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Making a Community Network Sustainable: The Future of the Wired High Rise

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Abstract

Much time and money has been committed by governments, private business and the third sector over the last five years in establishing opportunities for underserved populations to gain access to new forms of information and communication technologies, in an effort to overcome the so-called 'digital divide'. This paper traces the efforts which have been made to establish a networked community at a single high rise public housing estate in inner Melbourne, Australia, and considers some of the potential opportunities for and barriers to ensuring the continuity of the network, which is large, complex, costly and potentially fragile, into the future.

Keywords: networked community, wired community, digital divide, sustainability, underserved populations

[W]e seriously have to think about sustainability. That will include a lot of lobbying and maybe make donors understand that sustainability also means money. People always think that sustainability, they all want to go sustainable in their proposals, but then when we ask them what is their definition of sustainability, they could not define it. So we are trying to say sustainability also means money. Not at the same level, but it means money.

Project Administrator

Introduction

Over the last five years, a 'wired community' has been created at Atherton Gardens, a low-income inner city public housing estate in Melbourne, Australia. This community project, known as e-ACE (the electronic Atherton Community Enterprise, also previously called "Reach for the Clouds"), is available to almost 800 households on the estate. It is the result of the vision of InfoXchange, a non-profit Internet Service Provider, working in partnership with government agencies, business, volunteers and charitable organisations. e-ACE offers free second-hand personal computers with software to residents, as well as access to a local network with multilingual local content, the broader Internet and training in the use of these technologies. The long-term aim has always been to build skills and capacities on the estate to the point where the network can be community-operated and managed. Up to this point, however, the project has relied on cash and in kind support from numerous public and private bodies. This paper examines the progress of the project over the last four years, what has been achieved thus far and the options available to keep it going into the future.

The story so far

In its original application for funding from the Victorian State Government's Community Support Fund, InfoXchange described the project thus:

At the individual, household and/or Atherton Gardens community level the following activities will be delivered:

Provide skill development and training in computer use for all interested residents

Provide a personal computer to all interested households on the Atherton Gardens Estate

Provide access to internet communication for all households

Establish a computer network for Atherton Gardens Residents (Intranet)

Provide computer support services for all households (hardware, software, help desk etc)

Transfer ownership and management to residents.

InfoXchange 1999

Given that there are potentially 800 households on the estate it will be seen that this was a major undertaking and could not be considered without a huge amount of support. The initial difficulties with

obtaining this support have been described elsewhere (Ewing *et al*, 2003) but the main sources of support for the project since 2000 are outlined in the table below.

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

Thus it will be seen both from the number and scope of the financial and in-kind support for the project and from the initial aims of the project as set out above, that this undertaking has been complex and costly.

Some four years after the project was first mooted, a community network is indeed in place at Atherton Gardens. As at April 2004 e-ACE had:

- delivered over 500 computers in total.
- 350 households connected to the Network.
- 165 internet accounts started.
- Atherton Website created with multilingual content.
- Accredited advanced training in Word Processing, Internet and Email available.
- Vietnamese Computer Training available on Wednesday and Thursday afternoons.
- Volunteers available for free beginners training at several times during the week.
- Free web design available on Wednesday and Thursday evenings.

- 419 logins registered to the Atherton Website.

InfoXchange

Asked to describe the current state of the project, the project manager laughed:

How to describe it? It's huge! The project combines a number of ideas. The first is I guess connectivity and bridging digital divides so that's probably about access to network services. The next step along the path there is access to training and employment skills, particularly in the IT area, the multimedia area which may help people. The third part is helping the community better manage its affairs through the use of the intranets, so its an information service as opposed to a skills or connectivity service. I also explain it to people as what's been established here is both a physical and I call it an intellectual infrastructure from which other activities can be built. Other activities for example may include opportunities to develop a small business out of the project and take the skills of the people who've come through our project and have them actually build businesses in the local community based on IT services.

Project manager

InfoXchange currently employ a full time project manager, a full time project coordinator and several part time trainers, as well as network administrators and service personnel. There is an ongoing need to upgrade hardware and software as well as continue training residents to increase their skills and knowledge. A rough estimate of the annual cost to keep this infrastructure in place is in the order of \$300,000 per year.

Establishing a sustainable network

The issue of sustainability of community networks is one which is now coming to the fore, after the initial rush to establish such networks has begun to subside a little. In Australia, the three years of federal government funding to "Network the Nation" has now come to an end and numerous community networking initiatives established under that scheme are struggling to keep their doors open. Yet sustainability is a slippery concept, which includes ongoing financial stability but also encompasses many other factors. It is also not always clear from the outset of a project just what it is that ought to be sustained. The e-ACE project, like many other community networks, was originally conceived to be as much about improving social and economic conditions for residents as it was about supplying hardware and software. As the Smart Communities group in Canada have pointed out:

Service sustainability is more tangible than the sustainability of community development results, yet it is entirely conceivable that a community based network could completely disappear, yet still achieve social and economic development results that will be sustained indefinitely.

Smart Communities, 2004:1

They go on to note:

Most community based networks manage projects with a focus on lower level project outputs and outcomes in terms of service provision, and do not manage with a focus on higher level social and economic development results.

Smart Communities, 2004:2

Rapid changes in technology, increasing skills and demands by current users alongside a changing population and the arrival of new users are all challenges which face community networks. It is not yet clear what long term outcomes might define success for the e-ACE project beyond simply continuity of infrastructure supply.

Swanepoel's (2004) work on the Lethbridge Community Network has identified a number of factors which must be addressed when examining issues of network sustainability which go beyond cash flow. The first concern the physical environment: a safe, dry environment, reliable electricity supply and ease of access. The e-ACE project is certainly unusual in this regard, as computers are supplied to private homes rather than through public access points. The householder thus becomes responsible for the physical security of each computer, and can control or limit access to hardware by outsiders.

The supply of new technology, both hardware and software, is an ongoing issue for any network which serves disadvantaged sectors of the community. Setting up a network of linked computers requires both an initial outlay on infrastructure and an ability to continuously maintain and upgrade the physical and intellectual components of the network, including computers, servers, cabling, peripherals and software. In the case of e-ACE this side of the project was well addressed before implementation through the Green PC project, another social enterprise developed by InfoXchange alongside e-ACE, ensuring a supply of recycled ex-Government computers and donated Microsoft software. The option of providing open access software was initially canvassed, but residents quickly made it clear that they wanted access to proprietary software that was standard in the wider community.

Making social enterprise projects sustainable also depends to an extent on the original goal for the project (Swanepoel, 2004:6). Where there is clear public benefit, either through education, training or providing access to government services, there is potential for ongoing public support for the projects (Rideout *et al*, 2004). Perhaps one of the most important requirements for a sustainable enterprise (Swanepoel, 2004:6; Devins, 2003:7) is the need for a champion, an individual prepared to commit to

the process and provide the ongoing energy and support needed to keep the venture going. E-ACE was indeed started by an organisation driven by just such an individual, however long term sustainability requires that as the founding champion's time and effort move on to other things, there is a process for handing over the reins to others who are prepared to dedicate themselves to ensuring the project's success. In the case of e-ACE the original founder has himself acknowledged that this is perhaps not happening. Partly this has been blamed on staffing changes, and partly on a lack of engagement by some members of the community, particularly young people, who, it was hoped, would be interested in taking on the management and control of the network. This is a further important point raised by Swanepoel (2004:7) and others (eg Prell *et al*, 2004:4, Day, 2004:32; O'Neil, 2002:78), that the community for whom the network has been established must be involved in the ongoing management and running of the network, and that the network in turn must provide for the needs of the community. Whilst this has always been part of the rhetoric of e-ACE, the mechanisms by which it might be achieved have been less clearly defined.

Future prospects

It's halfway through its CSF [Community Support Fund] funding cycle. I think it clearly has met the objectives to this point which is about establishing infrastructure and developing relationships and that I think has been very successful. It's a stable, well-recognised, well-known part of living here at Atherton, so . . . it's achieved the goals that were expected in that time. It's now moving into the next phase which . . . is towards sustainability and building on top of the infrastructure that we've created here so that's where I see the project at at the moment.

Project administrator

The main issue for this project now is how to ensure that the massive amount of financial and in-kind support which has allowed the network to develop thus far is not lost when the current large grant expires (Drewe *et al*, 2003: 31). All of the issues of sustainability described above will be of importance to a large network such as this one, which has been pulled together from numerous sources, was initiated by an agency external to the estate and which is ultimately intended to be handed over to residents to control and run. As the quotation at the beginning of this paper suggested, money will always be needed to support the network's existence. But money is not the only aspect of sustainability which will ultimately see whether e-ACE continues to exist or not. Resident interest in the project, demand for the services which the project can provide and willingness to contribute to the ongoing running of the network are all critical factors in the ongoing success of the project.

The Wired High Rise team which has been conducting an evaluation of the e-ACE project for the last three years recently completed a series of interviews with key participants in the project. In part the questions addressed the issue of the future of the network and how various people involved in its running envisaged that the project could continue. Perhaps as a reflection of the lack of a current steering committee or other high level board of management, there was very little consistency in the views of various stakeholders and employees about the future sustainability of the project. All of the respondents agreed that the project would continue to exist after the current funding ran out, but in several cases that seemed to be based more on the idea that “It’s come so far, we can’t let it fail now”, rather than any real concrete scenarios for finding both the funding and the commitment from participants to ensure its long term survival.

The critical thing that I want to do now with this e-ACE one, the highrise one, is to make sure that it does go on . . . [T]he next thing, not only is the question for me around the sustainability of that one, but how then do we roll it out to Collingwood . . . and the rest. You can’t just let it stop there. And unless the question of sustainability is answered we won’t get the next ones coming on I don’t reckon.

Project administrator

When pressed as to how that question might indeed be answered, it became clear that there are a number of levels on which the project could continue, each requiring successively higher levels of financial and other support.

I think we need to work out what is the minimum resources that we could put into that thing that we could then be able to say “It’s a sustainable project”. But all the things that we’ve done over the last two and a bit years in training, in skills development, the capacity building has then shown that this thing can continue. At the minimum level I would see that as being continuing where people can get their internet access and there then also needs to be someone to run the system. The main server, to keep that sort of stuff going . . . [T]hen the next level where you would then want to be saying we’re providing internet access and maintaining the system but we’re also then providing some support activities in there to maintain people’s computers and things like that. Which would be the next level up. And then the next level up from that would be then being able to maintain training activities as well and the content delivery mechanisms around the intranet and stuff.

Project administrator

Funding the project

There are three possible sources of funding for a project of this kind, and it may well be the case that in the future, as up to now, funding will in fact come from a variety of different sources. These three sources are: public funding through federal, state or local government grants; private support through corporate philanthropy for financial donations or other kinds of support (hardware donations, software

donations, volunteers and expert knowledge); self-generated income through becoming a small business and being financially self-sufficient.

This third option is the one that has perhaps been best articulated by those involved in the project at the moment, tempered with an acknowledgement of the difficulty of such an undertaking.

[It] is this concept of looking at the broader Yarra community and providing support to their computers in the small businesses in Yarra and computers in the home . . . You pay a membership and you get a couple of calls, preventative calls, coming out to clean up your computer, putting your software on. There's a help desk that you can call and you might get three help desk calls for nothing and then after that you get charged . . . And the idea is that the service centre that's sitting on that estate currently has, I think, three technicians in it. Those three technicians would support that . . . model. And the fact that then people are paying for that service would then continue those technicians to be able to run the network and provide the network service. So you're bringing money from outside into the community. It's an interesting way to go too.

Project administrator

The current project manager describes his vision for such a venture as:

the notion of developing viable, real businesses that will pivot off the infrastructure. . . [A] service where people might subscribe and get basic computer maintenance, virus checking and be able to call people out to assist them . . . And on top of that if there were more sophisticated networking requirements, or training requirements, that could also be serviced . . . Its very early days but we're in the business of planning that. But there's enormous enthusiasm from the staff for that, they in turn can see long term employment and business opportunities for themselves and others with that.

Other things that we're looking at which are down the track is the concept of a community telco. . . . That's a fairly bold and out there idea, but one that [is] certainly not out of this world. The federal government does, in regional areas, fund projects for rural aggregation. There's clearly a political priority in rural areas with telecommunication services . . . but if you have a look at the possibility for demand aggregation for defined communities, in certain areas, that's actually pretty exciting as well. . . . It's what makes sense, negotiate better deals, its better for the providers, its better for the communities. So it's an interesting one. It's within the scope.

Project manager

Yet even within this articulation of a self-supporting small business there is reference to the possibility of federal government support as well. Others involved with the project have articulated the need for government support more explicitly. Another project administrator suggested:

even if the Office of Housing could hire one IT technician to look after a few sites. That would be the technical side of it. There is close to 600 computers that have been distributed. So you can imagine what sort of network that is. And we're talking about people, some people who don't know anything about computers. So there's a lot of maintenance and support that is needed.

Project administrator

Yet the State Government's Office of Housing estate manager commented:

They will want state government funding to just keep it ticking over for the next five years or whatever, you know, and again I would be looking at the opportunity costs, and just think it's pretty expensive to keep this going. . . . The real issue, the biggest issue for that project is how you keep the funds coming in. That's what I imagine the first couple of years are going to be about. And it'll be a year to year proposition for a while because no one's going . . . to commit several million dollars to its ongoing maintenance. . . . I think that social enterprise thing is really the only long term viable option for it and I still don't know how viable that is.

Office of Housing estate manager

However successful the e-ACE project is in obtaining ongoing funding to keep the network online, there is another, potentially more important element to the sustainability of the project. This concerns the ultimate ownership and management of the project by the people for whom it was originally created, that is, the residents of Atherton Gardens. As will be recalled from earlier in this paper, part of the original application explicitly detailed transfer of ownership and management to residents as part of the long term development of the project, perhaps without a very clear idea of how that might function in practice. The current project manager, who is developing some of the business ideas to sustain the project described above, puts it this way:

the goal [is] to actually turn the project over to the community. That's pretty complex, in terms of governance. If you're talking about it supporting itself through business activity in the Fitzroy area you're looking at an incorporated body of some kind. So there's complexities and also great opportunities with that, I mean, for the residents to actually sit on the board of a small company that actually makes money and provides a service would be a great learning and just a great experience in itself. So we're looking at mentoring programs and how that might be arranged. I guess where the big infrastructure just plugs into the existing representative and consultative bodies in the place, its very much part of the community. InfoXchange would like to have done its job and give everything the strength and structure such that we can pass it on and have it sustained by the people who actually are here. And that's hard. That's the aim, but it's very hard. But that's what we'll try.

Project manager

Much of the rhetoric around the network over the long term has indeed been about its role as a community development opportunity, and the skilling up of tenants to take over management. Yet this rhetoric is not necessarily felt to be acted upon in practice. The community development worker on the estate was very involved in the setting up of the network in its early days, but is now less sure about its success as a community development project:

they always emphasise the fact that they wish to hand it over to the community and that they wish to set up these structures that the community will be able to do. I just feel that community development component of it is very lacking, that clear information about "This is our vision for this project. This is how we hope to get there". . . . I think they need to articulate their vision very clearly to the community, so the community has ownership over it. And it's not an ownership that will happen in one year or two years, but it's an ownership that needs to continuously be explained to the community so the community starts thinking about it and thinking about ways that they can own it.

Community development worker

The state government public servant who manages the estate and is also involved with neighbourhood renewal attempts at Atherton Gardens was also sceptical of the ability of the tenant body to manage such a complex and costly network.

[T]he handing it over to the community stuff. . . . I think something will happen, but I don't know what that something is going to be. I think that something will be a lot more agency or business led than tenant led. I think that's necessary.

I remember . . . trying to get that up about 18 months ago, the tenant representation. It's a struggle. We've had the same issues with tenant management. Getting people who are interested in management for starters. Who are reliable. I guess they're the primary issues. They have to be interested and they have to have the skills I guess to participate as well. It's at quite a sophisticated level this project, just the running of this project. . . . To set directions for a major sort of infrastructural project, there are a lot of issues around, I don't know, I think it requires a pretty sophisticated understanding....

The most basic level is participation. Everyone can participate in the products of . . . the e-ACE project. . . . Then you get up to sort of strategic decision making which . . . generates less and less interest. The higher you go up the hierarchy the less and less interested people are and the less able they are to actively contribute and participate. . . . One of the things we have to think about is, well how do you make a really grassroots program and retain some of those big decisions?

Office of Housing estate manager

One project administrator also summed up some of the inherent tensions between relying on public funding and really engaging the community's sense of ownership over the network.

[The risks w]ould be if the politicians change their mind, then suddenly it's not a sexy project. If we have a change of government or whatever, it's not a sexy project any more, so everybody loses interest. On another hand, that could be a good thing, because then we really have to get the residents together and say, ok, how are we going to work it out?

Project administrator

Conclusion

Sustainability in the context of a community network is a complex concept and one which must be able to embrace change and flexibility, as well as stability and continuity. It is also a concept which must include not only financial aspects, whether they be internally generated or external grants, but also the importance of the network to its members, their engagement with and ownership over all the elements which make the project into a coherent whole. Transferring ownership of such a complex and multifaceted project as this one, which was established by an outside agency and which has required ongoing high level coordination of staff, funders and sponsors is no easy matter, even were the financial underpinnings secure. There would seem to be few guarantees that the e-ACE project will be

able to meet the criteria of sustainability in either the long or short term, despite the enormous financial, emotional and intellectual contributions which have been made to get it to where it is today.

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