Celine evidenced the confidence of a younger adult getting access to the Internet at home. Celine is from Morocco, married with one child. Celine is not a refugee and completed her education in Morocco. Celine embraces the technology like many of her peers from Generation X. Celine had downloaded Skype and had purchased a webcam, to be able to converse with family in Morocco and her brother in the US. Whilst the interview was taking place Celine's 5 year old daughter answered the Skype phone on her mothers computer and proceeded to converse with her uncle in Arabic, informing him that her mother was busy.

The access to technology for the child, her ability to practice her Arabic with family, the breakdown of isolation for Celine whose husband works all day and who is on her own are all topics of discussion in the interview. The most strking is that in this lower socio economic household technology is an integral component and one that will support the child's education.

I now have the optus internet, sometimes it is better (than the infoxchange internet) but sometimes it is slower, it is the nature of the internet I think!

I email my home and I send photos back home and I use the webcam. Sometimes I also shop on the internet. I see the special on the internet so maybe target or big w and then I go to the store and find it!

I talk to my children's school as well, so I email my daughters teacher and then he will email me back if I have any question or just need to talk to him.

Also, I don't have to use yellow pages or anything anymore because I can just type it into the internet and find it easily.

I also read news from home.

I also talk to my brother on MSN because he is in USA.

My daughter does the painting on it, the game!
Sometimes my daughter asks me to watch the princess stories, like Cinderella, on the internet so I load them on you tube for her and she sits there and watches it! (Celine)

I also use the computer as a music player.

I use the email to contact my brother and my mate.

I use it to contact other family and especially for school. Now I have it I am not sure how we managed with footy I suppose people rang, sometimes we just turned up and training had been cancelled and we didn't know. So now we know all of those things and it has been really good. (Dave)

I play internet backgammon all day, and all night, I play expert level, no one can beat me! I played 3 matches last night with a man from Turkey. I love it because it is a game of strategy, and you have to use your brain.

I read the news on the internet as well. I read the world news, I was interested in the Italian Prime Minister yesterday. So I decided to go in and read about all that, I read about, in politics, all the stuff about Iraq, how Britain is pulling out and leaving it all up to the Americans, I think Australia needs to pull out now, I just go in there every day and have a look.

I wrote a lot of letters to politicians, I have hand written a lot of letters in the past, after 9/11 after the US invaded Iraq, I wrote a thesis, about 20 or 30 pages long, on my perceptions, I sent one to John Howard, Tony Blair, Condalesa Rice, George Bush – I got three letters back from John Howards office, one from Senator Heffner, and 2 from John Howards Office – They were trying to justify the reasons, and going through the Geneva Convention, as to why this war was justified. And I just didn't buy it at all, I knew it was all about oil. I wrote a letter, and I sent it into the Herald Sun and they published it. Now I write it on the computer and it is much easier, I can scrub out stuff I want to change and I come back to letters over a week and get them right. (Sophie)

I now use ebay – at the start I didn't have a clue what to do but I just kept practicing and then I picked it up. If I need anything I look on ebay to see if I can find it. Otherwise I just browse through and look what catches my eye. I am buying some dvd's on it at the moment.

I don't get out that much and I don't like watching television that is not worth watching so I watch the dvd's – i bought 50 dvd's on Ebay all together, in a bulk buy.

I still cant use it properly to do things that I want to do, when something goes wrong I cant fix it, I got to go to google and ask and wait for the answer to come up to see if I can fix it. Just like last night I pressed a button and everything was in capital letters and I didn't know how to take it back!

So I go to google and ask the question and google tells me (how to fix it).

But I have worked out how to get onto Centrelink and I didn't have to go into the office when I had a question.

I want to learn how to get music onto the computer. There is still lots of stuff I want to know and have to learn. (Jack)

That is another reason why the computer is another handy things because if you are unemployed you cannot go out much so you are often at home, so you can look up movies etc which is really great!

I obviously look up movies (on the internet) but I also use you tube… nothing that creative!

I always watch the news on the television so I don't really use the internet for news

I use email – I send my friends emails and photos. It helps me feel connected. I always thought, when I saw my friends with computers that I would never be able to get the hang of that, you know clicking too many times and all of that, but the training was really good! I use the computer lots now! (Ryan)

Resident Survey

Introduction

The evaluation framework incorporates the following domains: information and communication, citizenship, community and culture, health and wellbeing, and economic status. There are several dimensions within each of these domains and we have developed or adapted a number of survey questions devised to capture the impact and benefits on participating residents. The 2009 Annual Report presented a detailed analysis of resident participation in community, citizenship, culture and economic status. This report focuses on computer and internet access, ISP quality and satisfaction, usage patterns and changes in resident behaviour and capability. This analysis enables an exploration of the impact and benefits that internet access has provided for residents.

The Sample

The resident survey was administered at two points: March 2009 and June 2010. The 2009 survey focussed on the first residents that completed the computer training as at March 2009, receiving free second-life computers and access to low-cost internet service. The 2010 snapshot captured a different sample of the resident population, most of who engaged with the project in its second phase from May 2009 onward.

The sample for each survey is presented in Table 3. At the time of the first survey in March 2009, participation in computer and internet training at the ICT Hub was a prerequisite to receiving a second-life computer. Data collected during the training sessions revealed that around 50% of the 323 residents who had undertaken training at that point had Limited English Proficiency (LEP) and did not speak English "very well" or "at all". To ensure that we maximised the response rate LEP residents were supported with the provision of interpreter services. Five key language groups were targeted and reflect their relative size on the estate: Vietnamese, Cantonese, Mandarin, Arabic/African and English. 102 of these 323 residents completed the 2009 survey, with around one quarter from each language group as presented in Table 3.

The 2010 survey was completed in August 2010 by 120 residents, only 16 of which were matched against the 2009 survey. This means that we have two relatively distinct samples of the resident population that engaged with the project taken at two different points in time, over the first two phases of the project and around one year apart.

Table 3 Proportion of self-completed and interpreter mediated survey responses

Survey Type and Country of Birth	2009	2010
Interpreter Mediated: Vietnamese	29 (28.4%)	4 (3.4%)
Interpreter Mediated: Cantonese/Mandarin	25 (24.5%)	46 (39.3%)
Interpreter Mediated: African	25 (24.5%)	38 (32.5%)
Online and paper-based: mostly Australian	23 (22.5%)	29 (24.8%)
Total	102	117

Demographic Profile

The survey captured data on resident characteristics to enable an analysis of changes in attitudes, behaviour and outcomes by a range of socio-economic and diversity data. Table 4 presents the age distribution of respondents and reveals that 65 residents or 35% were over 60 years of age. The lowest age was 22 and the highest was 86 years of age. This is particularly encouraging as digital exclusion is particularly high for older people and suggests a relatively successful take up for this cohort of residents. Figure 8 reveals a relatively high proportion of females (61.2%) compared to males (38.8%). The relatively high proportion of Vietnamese, Chinese and African residents completing the survey (Table 5) reflects both the ethnic profile of residents on the estate and the provision of interpreters that targeted these specific language groups.

Table 4 Age distribution of respondents

Age	2009 Cohort	2010 Cohort	Total	%
Less than 40	33	34	67	36%
40-49	22	15	37	20%
50-59	8	8	16	9%
60-69	10	8	18	10%
70-79	15	21	36	19%
80+	4	7	11	6%
Total	92	93	185	100%

Figure 8 Gender
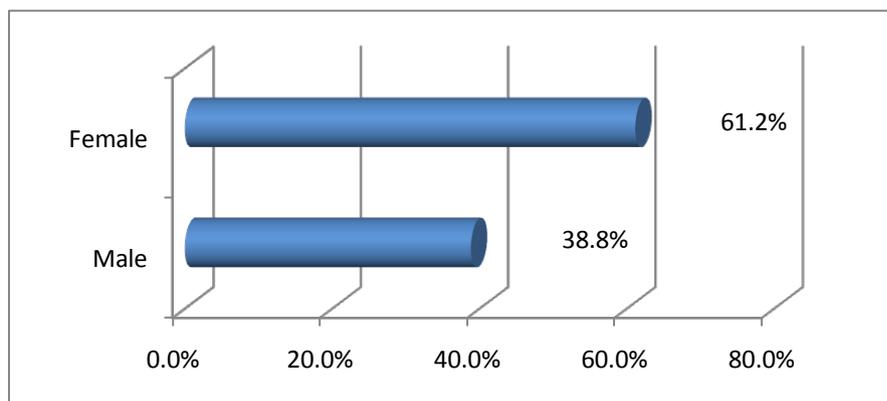
Table 5 Country of Birth

Place Of Birth	2009 Cohort		2010 Cohort	
Australia	6	6.5%	15	13%
China	21	22.6%	46	39%
Europe	0	0.0%	2	2%
Etheopia	15	16.1%	14	12%
Somalia	5	5.4%	15	13%
Sudan	6	6.5%	9	8%
Other Africa	0	0.0%	0	0%
Turkey	2	2.2%	0	0%
Vietnam	25	26.9%	4	3%
Other -specified	13	14.0%	14	12%
Total	93		119	

Figure 10 presents resident diversity characteristics and reveals that a significant proportion of respondents, around 76%, speak a language other than English at home. Around 8% of those surveyed were recent migrants or refugees, while a further 7.2% indicated that they had a disability.

Figure 9 Diversity
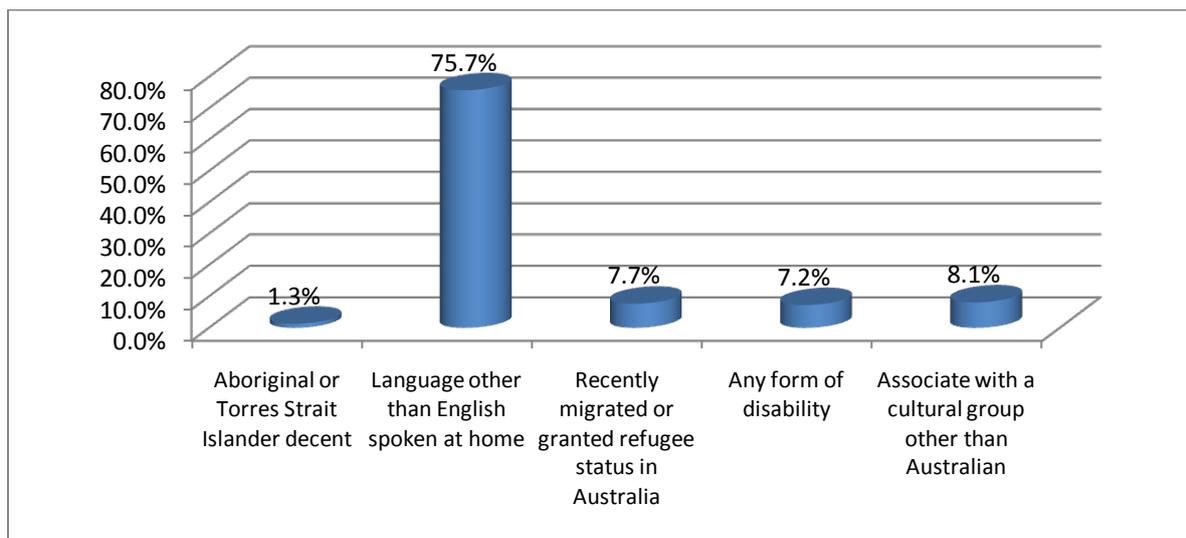
English is the main language spoken at home by around 26% of the 323 residents that had completed the computer and Internet training as of March 2009. The dominant languages, Vietnamese (19.4%), Chinese (16.1%) and the numerous African languages, reflects the ethnic diversity of the resident population and the targeted nature of the interpreter mediated survey approach detailed in the methodology section. The "other" language category includes Amharic, Tigrinya, Dari, Italian, Kurdish, Nuer, Persian/Farsi, Portuguese, Spanish, Swahili, Assyrian, Eritrean, German, Hareri, Slovak, Zulu.

Table 6 Inclusion of people with languages other than English

Language Spoken at Home	%
English	26.2%
Vietnamese	19.4%
Chinese	16.1%
Somalian	8.6%
Oromo	6.1%
Dinka	3.9%
Greek	3.9%
Turkish	3.6%
Other	12.2%

Source: Infoxchange

Social Enterprise Employment Model

The Wired Office is the base for the estate-based Social Enterprise, established to delivery social outcomes by utilising income generated from ISP subscriptions. An "employment model" of social enterprise has been established providing direct employment (full-time, part-time and casual) and volunteering opportunities. Table 6 reveals that the enterprise has employed residents in a range of positions including administration, help-desk technician and several casual positions over the life of the project. Residents have also volunteered in a range of roles including updating intranet content, administration and assisting with the promotion of the project to fellow residents. In a submission to the Social Inclusion Unit (Department of the Prime Minister and Cabinet) Social Traders et al (2009:2) identify a set of key principles for effective social enterprises:

- Balances economic and social goals
- Requires a commercial focus for sustainability
- Creates both paid and unpaid employment opportunities
- Demonstrate strong partnerships with key stakeholders
- Demonstrates value by reporting social impact

The number of employment opportunities created is dependent on the number of Infoxchange ISP subscribers – this is the commercial element of the social enterprise. Inspected Table 7 we can see that a total of 424 internet accounts and 579 email accounts were established, but not necessarily active at any one time. These ISP subscriptions are critical to commercial viability. As detailed in an earlier section, effective project implementation has been impeded by contractual and political dynamics on the estate. This has impacted the number of subscribers and thereby the number of staff that can be employed in the social enterprise. The absence of one of the key principles listed above - namely, strong partnerships with key stakeholders – is arguably the key impediment identified in this evaluation. This is not a criticism of the project managers but rather acknowledgement of the complex social and political dynamics present on the estate.

Training to enhance ICT knowledge and skills is fundamental to increasing access to and confidence in using ICT. Residents were offered free training at the ICT hub (located within the housing estate) catering for a range of experience and interests. Training included introductory sessions for beginners on using PCs, Email and Internet. As the project progressed additional workshops were offered to accommodate the needs and interest of

more experienced users and first-time users returning to enhance their skills and knowledge. More advanced sessions included Microsoft Word, Social Media, Content Development, Accessing Services, Multimedia and PC maintenance. The onsite training hub was effective in providing training support with a total of 738 registrations since project inception, reflecting the many residents that attended multiple sessions. A total of 96 helpdesk inquiries were received and supported.

The project also established an intranet to provide improved access to estate-based services, resident groups and estate related news and events. This included links to government and community service providers such as Centrelink, Smith Family, Medicare and the Fitzroy Legal Service.

Table 7 Access to ICT, Training & Services

Number of computers provided and installed	648
Training registrations/attendances	738
Number of Internet accounts	424
Number of email accounts	579
Number of helpdesk enquiries	96
Number of residents employed and type of employment at the ICT Hub	1. Technician / helpdesk (1.5 positions) 2. Administrative Officer/ Receptionist (full-time) 3. Casual employment as required (several positions)
Intranet – provides information and access to services	Government services: • Office of Housing • Centrelink • Medicare and • State Government Concessions Local services: • The Smith Family • Good Shepherd • Fitzroy Legal Services and • Financial Counseling services at the City of Yarra Resident Groups such as the United Collingwood Communities Events at the Collingwood Neighbourhood House and the Collingwood Community Information Centre
Volunteering	Many residents worked as volunteers on the project assisting with a range of activities including administration and updating intranet content. Total of 12 placement students have worked in 2010.

Source: Infoxchange

Inspecting Figure 11 we discover that the cohort of residents that completed the survey in 2009 and 2010 are quite distinctive in terms of their experience in using ICT. For the 2009

cohort around 54% were using computers for the first time as part of the Wired Community @ Collingwood Project. This is a significant outcome in bridging the digital divide considering that around 80% of Australians were using the internet in 2009. A further 14% had been using a computer for about 1 year while around 6% indicated that they did not use a computer. Around 14% indicated that they had used a computer for 5 years or more.

Figure 10
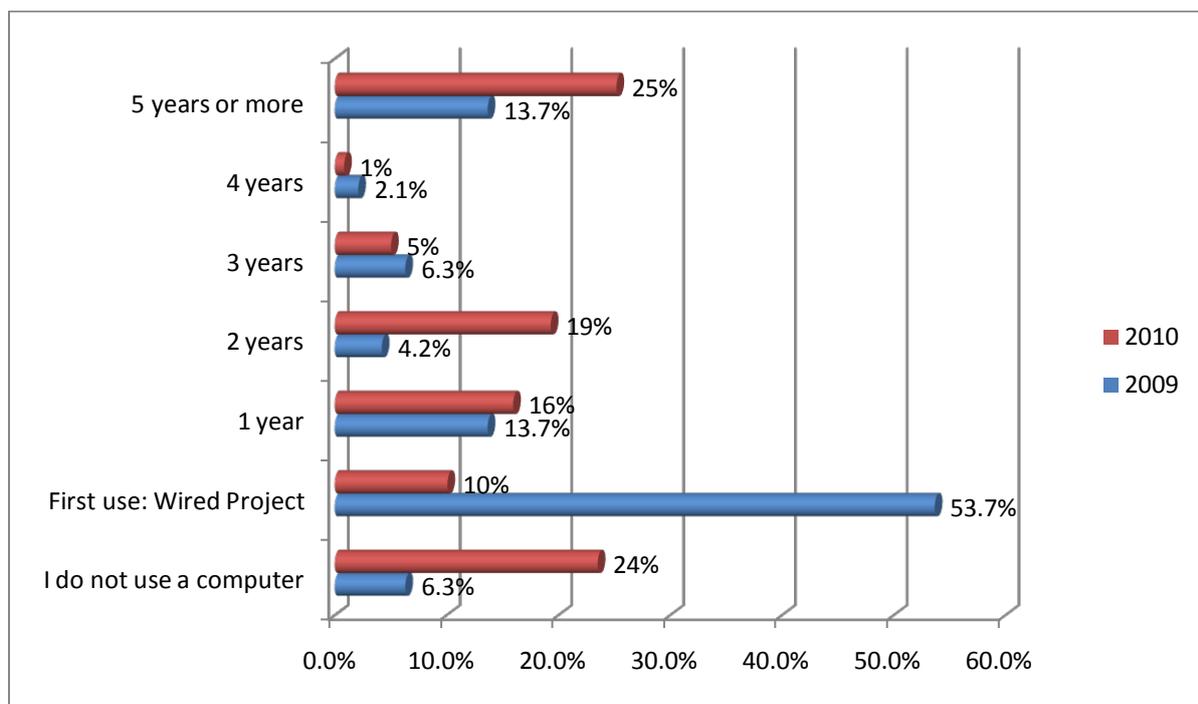
This is in contrast to the 2010 cohort where 25% had used a computer for 5 years or more and a relatively small 10% were using a computer for the first time as part of the Wired Project. We now turn to the analysis of behaviour and impact that can be attributed to the provision of ICT for Collingwood housing estate residents.

Internet access

At the time of the 2009 and 2010 survey around 63% and 67% of respondents respectively had internet at home. Reasons cited for not having internet included: no interest or use for the internet (11.4% and 5.5%), don't know how to use a computer (6.8% and 9.1%), no computer at home (9.1% and 15.5%) and affordability (10.2% and 2.7%).

Figure 11 Do you use Internet at home?

Horizontal bar chart comparing 2009 (blue) and 2010 (red):

- No, because I have no interest or use for the internet: 2010 = 5.5%, 2009 = 11.4%
- No, because I do not know how to use a computer: 2010 = 9.1%, 2009 = 6.8%
- No, because I cannot afford it: 2010 = 2.7%, 2009 = 10.2%
- No, because I do not have a computer at home: 2010 = 15.5%, 2009 = 9.1%
- Yes, I have internet at home: 2010 = 67.3%, 2009 = 62.5%
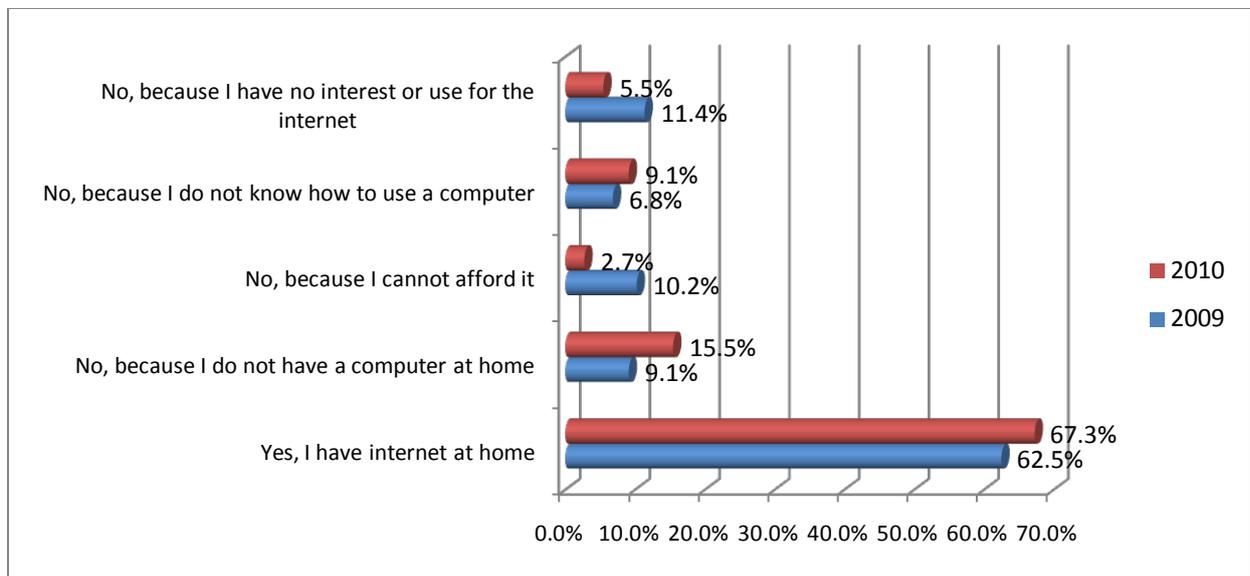
The majority of residents surveyed subscribe to the low-cost internet service ($15 per month) provided by Infoxchange. Residents using other ISPs such as Optus or Telstra subscribe to packages providing faster internet speed with higher download allowances, paying up to $89 per month. The proportion of residents that do not have internet at home is higher in 2009 as compared to 2010, principally due to affordability, perceived value/use and personal skills and capability. The project has been successful in substantially increasing internet penetration rates on the estate via the provision of a low-cost service which unbundles package elements typically offered by commercial providers. Notably, while 2010 survey respondents were more experienced in internet usage, around 60% of these residents subscribed to the Infoxchange service.

Figure 12 Internet Service Provider

Vertical bar chart comparing 2009 (blue) and 2010 (red):

- Do not have internet at home: 2009 = 20.3%, 2010 = 7.6%
- Infoxchange: 2009 = 53.2%, 2010 = 59.5%
- Optus: 2009 = 11.4%, 2010 = 17.7%
- Telstra Bigpond: 2009 = 7.6%, 2010 = 3.8%
- Dodo: 2009 = 2.5%, 2010 = 1.3%
- Other: 2009 = 5.1%, 2010 = 10.1%
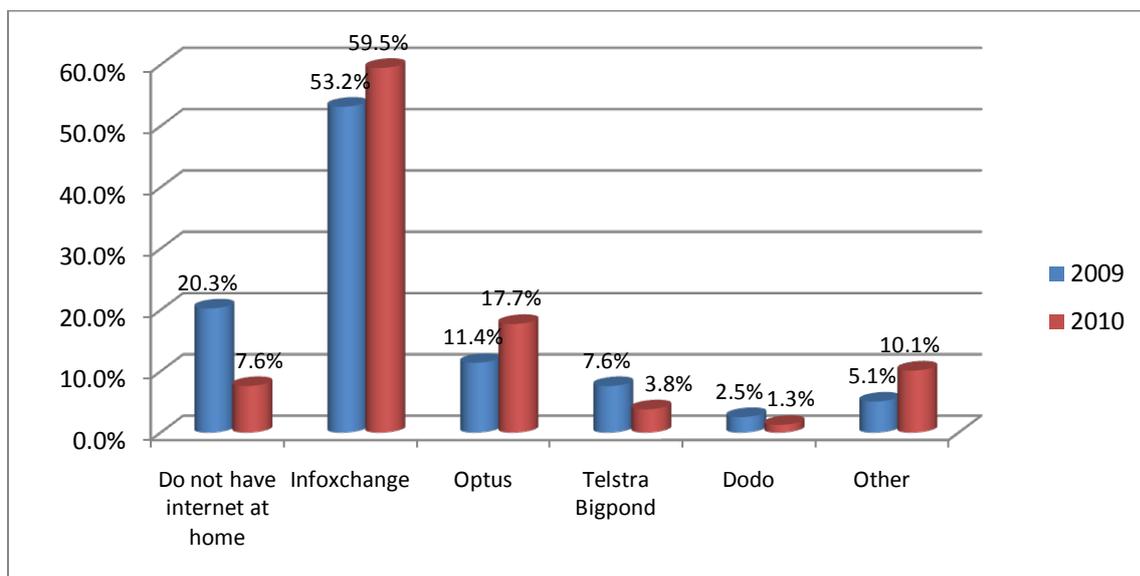
Table 8 ISP Monthly Fee (remove table and sub for text)

Cost per month		
Min	$ 15	$15
Max	$ 89	
Mean	$ 26	$38

Internet service quality

While 2 in 3 Infoxchange ISP customers were satisfied with overall customer service in 2009, it is notable that a relatively high 1 in 3 respondents were dissatisfied with the reliability of the internet service connection. The dissatisfaction with the reliability of the service reflects the frequency of drop-outs and slow speeds reported, where around 52% of 2009 survey respondents indicating that this was commonplace. While customer service quality remained consistent into 2010, dissatisfaction with the reliability of the service continued to be a problem for residents with 43% of respondents indicating they were very dissatisfied with the service, no doubt reflecting the 48% who report frequent drop-outs or slow speeds. It is noteworthy however that around 42% and 36% of respondents in 2009 and 2010 respectively are satisfied with the reliability of the service. This is consistent with the 44% of respondents in 2010 that report that they have never or seldom had drop-outs or slow speeds. These disparate experiences warrant some further exploration.

Table 9 Consumer Satisfaction

	Overall Customer Service		Reliability of Connection	
	2009	2010	2009	2010
Extremely Satisfied	13 (22.0%)	25 (34%)	8 (14.0%)	9 (11%)
Satisfied	26 (44.1%)	24 (32%)	16 (28.1%)	20 (25%)
Neutral	16 (27.1%)	21 (28%)	16 (28.1%)	4 (5%)
Dissatisfied	3 (5.1%)	3 (4%)	10 (17.5%)	12 (15%)
Extremely Dissatisfied	1 (1.7%)	1 (1%)	7 (12.3%)	34 (43%)

Table 10 Frequency of drop-outs or slow speeds

	Drop-outs or slow speeds	
	2009	2010
Always/Consistently	36.7	38%
Often	15%	10%
Sometimes	26.7%	8%
Seldom	5%	22%
Never had any problems	16.7%	22%

Notwithstanding the reliability of the service, around 60% of residents report they are satisfied with the prompt and helpful assistance provided by staff at the help-desk. The overall satisfaction with the service is further evidenced by the 60.3% of residents that believe the Infoxchange internet service provides value for money, with a relatively small proportion (17.5%) who believed it does not represent value for money.

Figure 13 Infoxchange ISP Value for Money
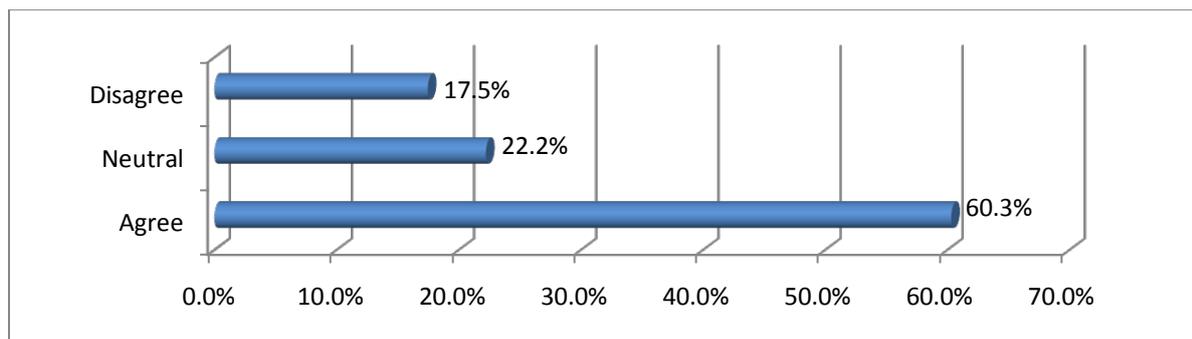
The factors contributing to service quality issues were detailed in an earlier section of this report, namely, the complex contractual arrangements that separated the provision and management of the ICT infrastructure from the ISP. While this was a significant contributor to service reliability problems, a closer look at the 2010 survey data reveals another factor - one that helps explain the seeming contradictory experiences of Infoxchange ISP customers with respect to satisfaction with the reliability of the service and service drop-outs or slow speeds. Inspecting Table 11 we discover that Infoxchange is the only ISP which respondents report suffers from regular drop-outs and slow speeds (100% of all "sometimes", "often" or "always" responses). The Chi-Square test for statistical significance reveals that the two variables – ISP and drop-outs/low speed are related at the 0.1% level of significance ($p<0.001$) confirming the strong correlation between ISP and reliability and quality of service. However, exploring this correlation a little further, there is a clear relationship between the monthly subscription fee and slow-speeds or drop-outs ("connection reliability"). Inspecting Figure 15 we can see a direct relationship between these two variables. All but 2 of the 28 respondents who use an ISP other than Infoxchange pay a monthly subscription ranging from $70 to $100. It is not surprising then that these residents report satisfaction with speed and the frequency of drop-outs. By comparison the majority of Infoxchange customers are on low-price packages which typically have slower speeds and download allowance. Figure

15 clearly demonstrates that the slow speeds reported by some Infoxchange customers is associated with the type of Internet service to which residents subscribe as indicated by the monthly fee.

Table 11 Drop-outs or slow-speeds by ISP

	Never	Seldom	Sometimes	Often	Always	Total
Infoxchange	2	0	4	8	29	43
	13.3%	.0%	100.0%	100.0%	100.0%	60.6%
Optus	6	8	0	0	0	14
	40.0%	53.3%	.0%	.0%	.0%	19.7%
Telstra Bigpond	2	1	0	0	0	3
	13.3%	6.7%	.0%	.0%	.0%	4.2%
Dodo	1	0	0	0	0	1
	6.7%	.0%	.0%	.0%	.0%	1.4%
Other	4	4	0	0	0	8
	26.7%	26.7%	.0%	.0%	.0%	11.3%
Total	15	15	4	8	29	71
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

One explanation for the large proportion of respondents reporting frequent "drop-outs" is explained by the servicing arrangements noted above. Infoxchange had responded to this constraint by working with other key stakeholders and service providers to resolve several infrastructure issues that had led to an improvement in service quality. Following these interventions a subsequent targeted survey of 12 residents using the Infoxchange service was conducted, almost all of whom reported a significant improvement in service quality and reliability.

Figure 14 Internet connection reliability and subscription fee
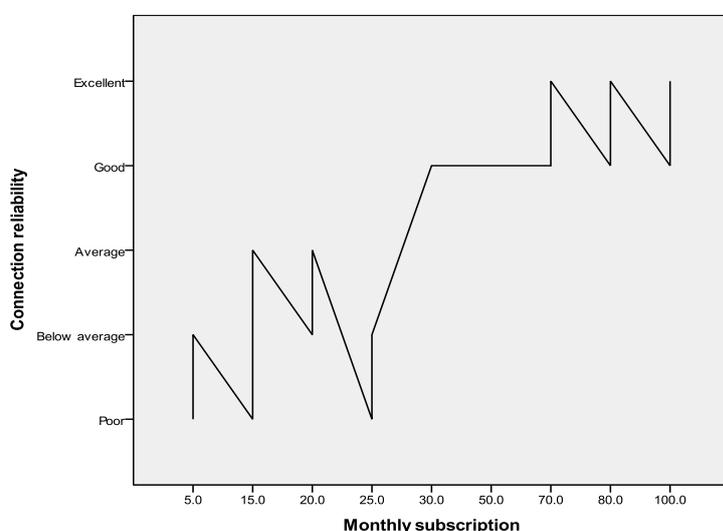
The estate-based ISP clearly impacts the quality of customer service with around 8 in 10 Infoxchange customers rating it as excellent or good (47.6% and 31% respectively) as illustrated in Table 12. Notably, Infoxchange accounts for 83.3% of residents that rate their ISP customer service as excellent. The Chi-Square test for statistical significance reveals that the two variables – ISP and customer service are related at the 0.1% level of significance ($p<0.001$) confirming the strength of the relationship between ISP and customer service. Overall, a relatively small 6% rate customer service as below average, spread evenly across Infoxchange and other ISPs.

The highly rated customer service is no doubt a function of the Social Enterprise element of the project that incorporates the employment of residents in the Wired Office. As detailed in the report on the qualitative evaluation of the project, the social enterprise employment model has proven to be very successful. These staff have become well known to other residents and provide familiar local faces that provide real-time troubleshooting, training and other support to residents.

Table 12 Customer service satisfaction by ISP - 2010

ISP * Customer service Cross tabulation

			Customer service					
			Poor	Below Average	Average	Good	Excellent	Total
ISP	Infoxchange	Count	1	1	7	13	20	42
		% within ISP	2.4%	2.4%	16.7%	31.0%	47.6%	100.0%
		% within Customer service	100.0%	33.3%	41.2%	56.5%	83.3%	61.8%
	Optus	Count	0	1	4	5	4	14
		% within ISP	.0%	7.1%	28.6%	35.7%	28.6%	100.0%
		% within Customer service	.0%	33.3%	23.5%	21.7%	16.7%	20.6%
	Telstra Bigpond	Count	0	0	0	3	0	3
		% within ISP	.0%	.0%	.0%	100.0%	.0%	100.0%
		% within Customer service	.0%	.0%	.0%	13.0%	.0%	4.4%
	Dodo	Count	0	1	0	0	0	1
		% within ISP	.0%	100.0%	.0%	.0%	.0%	100.0%
		% within Customer service	.0%	33.3%	.0%	.0%	.0%	1.5%
	Other	Count	0	0	6	2	0	8
		% within ISP	.0%	.0%	75.0%	25.0%	.0%	100.0%
		% within Customer service	.0%	.0%	35.3%	8.7%	.0%	11.8%
Total		Count	1	3	17	23	24	68
		% within ISP	1.5%	4.4%	25.0%	33.8%	35.3%	100.0%
		% within Customer service	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Despite the high quality customer service, the infrastructure management challenges have clearly impacted on perceived value for money with almost 5 in 10 residents strongly

disagreeing that the Infoxchange service provides value for money. This data is presented in Table 13 which provides a comparison with perceived value for money for a major ISP. By comparison around 8 in 10 residents agreed or strongly agreed that Optus provided value for money – despite the significantly larger monthly premiums paid by these residents, ranging from $70 to $100 per month. Indeed it is the 2 residents that subscribe to the $20 per month Optus internet service that disagreed that the service represented value for money. This adds considerable weight to the argument that it is the internet service package to which residents subscribe rather than the price of that service that impacts perceived value for money and reliability of service.

Table 13 Value for money by ISP - 2010

			Value for money					
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
ISP	Infoxchange	Count	20	10	9	2	1	42
		% within ISP	47.6%	23.8%	21.4%	4.8%	2.4%	100.0%
		% within Value for money	100.0%	71.4%	90.0%	12.5%	10.0%	60.0%
	Optus	Count	0	2	1	5	6	14
		% within ISP	.0%	14.3%	7.1%	35.7%	42.9%	100.0%
		% within Value for money	.0%	14.3%	10.0%	31.3%	60.0%	20.0%
	Telstra Bigpond	Count	0	0	0	1	2	3
		% within ISP	.0%	.0%	.0%	33.3%	66.7%	100.0%
		% within Value for money	.0%	.0%	.0%	6.3%	20.0%	4.3%
	Dodo	Count	0	0	0	1	0	1
		% within ISP	.0%	.0%	.0%	100.0%	.0%	100.0%
		% within Value for money	.0%	.0%	.0%	6.3%	.0%	1.4%
	Other	Count	0	0	0	7	1	8
		% within ISP	.0%	.0%	.0%	87.5%	12.5%	100.0%
		% within Value for money	.0%	.0%	.0%	43.8%	10.0%	11.4%

Information and Communication

Internet usage patterns

The intensity of use is an indicator of e-inclusion and can be measured by the percentage of individuals who access the internet every day (or nearly every day) or every week (Bentivegna and Guerrieri, 2010). Table 14 presents internet usage patterns by activity or purpose with data presented in rank order according to "daily use" (first column).

Accessing news and current affairs is the most frequent daily activity with 29.3% of residents reading or listening to online news "daily or almost every day", with a further 18.3% accessing news on a weekly basis. A significant number (41.4%) never or hardly ever use the internet for this purpose.

Table 14 Internet Usage Patterns

	Daily	Weekly	Monthly	Never/Hardly Ever
News	29.3%	18.2%	11.0%	41.4%
Email	25.3%	20.5%	13.2%	41.1%
Other communication (e.g. Facebook, Skype, Myspace)	19.0%	14.0%	11.2%	55.9%
Study, homework or research	17.7%	11.6%	8.3%	62.4%
Entertainment	16.1%	23.9%	12.8%	47.2%
Information (health, housing and other services)	8.8%	16.6%	16.6%	58.0%
Looking for employment	8.6%	10.3%	9.2%	71.9%
Downloading music or movies	7.2%	6.1%	15.5%	71.3%
Online education or training	6.6%	8.8%	7.2%	77.3%
Banking	3.4%	5.6%	5.1%	86.0%
Paying bills	3.4%	3.4%	3.9%	89.4%
Shopping	2.2%	3.9%	8.4%	85.5%

Using email is the next most frequent use of the internet with 25.3% of residents using email daily, with a further 20.5% using email every week. Again a significant number, around 41% never use the internet for email. 19% use social networking media (Facebook, Skype, Myspace etc.) as another form of communication each day, with a further 14% using social media each week. Around 56% indicate that they never use the internet for this purpose.

Using the internet for study or research is the next most significant activity with around 18% and 12% using the internet for this purpose on a daily and weekly basis respectively. The significant number of residents (62.4%) that indicate they do not use the internet for this purpose likely reflects the older age profile of the sample. Using the internet for entertainment is the next most frequent activity for 16.1% of respondents, with a further 23.9% using it for entertainment on a weekly basis. 47.2% of respondents never use the internet for this purpose.

Improved access to information on a range services is major objective of the Wired Community @ Collingwood project. Of the 190 residents surveyed 8.8% use the internet to source information about support services on a daily basis, with a further 16.6% doing so on a weekly basis. However, around 6 in 10 residents (58%) were not using the internet to access information about services such as health and housing, representing a significant missed opportunity for service providers, particularly those operating on or around the estate to better engage and support residents. Indeed, the proportion rises to almost 7 in 10 (67%) for the 2010 respondents. Given the number of first time users in the survey it is not surprising that online banking, shopping and bill payment are the least frequent uses for the internet with around 80% to 85% of residents never using the internet for these purposes.

Employment search is indicated as a daily activity by a relatively small 8.6% of residents, with a further 10.3% using the internet for this purpose on a weekly basis. While a relatively high 7 in 10 indicate they do not use the internet for job search this likely reflects the large

number of residents that are not in the labour force. Indeed, inspecting Table 15 which presents data for the 2010 cohort, we find that the internet is used for employment search by 50% of those indicating they were unemployed at the time of the survey, with 37.5% of those looking for work online on a weekly basis. Importantly, the survey reveals that even those who were employed were using the internet for employment search, with almost 70% of those employed on a part-time basis using the internet to look for jobs.

Table 15 Employment search by employment status

	Daily	**Weekly**	**Monthly**	**Never**
Employed (full-time)	0	1 (50%)	0	1 (50%)
Employed (part-time)	2 (15.4%)	4 (30.8%)	3 (23.1%)	4 (30.8%)
Not employed – looking for work	1 (6.3%)	6 (37.5%)	1 (6.3%)	8 (50%)
Home Duties	0	0	1 (10%)	9 (90%)

The community intranet established as part of the Wired Project was expected to achieve a number of outcomes including improved access to estate-based services, a better sense of community and the provision of information, news and events relating to the estate. Table 15 reveals that "word-of-mouth" remains the most common source for finding out about news, information and activities for almost 4 in 10 residents. Around 1 in 3 residents cite the estate based newsletter (The Link) as a source of information while only 5% and 3% respectively cite the intranet and email as a source of information.

Table 16 Estate news and information sources

	How do you find out about news, information and activities happening at the Estate?
Word of mouth	85 (36%)
The Link - Newsletter	63 (27%)
Notice board on the estate	51 (22%)
Club, Group or other resident meetings I attend	13 (6%)
Collingwood Community Intranet	11 (5%)
Email	6 (3%)
Grassroots Networking	3 (1%)
other	1 (1%)

Behavioural change & capability

Of particular interest is the impact of ICT on resident behaviour and capability. Table 17 presents resident responses to a series of capability statements ranked in order of greatest impact or significance of change. Around 50% of respondents to the 2009 and 2010 survey report a significant (19.8%) or moderate (30.5%) change in their ability to stay in touch with

friends and family. As noted in the numerous resident case studies reported in an earlier section, the provision of a computer and internet has enabled residents to stay in touch with families abroad and has become a critical element of their social support network. Around 42% of residents report a significant (16.5%) or moderate (25.6%) change in their ability to learn new things. Consistent with the data presented earlier on the use of the internet for employment search, around 40% report a significant (15.1%) or moderate (24.5%) change in their ability to search for employment. Around 40% report a significant or moderate change in their ability to pursue their hobbies and interests.

Table 17 Changes in behaviour and capability

(2009 and 2010 data)	Significant Change	Moderate Change	Minimal Change	No Change
Ability to keep in touch with friends and family	19.8%	30.5%	16.4%	33.3%
Ability to learn new things	16.5%	25.6%	22.2%	35.8%
Ability to search for employment	15.1%	24.5%	12.3%	48.1%
Ability to find out about courses and training opportunities	12.2%	16.3%	18.0%	53.5%
The way you pursue your hobbies or interests	10.3%	29.1%	24.0%	36.6%
Ability to share your ideas and creations with others	8.1%	28.3%	19.7%	43.9%
Ability to do your job	7.3%	25.5%	10.9%	56.4%
Ability to access services (health, transport etc.)	7.1%	11.8%	27.8%	53.3%
(2010 data)				
Access to news and information	8.1%	37.8%	14.4%	39.6%
Sense of wellbeing	7.3%	29.4%	22.9%	40.4%
A sense of community at the Housing Estate	1.8%	11.7%	37.8%	48.6%

The provision of ICT access has had a moderate or significant impact on residents' ability to do their job (32.8%) and on their ability to share ideas and creations with others (36.4%). Consistent with internet usage patterns reported earlier, around 53% indicate that there has been no change on the way in which they access health and other services. A relatively small 19% or 2 in 10 residents report a significant or moderate impact on services access. As a key objective of the program, this is a disappointing outcome and one that may reflect the complex relationships that exist on the estate and the considerable work required for the broad range of service providers to improve cross-institutional communication and leverage ICT for improved service provision to the majority of households on the estate.

Three additional questions were added to the 2010 survey to explore other program objectives: access to news and information; sense of personal well-being; and a sense of community. Around 6 in 10 residents report some improvement in their sense of well-being attributable to the provision of ICT with 7.3% and 29.4% reporting significant and moderate

change respectively. A similar proportion (6 in 10) residents report a change in their access to news and information with 8.1% and 37.8% reporting a significant and moderate change respectively. A relatively small but notable proportion of residents (13.5%) report a significant or moderate change in their sense of community at the housing estate.

Summary

The Wired Office is the base for the estate-based Social Enterprise, established to delivery social outcomes by utilising income generated from ISP subscriptions. An "employment model" of social enterprise has been established and has successfully provided direct employment and volunteering opportunities for residents. Resident staff became well known to other residents and provided a familiar local face that provided real-time troubleshooting, training and other support to residents. This is reflected in high levels of customer service satisfaction.

However, lacklustre engagement by several stakeholders and the consequential diminution of strong partnerships was identified as an impediment to the effectiveness of the social enterprise model, particularly as a conduit for access to clients.

The survey analysis enabled an exploration of the impact and benefits that internet access has provided for residents focussing on internet access, ISP quality and satisfaction, usage patterns and changes in resident behaviour and capability. These results reveal considerable success in improving ICT access and intensity. Usage patterns reveal improvement in both the social and economic dimensions of resident lives. Improved access to news and information, communications with friends and family and online employment search were cited as some of the key activities that the internet enabled. Around 54% of residents surveyed in 2009 were using computers for the first time, representing a significant outcome in bridging the digital divide.

The internet service was however marred by resident dissatisfaction with the reliability of the service. This was an ongoing problem that reflected both infrastructure and bandwidth challenges. It is important to remember that the majority of rsidents surveyed subscribed to low-price packages which typically have slower speeds and download allowances.

Another indicator of e-inclusion and program success is intensity of use. Many residents were now regular users of the internet for news, email, social networking, entertainment and employment search. A somewhat disappointing outcome was the low number of residents that were using the internet to access information from local service provided, including those based on the estate itself.

The project has also made a demonstrable impact on resident behaviour and capability. Many residents report significant changes in their ability to stay in touch with family and friends, their ability to learn new things, to search for employment, to pursue hobbies and interests and their ability to do their jobs. Again improvement to service access cited by relatively few residents. Importantly, around 6 in 10 residents report some improvement in their sense of well-being attributed to the provision of ICT.

Conclusions

This project has delivered a number of very important milestones in a community that has long term and intergenerational social and economic challenges. Removing the digital divide in this community is one critical component in the process of changing the long term social disadvantage experienced by residents on the Collingwood estate. Below is a summary of the key issues that arose from the project that can contribute to the lessons learnt for future projects.

No.	Issue	Findings	Recommendation
1	Access to the internet on the Collingwood estate has made a difference in people's lives.	Residents were unreserved about their support for the project and the difference it had made to their lives. Connecting with relatives, reading news in their own language, being able to email a job and getting access to Centrelink information and metlink were all identified as important conduits to improved health and well-being, social and economic participation and civic life.	The digital divide program framework that focuses on the most disadvantaged of our community should be applauded and deserves the full attention of Government to ensure its ongoing implementation in other communities. This framework is now inextricably connected to the broader social goal of building a socially inclusive society.
2	Delivering a project within a community development framework of practice.	To maximise success residents and local service providers need to be engaged in the project vision and implementation from the project inception.	Any future project implementation plans for Wired projects are required to outline their own place-based project strategy and how they will establish a partnership with residents and local service providers.
3	Each Wired Community@Collingwood project is required to have a well-developed communication strategy for each of the stakeholder groups.	The project implementation was maximised when a committee of service users was established using a community of practice model.	Project communication strategies ensure that the residents and the local service providers that will be using the internet and intranet service are partners in the implementation strategy.
4	Internet price sensitivity	Residents confirmed in their responses that the internet had to be affordable in the context of their limited and fixed income. This was also evident by the level of fluctuation from one month to the next with some residents finding it difficult to privilege a set amount of funds every month to their internet subscription.	The provision of a subsidised internet service to individuals that experience serious barriers to their social and economic participation is of benefit to the wider community. The research suggests that the cost of the provision is outweighed by the gains reported by residents in the improvement of their health and well-being. It is the balance of the common and social good that is intrinsic in the Government intentions on the digital divide.

5	Social enterprise employment model	The place-based project office that engaged local residents to implement the Wired Community@Collingwood project was successful and as such should be seen as a model to replicate in future projects. In particular, the office employed residents that reflected the cultural diversity of the project beneficiaries.	Residents are employed as a part of the implementation strategy wherever possible but in particular those aspects of the implementation that are responsible for connecting project to residents. The project office, as the first point of contact with residents will be most successful where it reflects the resident demographic both in culture and language.
6	Effective project governance can be a significant causal factor for project success.	The governance of this project was complex with different Government departments and different contractors delivering the project infrastructure. The governance of the project fluctuated between a partnership model to a more formal contractor-provider set of relationships. Project governance and the subsequent implementation would have been better served by the establishment of one partnership that included all aspects of the project infrastructure.	This project required a governance structure that reflected its community development framework of delivery. Government needed to partner a provider. In essence one provider for the wiring and delivery of computers, training and internet would have consolidated the delivery and project implementation.
7	The project requires a broad agreement to support its sustainability.	The report discussed the mitigating factors that unduly impacted on the successful implementation of the project. On that basis the project still requires a strategy to support its longer term sustainability. In particular this strategy should focus on the project office and the communities of practice models.	The project requires a sustainability strategy that focuses on the consolidating project implementation. This will require additional resources to support the social enterprise employment model with a place-based project office. Moreover, more effective and collaborative representation of residents and local service providers will assist the long-term sustainability of the project.

Contributing to the sustainability of this project is still possible if the support to the Communities of practice and resident groups is provided. Given the complex social and political dynamics on the estate, the three year implementation plan developed by Infoxchange was ambitious and was hampered even more so by the problems with connectivity, wiring, the purchase of bandwidth and the poor relationships between contractors involved in the projects' implementation. Additional resources are required to continue the development work underway, particularly to better connect residents to estate-based and local services.

What is evident from this research is how the Wired Community@Collingwood project can improve key outcomes for participants. Being able to read the news in your own language, or like Joel, who reads the current daily newspapers online due to the cost and

inconvenience of trying to access newspapers on a daily basis was repeatedly outlined as essential to people feeling connected to their community.

Access to information, being able to connect with family and friends, using social networking sites to share photos of much loved grandchildren are positive elements of technology particularly for those that have moved so far from their country of birth. The improvement to participants quality of life was a reoccurring theme, as was participants identifying how pivotal access to technology is to their health and well-being.

It may be Jack talking about getting new recipes from the internet or buying DVD's from Ebay, Anita articulating how important the internet was to her recovery from cancer or Joan speaking about her passion for the Chinese opera and how happy she is that she can now *stream* the opera to her flat in Collingwood.   However individuals interpreted their needs and their community they were able to identify how the internet had made a difference to their lives by improving their connection to these things. Being on the wrong side of the digital divide in the twenty first century disconnects you from a part of your world that now exists for others. At Collingwood these participants are making those connections on a daily basis and are excited about the new possibilities of being a part of the available technology.

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