Information, e-government and opportunity: a public housing estate online

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Abstract

This paper summarises a four year study of the effects on 800 low-income and multiethnic households of access to free networked computers, training and information resources. The question was whether these low-income households would make use of online health, housing education and employment services, as distinct from using the resources to play games or seek entertainment. Results suggest that, although what people went looking for online varied, tenants could and did seek information on social services and did explore government websites and the resources of community agencies. This finding emerges from a study drawing on focus groups, interviews, surveys and the analysis of tenants' patterns of network use. Patterns of use show convincing evidence that the benefits of the wired community initiative include the encouragement of informal learning and self-directed information-seeking, as well as the more effective delivery of publicly and privately provided social services. The example has broader implications for debates on social partnerships, community-building and electronic government.
**Introduction**

This paper summarises findings from a four year study of the establishment of a community-based computer network in Atherton Gardens, a high-rise public housing estate in Fitzroy, Melbourne. This entrepreneurial scheme for community renewal through technology involves installing free, donated and network-ready personal computers in the apartments of a high rise public housing estate in inner city Melbourne. The e-ACE initiative, as it has come to be called, is an unusually effective example of community renewal strategies based on social partnership, local control and alliances between the public, private and not-for-profit sectors. It increased access to information and communication technologies and it has also promised to build community connectedness and social inclusion, by offering training, skill-share and entrepreneurial opportunities to residents with high needs. The question, for those government agencies and community groups that have provided substantial cash and in-kind support to the project, is whether or not establishing the e-ACE community network is likely to have any effect on endemic problems that social service and other agencies face in assisting the hard to reach groups and individuals residing on this public housing estate. If this initiative has changed the way in which people with high needs search for information and use social services, then it may offer a transferable model of workable social partnership and electronic government.

This paper offers a preliminary reading of the extent to which the e-ACE initiative has borne out these expectations. It is one of a series drawing on the ISR’s emerging research results, as we track and evaluate the social and economic impact of the e-ACE initiative. Drawing on the final stages of our research on the establishment of the network, it summarises our main findings from a variety of sources: participant observation, interviews, surveys and the analysis of patterns of Internet use. The paper leaves aside for the moment some key policy issues, raised by the case study, which we have explored elsewhere: these include the lessons for understandings of whole of government approaches (Ewing et al), of neighbourhood renewal and community-building (Meredyth et al), of the digital divide, social capital and connectivity (Hopkins) or of sustainability in community enterprises (Hopkins). Instead, the paper gives an overview of the main findings from our now completed primary research on how residents actually used the computer network and Internet connections made available to them, in the first year of the e-ACE network’s operation. Drawing on both surveys and network data, we develop a snapshot of what residents expected to use these information and communication resources for, what they were looking for online, and whether or not they made use of online information related to health, employment, education and other social services.

We focus here on two main questions: is there evidence that the Atherton Gardens computers and computer network are used by residents? If so, what are they using them for? In brief, we find that the e-ACE computers and Internet connections have had an impact on how these low-income households seek information and use social services. The computers, the intranet, the training rooms and the Internet connections provided have been used by many residents. Across the many ethnic and cultural groups living on
the Atherton Gardens estate, residents report that they are making use of computers in their home to build their skills, do homework with their children, seek entertainment, stay in touch with friends and family and find out more about the social and community services. These findings are reinforced by data on the patterns of network use across the estate. In combination, these sources give us a rare indication of what low-income people are looking for, once they have the hardware, software and skills that enable them to explore the World Wide Web and other online resources. We end by briefly discussing the implications for social policy and service delivery. First, however, we turn to a brief description of the estate itself, the e-ACE initiative and its history, and the characteristics of the e-ACE network.

2. Atherton Gardens and e-ACE

The Atherton Gardens estate consists of four 20-storey tower blocks and 800 dwellings in all, which house some 2000 residents. It is home to a multi-ethnic, multi-lingual and multi-faith population living in low-income households. A significant minority of residents on the estate has arrived in Australia from Vietnam and speaks Vietnamese as their preferred language. More than thirty languages are spoken by residents from countries including China, Turkey, the former Yugoslavia, Spain, Greece, Iran, Iraq, Laos, the Philippines, Somalia and Ethiopia. Residents have high employment, education and training needs. A significant proportion suffer from substance abuse, mental or physical ill health and social isolation. The residents are generally on very low incomes, with a high proportion receiving some form of income support from government. Previous research indicated high levels of insecurity, social isolation and distrust on the estate. Tenants appeared to lack effective information on social services (Guinness 2000, p. 12). They were unlikely to have access to computers or to the Internet, at a time when agencies were increasingly providing information online. In the late 1990s, at the height of optimism about the social benefits of Internet access and online social services, Atherton Gardens looked like a prime instance of the link between social exclusion and information poverty.

In 2001, before the establishment of the e-ACE initiative, residents of the estate had significantly lower levels of access to a computer at home, compared to residents in the surrounding areas or across Melbourne. Census data indicates that, within the collection district that covers almost half of the Atherton Gardens estate, there were relatively low rates of computer use in the home in 2001. Just over a fifth of residents (21.6%) used a computer at home compared to 49.4% for the surrounding area and 46.6% for Melbourne. The least disadvantaged age group at Atherton Gardens was the 15-19 years group, but all other age groups had significantly lower rates of computer use at home (ISR 2005, table 14). Atherton Gardens’ residents were three times less likely to access the internet at home, in 2001, than Melbourne residents as a whole. A negligible proportion accessed the internet at work. Only 17.8% access the internet at all, compared to 43.1% of Melbourne residents and 58.7% of Yarra- North residents.

As it happened, an opportunity arose to explore the effects of bridging the digital divide, at Atherton Gardens. The opportunity was provided by an entrepreneurial scheme
initiated by InfoXchange, a not-for-profit Internet service provider. InfoXchange began, in 1988, as an online coordination system for emergency accommodation, later developing technology services for welfare and service agencies, a searchable welfare support services database and a weekly infocast of material for health and welfare workers across Australia. One of its most effective initiatives was Green PCs, a scheme for recycling discarded and donated computers, putting unemployed people to work reconditioning them, with support from government employment initiatives. The PCs were then resold at affordable prices to welfare groups and low-income households.

By 1999, InfoXchange had become interested in extending the Green PCs model into schemes that would give public housing tenants free reconditioned computers to use in their own home. The plan was formulated as the ‘Reach for the Clouds’ initiative, with the support of community groups and local government. The state Office of Housing was planning at the time to rewire the Atherton Gardens estate. InfoXchange and its partners proposed to piggy-back on this, persuading the Office of Housing to rewire the buildings, connecting the computers to a local network. For a small fee, residents could also get access to Internet services. To get one of the machines, residents would have to do some basic training, carried out by local volunteers. In time, it was hoped, the training would be accredited and linked to programs run by local community employment agencies. The idea was that residents themselves would eventually become workers and trainers in an enterprise that would use residents’ language and information technology skills, while building social and economic participation.

Between 1999 and 2003, InfoXchange secured cash and in-kind support from public, private and community agencies (see Appendix 1). Eventually, substantial financial support came from the Victorian Department of Premier and Cabinet, which provided $820,000 over three years, through the Community Support Fund, which drew on funds from state gambling taxes. Other partners included the Department of Human Services, Hewlett Packard, Microsoft, Lucent Technologies and the Brotherhood of St Laurence (see Appendix 1). The initiative was pitched to government as an innovative model for new forms of social service delivery (see Ewing et al. 2003). InfoXchange made the case (1999) that the computer network would enable residents to seek information, while assisting social services to target groups. Schools would be able to stem truancy and stay in touch with parents. Health service providers would be better able to contact recent immigrants, the aged and single parents. Improved security on the estate would lead to lower repair and maintenance costs. Ultimately, residents might be able to develop new vocational competencies, re-entering the labour market and social networks.

The e-ACE network took more time to build than was anticipated, partly because it took longer than expected to secure funding, but also because of logistical problems in wiring the buildings and configuring the network. Nevertheless, the first PCs were distributed in November 2001. By 2002, servers and routers were installed in each building, the wiring was connected to all apartments and the buildings were wired (see Appendix 2 for timeline). The e-ACE was officially launched on 23 June 2002. By mid 2004, over 500 households had been given a reconditioned computer. The machines were at minimum Pentium 133 to 166, running Windows 98/Office 97, and generally had a floppy disc
drive but no CD Rom drive. Upgrades were available at a cost to the resident. Most of these 500 households had a network connection, which meant they had a cable connecting their computer to the Atherton servers, giving access to an unrestricted email account and to the Atherton Gardens intranet, which contains local news, chat pages, a resident forum, language other then English portals and a library of electronic resources, including information on local events, agencies and services, photographs, reports and minutes, newsletters, stories and articles. Content is supplied in a range of languages. Once they are registered as members, residents can access their own free email account, post items in the various forums and on the general noticeboard, and access and upload documents to the library. Links to a number of external sites are also provided, including entertainment sites, newspapers, health sites, and school sites. Residents also have the option of creating an internet account, getting high speed access at low cost (4¢ per MB downloaded). Internet access was not available, however, until September 2003.

The computing room, located in the community centre on the estate, also has broadband access, ten public access computers, a printer, scanner and zip drives. The public access computers have a CD Rom drive and run Windows 98, and were donated new by Hewlett Packard. Two are capable of running multimedia and design programs. Training sessions are conducted here, but the computer room is available for use by any resident at other times, and has been particularly popular after school hours, both for Internet access and games. All tenants who have received a computer have taken some training; daily training sessions are also provided in the training room. The compulsory training covers basic computer operations, such as switching the computer on and off and using a mouse, as well as instructions in using Word, email and the Internet. Participants are free to complete the modules at their own pace during the training sessions, which run for two and a half hours, twice a day. Training is conducted by both volunteers and paid trainers, with two sessions a week currently being conducted in Vietnamese by a paid trainer. Language-specific sessions have also been offered at various times in Mandarin, Bahasa Indonesia, Spanish, Croatian, Slovak and Amharic, according to the volunteers available. Further training in using specific programs such as Excel and Powerpoint is also provided, along with an extensive list of training manuals in various languages, including instructions on saving, printing and formatting word documents and instructions in using and adding to the estate intranet.

3. Atherton Gardens’ residents
The Institute for Social Research team has been closely involved in tracking the development of the e-ACE network since its inception. Our role is to describe the expectations of the organisers, funders and partners, the changes that took place as the plans were implemented and adapted, and the observable impact on residents of having access to the computers, the network and the training. Initially, we were interested in e-ACE as an example of efforts to bridge the digital divide. Later, our attention turned to the link between community engagement (online and offline) and social capital. More recently, we have placed more emphasis on the longer-term effects of the initiative on residents’ educational aspirations and employment prospects, as well as on questions about the sustainability of e-ACE as a social enterprise. Our industry partners, principally the Victorian Department of Human Services as well as other funders, have a
more immediate interest in the extent to which the project can be said to represent a return on their investment.

What would it mean to say that the e-ACE project is successful? At the simplest level, perhaps, there should be some evidence that people with limited access to computers and connectivity are now able and willing to use them, in their own homes and in other sites. There should also be evidence that users have become more able to locate useful information, or to build more effective associations online and offline. Finding such evidence is not easy, though, since it involves potential breaches of privacy. It entails knowing not only what residents have to say about what they use computers and online resources for, but also what they actually look at and use when they are online.

This project has drawn on a number of methods for gathering information about the social impact of the e-ACE network as it has developed. We attended tenant meetings and forums for community workers, held focus groups with tenants and carried out two rounds of interviews with stakeholders (one in late 2001-early 2002 and another in late 2003-early 2004). We conducted two sample surveys of tenants, asking them about their expectations of the computer network, their income, employment and education, their social networks, media consumption and ways of staying in touch with friends and family. Finally, we drew on data from the servers in each of the Atherton Gardens towers. Stripped of information that could identify individuals, this data listed hits, from each of the servers, to intranet and internet sites over monthly periods.

The two sample surveys of residents were conducted in mid 2002 and mid 2004. Questionnaires were administered in face-to-face interviews. The first survey was undertaken over six weeks starting 27 May 2002. Interviewers who could speak Vietnamese, Cantonese, Mandarin, Macedonian Turkish and Arabic were employed to administer the survey. This left a number of languages spoken on the estate not covered, including Spanish, Laotian, Khmer, Somali, Dutch, Greek, Afrikaans, Dari, Polish, Russian, Farsi and sign language. One of the computer training rooms on the estate was used to conduct interviews with residents, with some residents preferring to be interviewed in their homes. Two hundred and sixty-nine households were contacted, with around 70 declining to be interviewed, resulting in a total of 199 responses, or a 74% response rate for those households contacted. In terms of ethnicity our sample broadly accords with the Office of Housing's record of the population as a whole. The second survey of tenants was conducted between May 3rd and June 29th 2004. Interviews were conducted in English, Vietnamese, Cantonese, Mandarin, Somali and Arabic. The questionnaire was similar to the one used in 2002, but with additional questions on the use of the computers and the network. The final sample size was 159. While some respondents had taken part in the earlier survey, the high turnover of tenancies meant that many respondents answered the questions only in 2002 or only in 2004. Respondents included those with computers only, those with computers and network access and those without computers. A broad cross section of household types participated, including two parent families with children, single parent families, young singles, older couples and older singles. More than a dozen countries of origin were recorded, but almost half the questionnaires were completed by Vietnamese speakers. The 71 English-speaking
respondents came from a number of ethnic backgrounds and included speakers of English as both a first and second language.

Households in 2004 reported slightly lower incomes overall, with 43% of households earning below $10,000 pa (40.8% in 2002) and the vast majority (90.7%) earning below $20,000 pa (86.2% in 2002). A third of households interviewed in 2002 were sole parent families, with a quarter of respondents living alone. A slightly lower proportion of the 2004 sample were sole parents (27.7%). Nearly half of the households interviewed had children (48.3%) In both samples, the majority of households had lived at Atherton Gardens for less than five years with over twenty per cent of the 2004 there less than a year (14.9% for 2002). Respondents to both surveys were born in at least thirty-one different countries. Chinese and Vietnamese are the main languages used on the estate apart from English, but there are smaller communities of speakers of dozens of different languages, particularly among the African population, which is the fastest growing group on the estate. Just under half of the respondents said they spoke English 'not well' or 'not at all'. Results from both surveys indicate high rates of involvement in local places of Christian, Buddhist and Muslim worship. (From the census, Buddhism is the nominated religion for 36.2% of residents followed by Christianity (29.0%) and Islam (17.2%) (ISR 2005, table 13).

Atherton Gardens has an extremely high rate of unemployment, at more than seven times the Melbourne average. Barriers to seeking work include family commitments, ill health or disability and the inability to speak English well. In 2002, a high proportion of those surveyed saw having a computer in the home as an aid to seeking employment. By 2004, half of those in our sample who were unemployed and who had a computer had used it to type a CV; the same proportion had used the internet to look for information about jobs. Overall about two thirds of these respondents had used the e-ACE computer and network to help them re-enter the labour market. The computer related training provided as a component of the e-ACE initiative was especially helpful to residents. The majority of the respondents who had attended training had used it to improve their computer skills. Nearly a third felt that it had improved their English skills; a quarter said that it had increased their interest in undertaking further study.

Respondents in both surveys expressed strongly interest in gaining training and qualifications, in acquiring new skills and in promoting their children’s educational opportunities. Barriers to further study, according to survey respondents, include caring for family members, poor literacy or English skills and lack of money. In 2002, a high proportion of residents, especially those with children, said they wanted a computer for educational purposes. Many were already using the machines to help children with homework. By 2004, this pattern of educational use was established. Over a quarter of respondents with an e-ACE connection had used the internet to investigate available courses, with over a fifth using it to contact an educational institution. A quarter of those who had undertaken the training element of e-ACE responded that it had made them more likely to participate in further education.
Many residents are on disability support pension. By 2004, nearly a third of those with a home internet connection had used it to pursue health-related concerns. Those people with an e-ACE connection who reported at least one serious health condition were much more likely to have used the internet for a health related use than those with a serious health condition who did not have internet access in the home.

High proportions of those with an e-ACE connection had used it to access government services or communicate with a service agency. Over a quarter had used their computer to type a letter to a government service, nearly one in five had contacted a government office by email and nearly a third had used the internet to find information about a government service. Over half of 2004 respondents with e-ACE computers and internet connections had used them communicate with the Office of Housing or to find housing information. Nearly half had used their computer to type a letter to the Office of Housing, more than a fifth had contacted the Office of Housing by email and a third had used the internet to find information about public housing.

The e-ACE initiative has borne out many of the hopes of those who initiated and supported it. There is no doubt that the initiative has enabled low-income people who previously had low rates of computer access and connectivity to make use of information and communications technology. Although residents have limited levels of education and some literacy problems, as well as a variety of first languages, they appear to be able to understand how the machines function and to access the network. The Atherton Gardens Community Network is consistently used. Almost half the 2004 survey respondents had visited the news page, with more than a quarter using the network library, accessing housing information or contacting the helpdesk. Internet use is consistent and diverse. They have used it not only to seek entertainment, news, information and contact with friends and family, but also to find information on social services such as health and housing, and to pursue educational and employment opportunities. Many are able to find information in their own language, to contact government agencies and to use on-line goods and services such as banking and shopping. Through training and self-directed learning, Atherton Gardens residents are finding new ways to use information and communication technologies in order to seek resources.

Having established this, in broad terms, the team was interested in more fine-grained information on what sites, or what types of sites, residents were visiting when they explored online resources. We give a brief outline, in what follows, on our findings from a limited study of one month of data, derived from the servers at Atherton Gardens, on patterns of intranet and Internet use. Further details are provided, in summary form, in Appendices 3 and 4.

4. What were residents looking for online?
Analysis of the server statistics presented some challenges. The main problem is how to classify large amounts of complex disaggregated data on hits to various sites. Preliminary research into how others had gone about investigating and analysing internet use showed a range of approaches to this issue. At the broad, quantitative end of the scale are American studies such as “A Nation Online”, the Pew Centre’s “Internet and American
Life” project and USC’s “Surveying the Digital Future” alongside Australian research such as NOIEs “The Current State of Play” report and the ABS report on “Household Use of Information technology” which tend to count numbers of users across the entire population and then provide broad general categories of internet uses such as: communication, information, entertainment, e-commerce etc, and break downs of number of users doing each activity. We were interested in a finer grained analysis of sites than is possible in NOIE/ Neilson type surveys, and our categories are therefore more precisely tailored to the particular results we were analysing.

In the month of June 2004, some eight months after network connections were first made available in residents’ homes, server statistics show that nearly half a million hits were made to websites from computers linked up to the Atherton Gardens network. This includes public access computers in the training room on the estate, as well as computers in people’s homes. Making sense of such a mass of statistics required selective sampling of the data. We chose first of all to look at the data at the level of domain rather than by individual URLs. Over 9000 different domains were accessed during this month, however of these, the top ten most popular domains accounted for almost one third of total hits. Whilst 372 sites (4%) were visited more than 100 times, more than one third (3574) were visited only once and over 80 % were visited less than ten times in the month. A more detailed breakdown of the sites visited can be found in Appendix 4.

To start with an obvious point, much of the material that is being accessed in languages other than English. This is not surprising, given the very high proportion of residents who come from a non-English speaking background. As well as material in other languages, there is a high proportion of sites being accessed which contain material relating to news and events in other parts of the world, which would be of interest to residents who have immigrated to Australia and who retain ties to their country of origin.

The number and variety in the government sites that were accessed over the month of June must also be encouraging to those who see a strong future for e-governance. All levels of government in Australia, as well as some overseas government web sites were accessed, offering a variety of information and in some cases (such as Centrelink), interactive options. Hits were made to many sites offering educational information, from primary and secondary schools, to universities, colleges and private educational providers, as well as broader government information about education, such as the Tertiary Admissions Centre. It is probably safe to assume also, based on evidence from our other research on the estate, that some of the general sites that were accessed for information were being used by kids or to help kids with their homework.

While the number of hits to government health sites was comparatively low, use was also being made of non-government sites, belonging to both for-profit and not-for-profit organizations, to access health information. Residents were also making use of the internet to make contact and communicate with others online about health issues, for example an online community for families of children with diabetes, as well as other areas of interest, such as South Asian women, Iraqis, teenagers etc. That residents are using their computers to make contact with other people on line is also apparent from the
prevalence of hits to sites which offer chat and dating/matchmaking services. These types of services were also being accessed by Atherton Gardens residents in languages other than English.

The internet is clearly being used by residents to enhance their leisure options and provide entertainment. Numerous hits were made to games sites, both those which can be played by a single player and those which require users to interact with others online. The types of games sites being accessed included games suitable for primary school aged children and the so-called “cheat” sites, which offered information about online games rather than access to games themselves. The extreme popularity of neopets suggests that children are making frequent use of the internet. Sites that offer downloadable music, information about music and musicians and film and television news and gossip were also popular, both in English and in other languages or from other countries (particularly India and Hong Kong). Having internet access is also being incorporated into residents’ everyday activities, as can be seen by the high number of hits to internet banking sites, both local and international. The web is also being used to help look for jobs and to gather information about local businesses, including airlines and cinemas.

Conclusion
The InfoXchange's initial rationale for government funding for the e-ACE programme (1999) stressed the civic benefits of the project, arguing that its outcomes would include a 'better informed citizenry' and 'equality of access to public communications systems'. Improvements in information skills and literacy would give residents a 'greater voice in the wider community'. Residents would also be better able to access community services and education and employment opportunities. Social services could be more effectively targeted to specific groups. Schools would be able to address truancy rates, by keeping up contact with parents. Health service providers would be able to use on-line social services as a way to make connection with the most isolated populations, such as recent immigrants, the aged and single parents, many of whom were either unaware of existing services or disinclined to make use of them. The network, it was argued, would offer to social service agencies. Assuming that the take-up rate for the computers was as anticipated, then government agencies would have the capability to make direct contact with seventy per cent of the residents on the estate. At the local level, government and community services would be better able to work together. Furthermore, government agencies could expect financial benefits from the scheme, in the long run, especially in reducing the cost of regular communication with the Atherton Gardens tenants. Improved security on the estate would lead to lower repair and maintenance costs. 'Skill enhancement' would mean that residents were less dependent on welfare.

Not all of these expectations have been met so far. Nevertheless, there is substantial evidence in our study to indicate that the e-ACE network has been a success. The resources supplied to low-income people with multiple needs are being used, for a variety of purposes. Residents are learning new skills, are becoming familiar with technology, are seeking information online and are changing the ways in which they are using social services. They are seeking information and resources related to employment, education,
health and social benefits. They are encouraging their children to become computer literate and to solve problems by making use of the full range of information available online. The intranet and Internet resources made available are also being used for other purposes: for entertainment, for curiosity-driven web-surfing, for staying in touch with friends and families, for making social and/or romantic contacts, and for pursuing personal interests, often related to language, religion or country of origin. As Andrew Mahar from InfoXchange pointed out in 2002, the e-ACE project would still be successful if all it did was to ensure “that the building is wired, there is a computer in everybody’s flat that wants one and the people in the community have been trained. Once that’s happened it’s up to the community”. As another InfoXchange worker remarked, “Technology is not the be all and end all; it is only a tool for access to what the communities need – education, training, employment…[We expect] that the community and communities will get what they want and what they need, based on what they say they want and need.”

He went on to comment that the community building side of the project “could be assessed through greater community employment on the estate and community participation in estate events. People [will] have the opportunity to communicate directly with one another. They also want to communicate with friends and relatives overseas via email and to access foreign language newspapers and news services.” Over the longer term, the project “involves employment and training, creating a self-sufficient enterprise. There is no one point where it can be seen to be finished and successful. The timeframe is a 3-4 year plan. In that time period, InfoXchange will step away and the community will take over the project.”

By mid 2004, it was clear that the e-ACE initiative had met many of the aims articulated by progenitors and partners, even if it had not yet realised their more ambitious aspirations. InfoXchange’s objective of providing computers and connectivity to low-income, marginalised people had already improved life on the estate and opened new opportunities. Enabling people with limited prior experience to gain access to computers and to become confident and skilled users of the hardware and software is a major step in contributing to social inclusion for a disadvantaged group. In particular, improved educational outcomes for school aged children given access to computers at home would be evidence of a positive outcome to the project. Other indicators of success include improved opportunities for adult education, employment and training, better access to news and information about both local services and world events, and greater capacity to contact friends and family, combined with apparently increased levels of trust and sociability on the estate.

The main issue for now for the e-ACE organisers, funders and partners is how to ensure that the financial and in-kind support that has allowed the network to develop thus far is not lost when the current large grant from the Community Support Fund expires. It may not be difficult to demonstrate that the e-ACE network does more than provide a substantial benefit to the tenants who happen to live at Atherton Gardens. It may also provide a model of social enterprise, neighbourhood renewal and community-building,
which could be replicated elsewhere. To what extent does it provide a transferable model?

Making the case for transferability presents some challenges. Some of the initial investment in the e-ACE project can be transferred to other sites with little or no additional cost, such as the provision of recycled computers through the Green PC program. InfoXchange has found ways to work around some of the obstacles associated with creating a community network and making it sustainable. It has shown how to build partnerships that provide funding for infrastructure and training. It has also offered creative examples of ways to keep up a steady supply of donated or reconditioned hardware and software.

On the other hand, the e-ACE model is vulnerable to criticism because it will always be hard to show that the rate and effects of use justify the continuing costs associated not only with maintaining the network but also with upgrading equipment, training new users and adapting to new user expectations. The return on expenditure is difficult to demonstrate. For one thing, even though a considerable capital sum has been outlayed on the wiring of the buildings at Atherton Gardens with coaxial cable, residents’ needs may now be better served by some form of wireless connectivity.

Furthermore, even if the infrastructure was maintained as it stands, the network is always likely to need money to support its existence. There is likely ongoing need for paid staff to provide functions such as language specific training, computer help desk services and overall coordination of the network. Running the e-ACE network and service centre has also required a high level of coordination from InfoXchange staff. It is no easy matter to transfer management and administration of such a complex and multifaceted project, even if community volunteers were available.

All this being said, the Atherton Gardens e-ACE project still provides a rare instance of a successful community technology venture for low income people. It is rare, first, as a venture that offers low-income households access to computers, training, skill-share arrangements, technical support and local content, in and around their own home. Second, it offers an unusual example of the effective use of social partnership, volunteers and self-help to set an initiative up, with seed funding from government agencies. Finally, it offers a test case of the effectiveness of community renewal strategies based on social partnership, local control and alliances between the public, private and not-for-profit sectors. Its longer-term effects and its transferability as a model of both community building and social service delivery will be the subject of continued research.
References


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Melbourne, 12–14 February. Available online at:
### APPENDIX 1: Sources of funding and support for e-ACE

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<thead>
<tr>
<th>Source</th>
<th>Funding Source</th>
<th>Support Provided</th>
</tr>
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<tbody>
<tr>
<td>Community Jobs Program</td>
<td>State govt</td>
<td>Funds to employ staff to refurbish the second hand computers and operate the service centre for ongoing computer support</td>
</tr>
<tr>
<td>Office of Housing</td>
<td>State govt</td>
<td>Strategic advice Two units on the estate for training centres Responsibility for wiring (<del>$250,000) Operational funding (</del>$50,000)</td>
</tr>
<tr>
<td>Community Support Fund</td>
<td>State govt</td>
<td>Major grant to support the project, including paying for a project manager for three years</td>
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<tr>
<td>Department of Human Services</td>
<td>State govt</td>
<td>700 obsolete computers</td>
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<tr>
<td>Multimedia Victoria</td>
<td>State govt</td>
<td>Funding for multilingual website content</td>
</tr>
<tr>
<td>Australian Research Council</td>
<td>Federal govt</td>
<td>Funds for a research project to evaluate the project</td>
</tr>
<tr>
<td>City of Yarra</td>
<td>Local govt</td>
<td>Strategic advice Workshop space for Green PC project Funding for training coordinator</td>
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<tr>
<td>Hewlett Packard</td>
<td>Private</td>
<td>70 high powered PCs, printers, digital camera and scanners for the training facilities</td>
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<tr>
<td>Microsoft</td>
<td>Private</td>
<td>Site licence for windows and Office 97</td>
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<tr>
<td>Lucent Technologies (BYTE)</td>
<td>Private</td>
<td>Funds for multimedia training for under-25s</td>
</tr>
<tr>
<td>Brotherhood of St Laurence</td>
<td>Community</td>
<td>Funding for training coordinator</td>
</tr>
<tr>
<td>Volunteers</td>
<td>Community</td>
<td>Training for residents in use of the computers</td>
</tr>
</tbody>
</table>
APPENDIX 2 Milestones

1988

- InfoXchange begins life as an on-line coordination system for emergency accommodation. Later develops into an internet service provider and web developer, establishing a fully searchable community support services database and running a weekly Infocast of material relevant to health and welfare workers across Australia.

1996

- InfoXchange secures state government support to install internet connected computers on eight high rise housing estates in Melbourne.
- NfoXchange attempts to set up a project with 25 ex-DHS computers across thirteen inner urban high rise estates in Melbourne, to make computers publicly accessible, with electronic copies of Office of Housing Policy and Procedure documents translated into 13 languages. Project fails in part because of the withdrawal of funding from the residents associations.

1996-8

- Subsequent discussion focuses on the advantages of having private access to computers at home, rather than access to computers in a public space.
- Green PCs scheme established: renovation and refurbishment of discarded computers then sold at low cost to community groups and low-income individuals
- 1998-9:
  - InfoXchange ‘Green PCs’ receives state government Community Jobs Program funding to employ long term unemployed people to.
  - Department of Human Services (Vict) Office of Housing develops plans to wire all the apartments on a single inner urban high rise estate ahead of the installation of a concierge security system, in which all tenants would be able to communicate electronically with a security officer at the entrance to the estate. Atherton Gardens originally intended as the site for this, and for associated new rewiring.

1999

- InfoXchange develops document “Reach for the Clouds: A Community Development Project in Community Building”, Dec. The proposal entails securing support from the Office of Housing to rewire the high-rise towers, using existing telecom cabling and high bandwidth communication controllers.
- The InfoXchange, the Office of Housing and a number of not-for-profit organisations develop submission to Multi Media Victoria for $20,000 in funding for Reach for the Clouds (Dec). Proposal seeks support to develop a Social and Technical Business Plan for Reach for the Clouds.
- MMV provides $10,000 grant to prepare PID

2000

- Submission of ARC proposal for Wired High Rise research
- First meeting of RFTC Steering Committee (July 27)
- Applications submitted to CJP and BYTE.
• Application for Communities Together Evaluation funding.
• ARC proposal successful (Oct)
• Project Initiation Document (PID): “Reach for the Clouds: A project to establish a residents’ computer network at the Atherton Gardens Estate, Brunswick St. Fitzroy”, submitted to MMV (Nov).

2001
• Wired High Rise ARC-funded research begins
• Green PC Launch.
• Communities Together Evaluation began, ongoing for three years, funded $10,000 per year.
• Completion of Community Support Fund – Community Building Seeding Grant Form (April)
• City of Yarra provided workshop space for Green PC in old Richmond Depot in Burnley (first half of 2001 – space in old library of the Fitzroy Town Hall)
• First training group begins (May/June).
• BYTE training begins (May/June).
• CSF declines recurrent funding, but agrees to $10,000 to develop another application for funding (July).
• Agreement by Office of Housing to fund wiring (July).
• First training group finishes. Evaluation conducted
• Wiring of the buildings goes out to tender (Aug 30th).
• Atherton Gardens Strategic Forum (September 6)
• Project Partnerships finishes focus groups with service providers and interviews with senior management and Residents Associations.
• Closing date for wiring tender (13th Sept).
• Interviews with estate personnel/partners begin (Oct).
• Public meeting (16th OCT) and YWPHN meeting.
• First PC ceremonially distributed. (Nov 5 - Lindsay Tanner in attendance).
• 75 computers given out, 200 people trained.
• Wiring started, with core wiring in towers already completed.
• Bid for recurrent CSF funding submitted.

2002
• Rollout of computers and cabling continued throughout 2002
• First meeting of Reach for the Clouds Tenant Group (Intranet Working Group) (Feb)
• Third round of Community Jobs Program for Green PC.(Feb)
• Initial wiring of Atherton Gardens completed (March)
• Servers and routers were installed in each building (May)
• CSF recurrent funding secured. ($830,000 over 3 years) (May)
• RFTC and e-ACE launch (Sunday June 23 – Bronwyn Pike attending)
• Final RFTC Steering Committee meeting, to be replaced by e-ACE reference group (agency and tenant reps).
• New Project Reach for the Clouds Coordinator appointed – Thierry Bassett (Dec)

2003
• Wiring was connected to all apartments during 2003.
• Online resources were developed for the e-ACE intranet, including content provided by local social services and businesses and information on housing, health and social welfare services, as well as local activities and community resources.
• Applications to support training
• Intranet online (September).
• Continuation of training, distribution of equipment, community consultation, help desk etc.

2004
• More than 500 computers distributed to households on the estate between Nov 2001 and June 2004.
• By mid-2004, 273 internet accounts had been activated.
APPENDIX 3

E-ACE AND INTRANET USAGE

In the month of November 2003, there were 17,413 hits recorded to the Atherton Gardens intranet. These were made up of visits to the following parts of the site:

Noticeboard 11,899 hits (this is the main news page and the first page which comes up when you enter the intranet)

downloads 1279
library 607
Mail 558
Homepage 462
Homepages 376
links 313
Chinese 292
phorum 221
training 86
chat page 84
Vietnamese 73
Admin 65
Kids 55
AGRA 49
Registration 42
GreenPC 22
Arabic 20
Housing 17
Security 16
Language help 16
NAB 15
Agencies 15
Computer area 13
Maintenance 12
Community 12
Help 11
Macedonian 7
Feedback 7
APPENDIX 4 WORLD WIDE WEB VISITS

The most frequently visited site on the world wide web in June 2004, by far, was neopets, accounting for more than 5% of total hits for the month. The top ten sites by number of hits include:

- neopets
- msn
- msn messenger
- yahoo
- google
- 3 advertisers
- 1 spyware (netratings)
- 1 dating site

Of the 372 domains which scored more than 100 hits, there were:

- 37 Chinese language
- 36 advertising sites (probably hosting pop ups)
- 19 Pornography/ fetish
- 16 IT related sites (software, hardware, telco’s etc.)
- 15 Games
- 11 Banking
- 9 downloadable web and phone accessories (ring tones, emoticons, wallpaper, screen savers, pictures)
- 9 Search engines
- 8 Education (7 Victorian, 1 in Thailand)
- 8 Dating/ matchmaking sites
- 8 Portals
- 8 Vietnamese language
- 7 Classified ads
- 7 chat or IM
- 7 Entertainment (eg: Channel 10, Disney)
- 7 Gambling
- 6 Jobs
- 5 Other Australian businesses (eg: Officeworks, a restaurant, white pages, virgin blue, village cinemas)
- 5 Music
- 5 Sports
- 4 Kids
- 4 African content (Kenya, Somalia, Sudan) (mainly newspapers/news)
- 4 Australian newspapers
- 3 Information (reference, about.com, public transport)
- 3 International business (eg: Amazon, all posters, ebay)
- 3 Religion (Islamic, Adventist and Buddhist)
• 3 Special interest
• 2 Arabic news
• 2 Indian/Pakistani content (both newspapers)
• 2 Malaysian content
• 1 Serbian newspaper
• 1 Health

There were also 2 sites that facilitate online payments (126 and 802 hits) and many hits to various parts of hotmail and yahoo mail. British news (BBC) recorded 1479 hits, almost twice as many as abc.net.au (791). Sbs.net had 261. There were 490 hits to Fitzroy library (the local public library).

8921 domains had less than 100 hits during the month of June. A sampling of 5% (426) of these shows much more diversity than in the more popular sites:

• 100 Pornography/fetish
• 41 Special interest
• 34 Chinese language content
• 33 IT services
• 31 Businesses
• 24 Education
• 17 European news and language content
• 14 Advertising
• 14 Games (inc. kids games)
• 13 Online shops
• 12 Online communities of interest (teens, women, Iraqis, fans of HK artistes, south Asian women, graffiti artists, cooking, college students)
• 11 African news and language content
• 11 United States and Canadian news and information
• 10 Vietnamese language content
• 8 Other Asian news and language content
• 7 Gambling
• 7 Portal
• 6 Search engines (inc. foreign language)
• 5 Arab/ Middle East news and information
• 5 Health
• 5 Web hosting
• 4 Download accessories
• 4 Travel info
• 3 Australian govt info
• 2 Religion
• 2 Singles
• 1 Australian news
• 1 Classified ads
1 Resources for kids school work

Special interest sites include: aviation, military, golf, bodybuilding, cars, model aeroplanes, Bruce Lee fan site, cartoons, men’s issues, Indian movies, gardens, computers, Australian ethnic news and broadcasting, oil industry, people called Phil, psychology, personal websites, wine, Not for profit/ community groups, music, sports.

A more qualitative inspection of those domains that received more than one but less than 100 hits, reveals that people are consulting the following types of sites:

- Educational sites: local schools, local, interstate and international universities and colleges (Canada, America, NZ, Malaysia, Thailand, UK), private schools and colleges, VTAC.

- Australian Government sites: ABS, jobsearch, customs, agriculture, immigration, family assistance office, public service gazette online, Australian institute of health and welfare (health statistics), Australian tax office, Australian govt information and services, defence, parliament house, Australia Council, ASIC (Securities and investments council), Fisheries Management Authority, Dept of Environment and Heritage, Business info (ABNs), ATSIC, Australian greenhouse office, Ausaid, Austrade, Workers compensation, EPA, Health Insurance Commission, CSIRO, citizenship, community portal, DEST, FACS, defence jobs, detya, dfat, small business

- Victorian State govt: agriculture, business channel, problem gambling, workcover, parliament, sustainability and environment, consumer information, vicroads, museums, better health channel, Victorian legislation and parliamentary documents, land and property information, eduweb, health department, Victorian Multicultural Commission, business in Victoria, legal aid, adult and further education, state library multilingual resources, Office of Training and tertiary education, environment, food safety, graduate recruitment (public service), justice, TAC, sport and cultural affairs, EPA, immigration museum, police, arts,

- Governments of other states: NSW Office of ICTs, NSW RTA, NSW workcover, NSW EPA, NSW electricity supply, NSW fair trading, ACT govt., WA Calm, apprenticeships in WA, NT community development, agriculture in Queensland, QLD EPA, SA environment.

- Local government (49 hits for City of Yarra), plus other local govt sites eg: Port Phillip, Melbourne

- Health sites: give blood at the Red Cross, herbalists association, an American site on teenage pregnancy

- Several US government sites, including the library of congress, the Whitehouse, National Parks, coral research and the National Institute of Health
• Hong Kong government information (several)
• Canadian government information
• Vietnamese government information, including the Vietnamese embassy in the USA
• PRC ministry of commerce, and customs department
• UK government information
• International banking
• Volunteers (two sites)
• Weather

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See the electronic-Atherton Gardens Enterprise website at: www.highrise.infoxchange.net.au. See also www.infoxchange.net.au/ to investigate the background to InfoXchange’s activities. Publicity from partners in the project can be found at Victorian Department of Human Services website at: www.dhs.vic.gov.au/peoplefocus/mar01/ website.htm and on the City of Yarra website at: www.infoxchange.net.au/yarraweb.