

4 Some social and community aspects of ICT use

The Internet and the emergence of new technologies are producing new forms of social interaction and changing ways that people as citizens and consumers engage with government and business. There are numerous prominent examples of these developments.

- A new generation of user-friendly, handheld wireless devices that provide ‘always-on’ access to email, telephony, real-time payments and other multimedia services.
- Advances in micro-chip technology affording far greater processing power and data storage capacity and in turn enabling the increased embedding of ICT into machines and smart devices (e.g. onboard computers in motor vehicles).
- Moves toward interoperability between systems and the convergence of technologies (e.g. digital radio, Internet radio).
- ‘Web services’ technologies designed to connect the ICT systems of multiple enterprises or industries and deliver more efficient and user-friendly coordinated services to consumers and citizens. These include distributed computing and data management services for research and business, more efficient industry supply chains and easier government service delivery for citizens.
- High-capacity broadband links that support web services and content-rich and interactive services for entertainment, e-commerce, research, and collaborative work environments.

This paper mainly focuses on the role of the Internet and the World Wide Web on social capital formation. This is not to disregard the importance of other aspects of technology and their impact on society but rather to focus the discussion in a manageable way. Mobile phones and their applications (e.g. SMS text messaging) are clearly important means of communication that do facilitate social changes (see Rheingold 2002). However, of particular importance is the potential of high capacity broadband to increase online interactivity and subsequently its capacity to build social capital.

Broadband capabilities

The availability, capacity and reliability of bandwidth connectivity are essential elements in the quality and frequency of online interactions between individuals and between individuals and organisations.

Australia’s National Broadband Strategy highlights the social benefits of broadband connectivity:

A high level of community connectivity can serve to break down isolation, aid the acquisition and transfer of knowledge and skills, and promote the creation of mutually beneficial partnerships

and alliances. Community [electronic] networks also have positive implications for the development of social capital within communities.

(NOIE 2004, p. 14)

Narrowband, dial-up connection to the Internet via a standard telephone line—usually 28–56 kilobits per second (kbps)—is generally sufficient for people to engage in such online activities as email, e-banking, online shopping and downloading text and low quality graphics. However, higher bandwidth enables the same functions at higher speeds and is required for many advanced applications including video-conferencing and video-telephony that may benefit particular groups.

With the development of technological capabilities, second and third generations of Internet connection have developed. Bandwidth in the order of 200 kbps with an always on connection is considered the second ‘broadband’ generation while third generation is considered to apply to connection speeds of 10 megabits per second (Mbps) or greater. While accepting both of these levels as broadband, the definition provided in *Australia’s National Broadband Strategy* focuses on the functionality rather than the speed of the connection:

Broadband allows users fast, ‘always-on’ online access to digital content, applications and a range of services, some or all of which can occur simultaneously. Broadband access is of critical importance to take full advantage of new communication tools and next generation applications.

(NOIE 2004, p. 7)

A minimum of 128 kbps is required for video-conferencing or video-telephony and generally broadband connectivity in the order of around 384 kbps is needed for a reliable, good quality service. Videoconferencing or video-telephony can offer a range of benefits for individuals with specific needs and for particular purposes. This may include Indigenous people in remote communities, deaf and hearing impaired users and other online consultations (such as tele-medicine) where face-to-face contact is desirable but prevented by distance.

Higher and more reliable bandwidth connections are often important requirements for people working from home (teleworking) to interact with other staff, customers or organisations. Similarly, while a narrowband connection supports email communication and participation in online chat, it limits the ‘value add’ of these interactions. The ability to exchange/download high quality graphics, photographs, software, files and audio and video-clips over narrowband dial-up connections is seriously restricted. Research suggests that the presence, or absence, of an ‘always on’ connection is a significant factor in the frequency of online contacts between individuals (Pew 2004b; Hampton & Wellman 2003).

Factors such as line drop-outs (in the case of dial-up connections), high latency (i.e. slow response and download/upload times) and data loss in transmission (resulting in poor picture quality in the case of video applications and corruption of downloaded text, images or software) may also hinder effective online relationship building between individuals and the quality of engagement between citizens and consumers with government and business.

The benefits of broadband connections for a wide range of business, work, study, health, cultural, entertainment and social purposes is explored in further detail in the Broadband Resources Kit available at www.dcita.gov.au/ie/broadband

What is the impact of the Internet on communities?

While technological changes have created vast potential for the Internet to affect everyday life (Wellman *et al.* 2002), there has been little direct examination in Australia of the social and community impacts of the Internet. It is noted that most research on the creation of social capital in online communities mainly comes from the Canada and the US and there is little known about the Australian situation (Merkes 2002).

There has however, been public acknowledgement of the potential of ICT to build community. Hundreds of ICT projects in regional, rural and remote communities across Australia have received funding through the Australian Government's *Networking the Nation* program.² State and territory governments have focused on the potential for new communication technologies to foster community development, support regional and neighbourhood renewal programs and to assist with networking across groups. Two notable examples include the Victorian Government's 'My Connected Community' initiative and the New South Wales Government's 'E-communities' project.

Despite this, the Productivity Commission made little reference to the role and impact of ICT on social capital, only hinting at its potential:

This need not mean that social capital is unable to be generated more rapidly in particular contexts or with particular means. Indeed, the ABS (2002) cites an example—the Welink Queensland Rural Women's Network information and communications network—in which new infrastructure combined with structured links with government departments was used to support the reportedly rapid development of social capital among rural and Indigenous women.

(Productivity Commission 2003b, p. 14)

The ABS, however, makes a stronger connection:

Networks may involve relations within the household, in the local community or neighbourhood, or global or virtual relations, such as Internet chatroom relationships, that exist over vast distances. [...] Through chat rooms and subscribing to or linking in with email networks, it is also possible to establish new contacts and networks of relationships around common interests, including support groups. This form of communication is particularly important to those who may be excluded from meeting others [face-to-face] due to physical difficulties, child care responsibilities, or living in remote locations.

(ABS 2004, pp. 67–71)

² See www.dcita.gov.au/Article/0,,0_1-2_3-4_106337,00.html

The benefits of online networks can also extend to people for whom face-to-face contact is limited by distance or circumstance—for example, people who have caring responsibilities, are frail or have family members living in distant areas.

Overseas research (Wellman *et al.* 2002) has indicated three principal ways for broadly conceptualising the impact of the Internet on social capital.

1. The *Internet diminishes social capital* as it draws people away from family and friends. As global communication and involvement increases interest in local community and politics decreases.
2. The *Internet supplements social capital* as it ‘blends into people’s lives. It is another means of communication to facilitate existing social relationships and follows patterns of civic engagement and socialisation’ (*ibid.*, p. 3). People use electronic mediums to supplement their usual telephone and face-to-face contact.
3. The *Internet transforms social capital* by providing ‘means for inexpensive and convenient communication with far-flung communities of shared interest.’ Its ubiquitous accessibility and flexibility ‘leads to a major transformation in social contact and civic involvement away from local and group-based solidarities and towards more spatially-dispersed and sparsely-knit interest based social networks’ (*ibid.*, p. 3).

DiMaggio *et al.* (2001) state that the impact of the Internet is more limited than utopian or dystopian views suggest, depending on how economic factors, government regulation and users influence evolving technology.

The study by the Pew Internet & American Life Project—*Tracking online life: how women use the Internet to cultivate relationships with family and friends*—found that email contributes to the building of bonding social capital:

The use of email reinforces Internet users’ social connectedness to family and friends; the longer a user is online, the more likely she is to cite the positive effect email has on her social ties.

(Pew 2000, p. 20)

This research reinforces the need for studies of social capital and Internet use to define the type of community under investigation (an issue addressed earlier in this paper in discussion on the definition of both geographically based and online communities).

Other evidence (Quan-Haase & Wellman 2002; Sullivan *et al.* 2002) suggests that rather than diminishing social capital ICT is more likely to be supplementing it.

An analysis of the impact of the Internet needs to consider that the Internet may be contributing to new forms of interaction and community that cannot be measured using standard indicators of social capital. The fact that people are not interacting in visible public spaces does not mean that they are in isolation. They may be going online to create new online worlds, using instant messaging to chat with old and new friends, visiting online communities, or playing multi-user games. [...] The Internet makes it necessary to redefine our understanding of what social capital

is. We believe that the Internet will intensify the interpersonal transformation from 'door-to-door' to 'place-to-place' and individualised 'person-to-person' networks.

(Quan-Hasse & Wellman 2002, pp. 10–11)

However, much of the existing research seems concerned mainly with geographically based ICT enabled communities. In this respect, ICT fosters increased bonding social capital.

Yet the variety among online communities suggests that ICT may transform social capital in some spheres. Individuals have a much greater opportunity to join groups that bring them in contact with others whom they were unlikely to encounter under traditional offline forms of communication. For example, the Commonwealth of Learning (www.col.org), an organisation formed by the Commonwealth Heads of State, provides virtual international conferences of practitioners, researchers and academics. While this supplements regular face-to-face conferences, many more people have access to and participate in the virtual realm where the practical difficulties and costs of travel are eliminated.

Similar obstacles are irrelevant in online communities of circumstances that bring together people from regional and remote areas or those with a disability. As explored in the next section of this paper, ICT can both supplement and transform social capital depending on the nature of the community.

A related discussion is the potential of ICT to revolutionise the way citizens engage with government generally. Again, little direct evidence exists of substantial changes in the behaviour of citizens as the result of online interaction with government but governments in Australia and internationally are increasingly recognising and acting on that potential. The OECD puts it thus:

New forms of ICT, alongside more traditional media, can be used to help connect people to their local neighbourhoods as well as more distant communities. ICT offers new opportunities for government to consult and communicate with citizens, and to open up its own actions to public scrutiny.

(OECD 2001, p. 69)

DiMaggio *et al.* (2001) state that there is a gradual realisation that web based interaction does have a unique and politically significant property but that much of the focus has been on increasing political knowledge. Those who are already interested in politics use the Internet to supplement their existing resources. However, Han (2002) noted that the dynamic impact of ICT on political and social movements in Korea provides evidence of the use of ICT to mobilise citizens for political action. Rheingold (2002) has also highlighted examples of the role of ICT in facilitating citizen cooperation and collaboration on a mass scale (the 'smart mobs' that use mobile phones and websites for rapid mobilisation of protests or other actions). The evidence to date suggests that the value of ICT as a political tool, as with other functions, depends on the underlying need at the time.

Discussion points

- What other evidence is there that ICT can and is both supplementing and transforming social capital?
- What factors might be restricting the potential of ICT to supplement and transform social capital?
- What is the role of government (if any) in supporting the potential of ICT to supplement and transform social capital?

4.1 Social capital, community and ICT

Discussions of the theoretical frameworks suggest that ICT plays a role in building social capital. Yet research in this area remains largely undeveloped. To advance, it is necessary to venture beyond generalities as much as possible in analysing that role and how it may vary across different forms of community.

It was suggested earlier that the impact of ICT in building social capital will vary according to community type. This section uses a series of Australian and international case studies to examine the key elements of trust, social networks and sustainability as they apply in four key ICT enabled contexts:

1. geographically based communities
2. communities of practice/purpose
3. communities of circumstance
4. communities of interest.

The selected case studies are distributed throughout these categories and demonstrate instances of best practice and innovation.

Methodologies used to develop the studies included desk research, qualitative interviews with representatives of the organisation around a common set of questions or the use of similar questions to elicit responses from the stakeholder community. Participants were asked to discuss questions related to the key themes of social capital and community in terms of:

- the developmental process of the community
- barriers encountered
- the nature and type of relationships formed within the community
- social and economic sustainability
- the development of trust within the community

Some of the studies presented imply particular outcomes or processes but do not explicitly relate to the themes of this paper. Therefore there is a need to 'read between the lines' to some extent and this may pose as many questions as provide answers. More detailed descriptions of the individual case studies presented in this paper are available in the companion publication *Community ICT Transformation: Case Studies* (DCITA 2004b).

4.1.1 Geographically based ICT enabled communities

4.1.1.1. Wired communities

Netville

The 'Netville' wired neighbourhood study, the work of Professors Keith Hampton and Barry Wellman of the University of Toronto, was one of the first to reveal the positive social impacts of Internet use on relationships with friends, relatives and neighbourhoods.

Sixty five per cent (109) of the homes in Netville (a pseudonym for a suburban housing development just outside Toronto) were equipped with free Internet access at more than 300 times the speed of normal household telephone connections (28–56 kilobytes per second). This provided them with access to email neighbourhood discussion groups, video phones, video mail and various other technologies. The remaining households, which formed a control group, did not have access to the enhanced technologies.

The three year study found the following.

- Contrary to predictions that the Internet encourages social isolation, the Netville experiment stimulated greater civic involvement and neighbourly contact.
- Wired residents were 2–3 times more likely than non-wired residents to recognise and talk with their neighbours and also had more contact with friends and relatives outside the neighbourhood.
- The neighbourhood email list increased the amount of socialising through parties, BBQs and other local events.
- The same neighbourhood email list aided collective action and political involvement. Wired residents organised to protest housing concerns, collectively purchase goods, share information about burglaries and discuss a local teachers' strike.

Conclusions based on this case study and a range of papers written by Wellman and Hampton suggest that Netville promoted the building of bonding capital. In this sense, ICT supplemented current contacts but increased the rate of interaction. Wellman and Hampton make little mention of trust, although there is the implication that trust developed due to the bounded nature of the community and previous interactions between residents. Netville appeared largely homogeneous in nature without divisions along ethnic or income lines. This may not be the case in many ICT enabled geographic communities where the focus is on urban renewal of economically depressed regions or run-down neighbourhoods.

Key lessons

- Wired technology can increase bonding social capital in homogeneous communities.
- Higher bandwidth connections can increase social interaction in terms of frequency, intensity and range.
- The addition of wired technology to homogenous communities can supplement and to a lesser extent transform social capital.

electronic-Atherton Community Enterprise (e-ACE)

The electronic-Atherton Community Enterprise (e-ACE) project (www.atherton.org.au) established a wired community in a low income, multi-ethnic public housing estate, Atherton Gardens, in Fitzroy in inner Melbourne. The estate comprises 800 apartments in four tower blocks with around 2000 residents who are predominantly immigrants—from Vietnam, China and some 30 other countries. Unemployment is high and a range of social issues exist.

The project was initiated by Infoxchange Australia, a Melbourne based nonprofit social enterprise company that focuses on community development using ICT.

In initial planning for e-ACE, Infoxchange set the following objectives:

- to improve the social, economic and environmental circumstances of the Atherton Gardens estate
- to strengthen the capacity and cohesiveness of the community and its network.

Infoxchange secured support from a number of Victorian agencies, firms and community organisations and obtained a three year grant from the Community Support Fund. When this grant expires in 2005 the project will need to find alternative sources of funding.

The Swinburne University of Technology Institute for Social Research supported the Atherton Gardens project with research funded by an Australian Research Council grant. Surveys of residents by the Swinburne team provided valuable insights. An assessment that preceded the project concluded that:

- there was no real sense among residents of a single community identity—social connections and ties existed within language and ethnic groups, within kinship and friendship networks and, to a limited extent, within individual floors of each tower
- within these groupings, very high levels of mutual support, friendship, trust and reciprocity could exist.

In a paper to the Building an E-nation Symposium in April 2003, Swinburne researcher Denise Meredyth reported:

The emerging pattern is one in which existing groups on the estate, primarily language groups, are likely to have more to do with one another, both online and face to face, as the network establishes itself and as training activities take off. Whether this will lead to greater trust and co-operation on the estate remains to be seen. [...] The complex social and cultural composition of the residents themselves is likely to defeat any expectation that the 'community' will use the network to knit itself together into a cohesive social body stocking up social capital.

(Meredyth 2003, p. 5)

To date, the main impact of the Internet and ICT skills has been to replicate existing patterns of formal and informal associations on the estate (especially language and ethnic based), rather than to build an inclusive community. The primary result is bonding social capital, rather than the bridging and linking forms. However, there are indications that activities such as training are starting to build networks that cross these traditional associations. Over time, these may increase the low level of trust that exists across the estate.

Infoxchange is examining options that could sustain the initiative beyond 2005. One option is establishing e-ACE as a sustainable social enterprise based on a business model that builds on the community culture, skills and initiatives of this and other projects.

While the project is still at an early stage of development in addressing the broader community building objectives, a number of lessons have emerged. These include the key role of intermediary that Infoxchange has fulfilled, the value of research in monitoring progress and the importance of a local infrastructure to build partnership and collaboration. The Atherton Gardens project points significantly towards new forms of public and private partnership in addressing the needs of low income, disadvantaged communities, as well as identifying barriers.

Key lessons

- Timeframes for building social capital are long. e-ACE is at an early stage of development.
- Due to developmental timeframes, the economic sustainability of projects can be problematic and requires innovative strategies for support.
- Organisational support is vital to coordinated project development and evaluation.
- Existing social divisions are reflected in the communication and interaction patterns via ICT. Bonding social capital has been developed and enhanced along existing social groupings. However, broader bonding, bridging and linking capital is likely to require purposeful and directed facilitation.

Networked Neighbourhoods

Networked Neighbourhoods is both a theory and a technology. According to the theory, ICT can help build stronger communities that can decrease their reliance on a range of government services. To prove the theory it was necessary to develop purpose-built technology.

The Networked Neighbourhoods technology is designed to build community self-reliance, resilience and support networks and as a result decrease social isolation. The prototype technology allows individuals to establish a networked environment that enables them to:

- contact people who share their interests in the local area
- discover useful businesses and services close by
- find groups and organisations they might like to join
- keep in touch with family and friends
- organise events and details in their everyday life
- access information with personal relevance
- keep a calendar.

Project deployment, in May 2003, included three to seven staff and more than 250 community participants. The deployment hub was at Picton Waters, a new development of 35 houses in the southwest of Western Australia, with the secondary hub consisting of the surrounding suburbs and the local primary school.

Building trust in the project and the administrators was a slow process. A multi-faceted approach used traditional marketing tools, face-to-face and telephone contact. Each of some 500 households in the target group received newsletters, letters of introduction and a survey with small prizes offered as incentives for its return. Each returned survey included signed permission for future email contact, which was used to generate interest in the Networked Neighbourhoods project.

The technology itself is based on a 'networking' approach—people must opt in to become members of the Networked Neighbourhoods environment and can then create new communities and join those created by others. The system is designed to be self-populating with members inviting other people to join. As members of the Networked Neighbourhoods community individuals can receive messages and information

Membership was a key element of building trust in the community. The fact that Networked Neighbourhoods was a closed community helped to develop the trust individuals and businesses had in each other. Additionally, its geographic base facilitated the development of trust and allowed for increased face-to-face contact to supplement the online experience.

Support from the state government and corporate sector for Networked Neighbourhoods was limited to the pilot project.

Key lessons

- Trust is facilitated via geographic boundaries and membership.
- The wired community builds and focuses on bonding social capital.
- The developmental model of Networked Neighbourhoods as a pilot project has not addressed issues of sustainability.

Camfield Estates/Creating Community Connections

One of the most valuable aspects of ICT enabled geographic communities is the subsequent connection of individuals to online communities in the broader society. An example comes from the Camfield Estates/MIT Creating Community Connections (C3) Project, conceived as an online resource for building social capital. The main architect of the project, Dr Randall Pinkett of the Massachusetts Institute of Technology, contends that community technology has transformed the estate (a low income housing development consisting mainly of African-American single mothers) and individual residents.

Pinkett has some compelling examples of positive personal transformation from the introduction of technology to households, although Meredyth (2003) notes that the Camfield Estates experiment has not shown improvements in community interaction or local activity or measurable increases in trust and social capital. Such assessment relates to the geographically based community and not social capital of the individual. However, Pinkett's example of 'Edna Jackson' shows an increase in individual social capital.

Edna (a formidable resident of the Camfield Estates) initially opposed the C3 project but was converted to computer use and the Internet when shown how to use them to stay in touch with her family and to investigate her health problems.

On the day that Edna made a comment to an online chat room for cancer survivors and was validated by the others 'everything changed'. She had a 'renewed faith in her capacity to learn' and experienced a 'metacognitive shift'. She found a 'community of interest' and made global ties with a community that 'reached out to her' giving her better quality of life (Pinkett 2002).

It is not unreasonable to expect comparable individual gains for individual residents in projects such as e-ACE, even though bridging capital may be far less visible.

Key lessons

- ICT enabled geographic communities can facilitate connection to a range of extended services and communities in the online realm.
- Individuals can increase the frequency and intensity of their contact with family and friends increasing their bonding capital.
- Bridging and linking capital may increase through individual connections to virtual communities external to the wired community.

Family Community Network Initiative

The Family and Community Network Initiative (FCNI), administered by the Australian Government Department of Family and Community Services (FACS), aims to develop the capacity of families and communities to respond effectively to local issues. FCNI's primary purpose is to support Indigenous communities and some projects have an ICT focus.

Four of the FCNI projects specifically support 'IT networking' (Black *et al.* 2002) through the following organisations:

- Rockhampton City Council, Qld (Communities on the Internet, or COIN, to improve community ICT access in the Rockhampton District)
- Gungahlin Regional Community Service, ACT (ICT access for disadvantaged and 'at risk' young people and community groups)
- Para West Adult Campus, SA (ICT transfer scoping project)
- St Saviour's Neighbourhood Centre, ACT (Internet café targeting 'at risk' youth).

Seven other 'community networking' projects incorporated IT as a central or contributing feature:

- Carers NSW (families of people with developmental disabilities)
- Long Gully Community House, Vic (community information service)
- Coonalyph Communications Network Inc, SA (community information)
- Durri Aboriginal Corporation Medical Service, NSW (community website)
- Macarthur Disability Service, NSW (interactive information services for families)
- City of Salisbury, SA (Salisbury North community youth IT project)
- Northern Area Community and Youth Services, SA (Spirit of Peachey youth project).

Evaluation of the FCNI program in June 2002 found overall that it had successfully improved the capacity of communities and families through better access to information and services and improved coordination of existing services. There were no broad conclusions about the overall effectiveness of ICT as a tool for social capital and community capacity building, although the report noted:

Without minimising the value of FCNI projects that have focussed on information technology, it could be argued that a lack of access to information or to information technology is not generally the greatest need of many communities in which there is a high level of social or economic disadvantage.

(Black *et al.* 2002, p. 50)

Key lessons

- ICT can provide improved access to information and services for communities.
- Attention to fundamental social and economic issues must take precedence over ICT, which can play a supportive or complementary role within a comprehensive response to those needs.

4.1.1.2 Online access centres

Issues around community use of ICT often focus on physical access and/or training. Many access centres are based in existing communities, run by volunteers and funded by a range of grants (often through the Networking the Nation program). The centres vary considerably in nature and sustainability according to a range of factors including the needs, location and resources of the geographic community.

These centres face inherent difficulties as well as many potential benefits, generally related to community development. Their function is to provide a place to use or learn about computers and the Internet rather than build community within the online sphere. Their contribution to building social capital is in bringing people together around a common interest. In addition, computing and Internet access is an interest that spans age groups, occupations and life circumstances thus increasing bridging capital to some extent.

Some of the centres also have a presence in the online realm—depending on developmental stage, resources and the individuals involved. With this progression the community access centre is likely to increase its impact on the bridging and linking capital of communities through online links to external organisations and services.

Numerous examples of this include the Port Elliot IT Access Centre (www.peitac.org.au) and the Queensland Rural Women's Network BridgIT program (www.qrwn.org.au/bridgit/services/index.htm). The value of these online access centres increased dramatically through their links to other centres, local organisations and businesses. Opportunities for bridging and linking capital began to occur, as well as the benefits of centralised support for administrative, management and technical requirements. For this reason Gurstein (2003) advocates the need for 'technology hubs' and 'regional hubs' to provide a network of access centres. The role of ICT to the transforming rather than supplementary stage as it increases bridging and linking capital.

The Regional Connectivity Project in western Victoria (www.regionalconnectivity.org), a Networking the Nation project with support from Multimedia Victoria and the University of Ballarat, is an example of such a hub.

It began in 1999 with six Community Enterprise Centres (CECs) across the region and has now expanded to 25 centres. These mostly comprise a co-location of community activities, managed in each case by a local steering committee, and aim to foster growth and development in the town and (through the integration of a hub network) the broader region. A Project Coordinator works across the centres assisting with local development and providing a link between the centres.

The joint emphasis on local and regional development and coordination is a defining feature of the project:

The Project sees itself as a regional network, not a series of stand alone centres. This enables a significant amount of interaction between communities, both in learning and development of ideas. Because we have this regional network a number of government departments and other service providers are utilising the Project as a vehicle for the local delivery of their services.

(Regional Connectivity 2002, p. 3)

Harnessing the power of a network provides additional benefits to individual communities. These include the ability to aggregate demand for services, funding and training with improved outcomes for all communities involved. Some benefits accrued through this include:

- access to funding through the Victorian Government Community Jobs Program, which provided ICT skills training for 65 long-term unemployed people throughout the region resulting in employment for 52
- contracts secured with the Australian Taxation Office and Australian Competition and Consumer Commission
- a trial of service delivery through the centres by the Australian Government Department of Veteran's Affairs and the Wimmera Veteran's Support Network.

The Regional Connectivity model has several other features critical to maximising the benefits of the CEC and the regional hub. These include employment of 'knowledge navigators' who provide 'the critical link between technology and people' (Regional Connectivity 2002, p. 2), acknowledgement of community ownership of projects and the emphasis on inclusion of all community sectors in the project.

The model not only develops a sense of community but also increases the use of ICT. The most recent evaluation report indicates that 'Internet and computer usage by business in CEC communities is considerably higher than ABS estimates for the nation.' In the broader community 'computer and internet usage in CEC towns has grown considerably since the Project began, and continues to grow, overtaking the targets set for each Centre' (Regional Connectivity 2002, pp. 2-3).

Another Networking the Nation example is the Maffra Community Resource Centre. In this case online access is embedded within the infrastructure of the community rather than stand alone. Computer and Internet access operates alongside and supplements the range of services available within the centre. Such a model increases the sustainability and acceptability of the service with reduced overheads and integrated services. The range of services available through the Maffra Community Resource Centre include adult education, Internet and computer access, local council offices, community service information and support, assistance with information and referral for social services. There are linkages with the local irrigated agri-businesses.

All the sites supported by Networking the Nation in Victoria have been encouraged to become part of the local community infrastructure, co-locating to assist sustainability.

Wyndham Telecentre

The small town of Wyndham in the remote Kimberley region of Western Australia faces the challenge of a declining population and employment opportunities. With consequent loss of services, it is seeking to establish a new economic base to sustain the community in a difficult period of transition and adjustment.

The role of the Wyndham Telecentre has assumed increased significance in this context. The Telecentre is part of the Western Australian Telecentre Network and is one of 17 in the Kimberley. The Network itself has developed beyond its access objectives to provide broader services in rural and remote communities since the first Telecentres were established in the state in the early 1990s.

In the case of Wyndham, the Telecentre's roles have included the production of the community newspaper *The Clarion*, a growing number of fee-for-service arrangements and serving as the local agent for government programs such as the Employment Directions Network. It has developed a rich web of formal and informal social networks across the community that are important for social capital. The Telecentre's relationships with the large Indigenous population of the district are particularly important in building bridging social capital.

Membership of the Telecentre Network gives the Wyndham Telecentre state-wide and regional relationships. The Telecentre Support Unit in Perth supports on-going dialogue on the work of the Network while regional relationships are fostered through such strategies as regional conferences.

It is likely that the Wyndham Telecentre will continue to evolve its role in line with social and technological developments. A key question will be whether it should take on a broader role as a learning centre in a community with limited resources for post-school education. In a community faced with the challenge of rapidly changing conditions in a global knowledge society and economy, there is a strong case for such a development.

Key lessons

- The inclusion of policies and strategies to build a sense of community ownership of the Telecentre are important factors in ongoing development.
- There is value in linking Telecentres in a state-wide network that combines support services with the attributes of a learning and knowledge generation system to enable them to learn from each other in ongoing dialogue.

4.1.2 Online communities of practice/purpose

As noted previously, communities of practice occur when people with a shared practice feel a need to share what they know and to learn from others. Such communities are generally professional networks that include doctors, lawyers, nurses, social workers, teachers, etc. Communities of purpose are related to communities of practice but consist of members engaged over a particular issue. The distinction between these two types of virtual communities is however slight. Therefore the purpose of this paper the two have been merged as 'communities of practice/purpose'

By definition, communities of practice/purpose are goal oriented and focused. Generally they are bounded in nature, have formal and informal rules around interaction and value facilitation. A few examples are explored below.

Network for Education, Ageing and Technology

The Network for Education, Ageing and Technology (NEAT) is an email listserv that aims to bring together ‘a range of people with an interest in the implications and use of technology by, and for the benefit of, older people’ (Foskey *et al.* 2001, p. 1). NEAT operates out of the Institute for Rural Futures at the University of New England in northern New South Wales. It began in December 1999 as an outcome of the internet chat sessions and videoconferencing that resulted from the project *Making the Connections: Non-metropolitan Older People and Technology* (Foskey 2000).

The listserv is available to anyone with an interest in the cross-sectoral areas of education, ageing and technology. List members include academics, researchers, community members and service providers in the health and education sectors and government representatives. They come from across Australia and represent interests in metropolitan, rural, regional and remote areas in all states and territories. Several members are members of similar international listservs (The National Institute of Adult Community Education in the UK and The Canadian Network for Third Age Learning in Canada) and therefore broaden the reach of all members.

The network encourages the development of bonding, bridging and linking social capital and is transforming the social capital of the group. In most cases infrequent face-to-face contact is seen as supplementary to the existing online contact.

Trust and reciprocity underlie interactions on the NEAT list and are implicit and central to its function. They are built through the membership boundaries, the introduction of new members, assumptions around a common focus and the informal rules of interaction. One list member commented: ‘Trust and reciprocity is exemplified by members who ask for help, confident that someone will respond with solutions from their own experience or suggestions of who to ask for further assistance.’

The bonding and linking of members and the trust and reciprocity between members and the list manager (who plays a vital role) facilitates the social sustainability of the list. According to the list manager, the list ‘will only exist as long as the members see some value from its existence.’ A member expanded on this: ‘It is the involvement of the people who approach ageing and technology from a range of different perspectives—including the older users themselves—that has made the NEAT experience rich and valuable.’

The economic sustainability of NEAT presents some problems—it is an unfunded initiative and despite many efforts to secure government support it does not fit within any funding source due to its lack of structure.

Lack of funding has placed limitations on the development and work of the list members as a group.

I believe there are some things we have the potential to achieve that have not been possible because there is no capacity for the contribution of time and effort required. We could have been a far more powerful advocacy body influencing policy, practice and funding decisions ... I think we have been held back because economic and social goals are still seen by many funding

agencies as being mutually exclusive—even though most members of this list understand that they are inter-related, but not necessarily in a direct relationship.

(Manager, NEAT listserv)

Key lessons

- The social networks of individual members are expanded and reinforced, contributing to higher levels of bonding, bridging and linking social capital.
- The list manager plays a vital role in the social sustainability of the list and facilitating connections between members.
- Trust is an underlying element of the network and is facilitated by the boundaries placed on membership, the reputation of individuals and the rules of interaction.
- Economic sustainability is problematic due to the community falling outside of traditional parameters, making it difficult to secure funding.
- The development and work of the community is limited due to the lack of funding.

Commonwealth of Learning

The Commonwealth of Learning (COL) was established in 1988 to promote collaboration and partnership between Commonwealth countries in harnessing open and distance learning for greater learning opportunities in member countries (see www.col.org).

While the COL role has evolved in line with developments in technology and shifts in priorities in Commonwealth countries, it has continued to focus on four key tasks to:

- serve as a partner in capacity building
- serve as a catalyst for collaboration
- serve as an agent for training in distance education
- provide knowledge on distance and open learning.

The focus on collaboration and partnership in meeting the learning needs and building capacity in Commonwealth countries has led naturally to a diverse range of formal and informal networks. These have included partnerships across and within hemispheres and increasingly regional patterns of collaboration. The development of the Internet has proven instrumental in facilitating this range of networks. Concepts such as virtual education and e-learning reflect developments in technology and learning strategies that have occurred since COL's inception.

The role of COL in building networks across Commonwealth countries is evident in programs such as the Commonwealth Electronic Network for Schools and Education, development of plans for a Virtual University for Small States of the Commonwealth, the collaborative STAMP 2000+ program for teacher education in eight African countries and the role of virtual conferences. It is likely that this pattern will continue into the future as technology achieves its potential to transform the way people learn.

COL's history of brokering capacity building collaborations and partnerships in developing countries also illustrates the importance of embedding technology in broader social and political infrastructure. Its success owes much to a 30 year tradition of Commonwealth co-operation in education which dates back to the first Commonwealth Education Conference held at Oxford in 1959. It is likely that COL will continue to lead the way in using technology to foster innovation in learning and build community through open and distance learning strategies.

Key lessons

- The social networks of participants are extended across traditional nation/state boundaries.
- Trust is built and sustained within the community due to the registration requirement for participants, the reputation of the individuals involved and the organisational basis of development.
- The organisational foundation provides critical technical, social and financial support and coordination creating an environment of sustainability.

U3A Online

The University of the Third Age (U3A) Online project (www.u3aonline.org.au) commenced in the International Year of the Older Person in 1998 to provide learning opportunities for older people isolated by geography, disability or other reasons. It also provided resources to assist 'conventional' U3A groups to meet their local educational objectives.

The initiative applied to the Internet the collaborative, self-help principles developed by U3A to offer low-cost access to learning opportunities for older people.

While volunteers undertook most of the development, partners including Adult Learning Australia and Education Network Australia contributed valuable support. Griffith University currently hosts the initiative's Internet site and provides other high level support free of charge. The Australian Government has provided substantial funding for further development.

Volunteers write the courses, which are available for participants in two modes—self-paced individual study and course groups with a leader. Research has shown that many older people have a preference for the individual self-paced mode and yet lack confidence in handling technology. This has limited U3A Online's contribution to building social networks and social capital, but the situation is likely to change as a more ICT-literate generation reaches retirement.

Surveys in 1999 and 2001 of U3A Online participants showed that most resided in large centres with populations over 20 000 and that the majority had a university education or equivalent. This reflects the limited resources that U3A Online has for marketing. It is difficult to extend knowledge of the program to remote rural areas and reach other disadvantaged groups, including those with limited formal education.

The U3A Online model is now well established and cost-effective. With demographic change and the ageing of the population, demand for U3A Online provision may grow.

Two likely areas for development are to extend:

- promotion so as to increase demand among the target 'isolated' and handicapped groups
- international links and work towards an international virtual U3A Online.

International links already exist with Britain and New Zealand. A current project with the University of Ulm in Germany holds the promise of further international partnerships.

U3A Online has been a timely development in a growing movement for lifelong learning and increasing recognition of the wider benefits that result, including better health, in the context of demographic change and the ageing population.

Key lessons

- The social networks of individuals, particularly those who are isolated, are increased in scope and range.
- Trust is facilitated through the reputation of the organisation, membership and mutual participation. It is reinforced through the common bond of circumstance in terms of age and a common purpose.
- At the organisational level, bridging and linking social capital are important for an ICT platform for development of courses, technical support and promotion.
- A lack of funding limits sustainability and the extension of services.

4.1.3 Online communities of circumstance

'Communities of circumstance' are those in which members share the same position, circumstance or life experience rather than profession. The following case studies highlight the range and variation of circumstances.

Disaster support and recovery

In the aftermath of the terrorist attacks on the US in September 2001, Pew Internet (2001b) described how Internet use was a source of emotional release and comfort—not just for victims and their families, but for millions of other Americans. Indeed, those events triggered global online expression of distress and support.

The responses to the attacks provided a clear illustration how corporate, private and public interests can intersect to generate social capital. An Internet service provider set up a national message centre, a university set up a site to help locate missing people, other sites gathered resources and donations. For some, just logging onto a site to express condolences was a form of participating in a momentous and shocking experience. Later sites archived the '9/11' sites to document the enormous flood of photos, films, news coverage and commentary.

The use of the Internet in this case seems linked to the range of accessible technology at the time of the disaster. Depending on availability, individuals used TV, radio, print media and the Internet to deal with the urgency of the situation and provide support within and around the community. Several reports by the Pew Internet Project (2001a; 2001b) examined this issue in detail.

Closer to home, technology of a more traditional form played an important role in informing and uniting the Canberra community during the January 2003 fire-storm. Local station 666 ABC Canberra continued to play

an important role afterwards, providing many opportunities for people across the Canberra community to share their experiences and tell their stories.

Similarly, it was in the days and weeks following the fire-storm that the Internet came to the fore as a means by which people exchanged photos and stories. The trauma of the event created a strong desire for people to connect—new relationships formed on the basis of shared experience and a stronger sense of a Canberra community emerged from the disaster. Many people used digital cameras to capture the extraordinary images of that day for emailing to family and friends and a number of those images later appeared on websites.

Online information and services were important resources in the aftermath of the Bali bombing of October 2002. The Bali Assist and the Red Cross websites provided the opportunity for victims and their families to access practical information, share stories and develop support groups.

Sites that allow the sharing of stories around tragedies clearly contribute bonding capital. Yet at times bridging capital will also emerge. The sites set up by service providers to find lost friends and relatives generate bridging and linking capital among users. The question as to how to sustain such social capital remains unanswered, as does the specific role of ICT in generating the bonding capital.

Key lessons

- The availability of Internet resources at a time of disaster provides an additional medium to access necessary information and post disaster to share experiences and form communities.
- Organisations can use the power of ICT to provide vital services to a wider range of individuals in a time of crisis.

depressioNet

Founded in June 2000 as an independent, nonprofit organisation, *depressioNet* (www.depressionet.com.au) provides comprehensive information, help and 24 hour peer support via the Internet for people living with depression. Its purpose is to empower people to make informed choices and find solutions to the challenges of living with depression. The site includes information on depression as well as an interactive moderated chat room and message board. Through the chat room and message board, the site provides the opportunity to share experiences, inspiration and hope with others in similar circumstances in a safe and secure setting.

Chat room and message board users appear to share a sense of community built through the integration of boundaries, informal rules and the underlying premise of sharing a common circumstance. The boundaries develop through a registration system, the guidelines for interaction and the moderators' input. These factors contribute to a sense of the site as a 'safe' place for people to interact. Common circumstance and experience are powerful factors that build community cohesion.

A broader sense of trust in the site and the community is reinforced in a number of ways including professional integrity and support, boundary setting and focus. Professional integrity is supported by verification and approval of all information provided on the site, links to suitable external organisations and monitoring of interactive activities. A depressionNet team member monitors the chat room and message board

at all times to maintain the quality and safety of the communication forums and to ensure that support is available whenever needed.

Ongoing partnerships, pro bono support from the business sector and philanthropy from a variety of individuals and organisations provides depressionNet with economic sustainability. Social sustainability derives from the site's unique nature, which gives users a sense of ownership and support and motivates them to give something back by contributing through the site to help others.

Comments from depressionNet users help highlight the importance of this community.

'I became aware of this site as a person who suffers chronic and severe depression and it would not be an exaggeration to say that it has saved my life on more than one occasion when I've been suicidal. Particularly for people like me who live outside major metropolitan areas, the service is a godsend...'

'I only found this site approximately 3 months ago. I felt I had won the lottery. I live in a rural/coastal town and to see my doctor is nearly a six hour round trip for one hour of consultation.....'

'This service provided by the great folks at dNet is a lifeline for so many of us out here in regional Australia who are struggling with an illness which threatens to overwhelm us.'

Key lessons

- The site is premised on bonding social capital between participants but also provides the opportunity for bridging capital through the provision of professional information and moderation.
- Social trust builds in the community of users through the use of a registration system, guidelines for interaction and the input of moderators.
- Organisational trust is built through attention to the professional integrity of the information provided on the site and administration of interactive forums.
- Economic sustainability is facilitated by ongoing partnership arrangements, pro bono support from the business sector and philanthropic support from individuals and organisations.

dEadly mOb

dEadly mOb, based at the Gap Youth Centre in Alice Springs, creates online opportunities for Indigenous young people anywhere in Australia to help them to:

- 'skill up' to participate in community development using ICT
- interact with and upload to the website, expressing their views, hopes, activities and talent
- connect to each other, to strong role models and mentors, and to the wider world.

Drawing upon the resources and goodwill of Indigenous organisations, other employers and community groups and agencies, it seeks to help young people get connected to career, employment and life opportunities wherever they are located.

The website (www.deadlymob.org) is the major gateway to a number of resources—dEadly Mail, a work placement search engine, a mentoring program, online newsletter and special pages for youth in the bush. It offers links to the websites of Indigenous communities and organisations and those leading to sport, music and other Internet activities. Its Internet café in Alice Springs acts as a 'physical base camp' to mirror and support online community concepts.

In the physical world, dEadly mOb emphasises Indigenous principles and values that recognise the role and importance of country, family, traditional law, culture, communication and relationships. It also promotes these values in its online community.

Current funding arrangements (essentially for pilot projects) are probably unsustainable in the longer term. The project is seeking a consistent funding base to cover technical support and development, ICT awareness, mentoring and content creation services to first time users, online client liaison and overall coordination, marketing and administration.

To date, although dEadly mOb has appreciable achievements in bridging and linking activities, bonding has been its prominent social capital objective.

Key lessons

- The design and structure of the site reflects its priority objectives of bonding and bridging capital.
- Sustainability is a key issue due to a lack of ongoing funding and technical support for the project.

Online WA Multicultural Communities Gateway

The Online WA Multicultural Communities (OWAMC) Gateway (www.multicultural.online.wa.gov.au) is a joint initiative of the Western Australian Government's Office of Multicultural Interests and the Ethnic Communities Council of Western Australia (ECCWA). It supports incorporated ethnic communities and nonprofit community organisations to set up and administer their own websites. It provides free site hosting, support and site administrator training along with a bulletin board, chat and conference facilities, a community calendar and web-based email access.

The project will provide some 450 websites, all password-protected, to ethnic communities and organisations. There are no joining or establishment fees but each body must pay a minimal annual subscription. Currently, 56 communities have their websites up and running. Many others are in the process of developing their websites, having acquired the necessary membership and proceeded with training.

The OWAMC's own bulletin board currently involves some 50 organisations and some 200 registered members. The OWAMC online newsletter has received very favourable feedback from leading citizens for communicating broadly across the Western Australia community.

With strong government and ECCWA support, the project took shape through community consultations and the piloting of relatively simple approaches to the task before committing to a more comprehensive project in manageable stages—bringing project management principles to the task of building community capital of the bonding, bridging and linking kinds.

Key lessons

- The sustainability of the project as a whole is underpinned by government technical and financial support.
- Individual communities within the OWAMC Gateway face their own challenges in terms of social sustainability, volunteer skills and commitment and trust within the community and in government organisations.

4.1.4 Online communities of interest

'Communities of interest' are generally less formal than other kinds of communities, with membership based around a shared hobby or interest. Bridging capital may exist, but it is unclear whether it is recognised or used in this context. Such communities may lack a sufficient basis to develop trust and sustainability—the founders may have no particular credentials, membership might be highly informal and fluid and websites are likely to be temporary in nature. However, they share knowledge and information and so have a value in the context of this discussion. Additionally, such sites provide a sense of belonging and perhaps contribute to a sense of identity.

Online gaming community

An interesting example of a community of interest is that of online gaming. One study has concluded that multiplayer game groups promote real-life community values.

Sue Morris at the University of Queensland began study on the topic following public criticism and concerns about the graphic depiction of violence in 'shoot-em-up' computer games and the anti-social behaviour they seemed to promote. But Ms Morris found involvement in these multiplayer games provided gamers with opportunities for learning, creative expression and cooperative socialisation.

'The moral panic is based on this idea that people playing these types of games are just sitting at their computers for hours on end ... a really anti-social thing,' Ms Morris said. 'But it's actually a very social world ... it's about challenge because people are playing these games like sport. They form teams which are just like football teams that play against each other in competitions or just social games.'

Just as in a real community, online gamers were bound by certain rules that governed their behaviour. Norms develop and trust, based on reputation, builds over time. Whether gamers go beyond their online interaction to take advantage of the potential for bridging capital is a question still unanswered.

Key lessons

- Rules play an important role in the development and facilitation of appropriate interaction in the online gaming community.
- It is likely that this type of participation would lead to the development of bonding social capital around the common interest. It is less clear whether this bonding is recognised or used for other purposes beyond the game.
- Bridging or linking capital is not easily identified within the studies to date.

Community Cultural Development

The Community Arts Network of South Australia (CAN SA) is a membership-based organisation that promotes community cultural development through arts practices that connect, inform and educate. Under the CAN SA umbrella, the Community Cultural Development (ccd) program assists a community to determine and express creatively who it is, what it is and where it wants to go. The process is underpinned by principles of self determination, pluralism and cultural democracy. Outcomes include social and political change for the community and personal development for individuals.

The ccd website (www.ccd.net) is a free resource designed to evolve through organic growth, with content generated by and for the ccd or community arts sector. It offers a combination of information pages and tools for members to self-publish ccd related news. It has an online forum generated and moderated by members of the site and a facility for members to participate in email groups.

With some 1200 members and around 700 recipients of the monthly e-zine, the program has a substantial record of achievement. The website attracts over 4000 web visits per month to its 500 pages of ccd content and information. Users have access to 30 news articles published by members, an average of 20 active forums and over 150 examples of ccd projects in the online project register.

For long term sustainability ccd needs to ensure that it has a diversity of active contributors, that its membership reflects the breadth and depth of practice and that the quality and quantity of content provided by members maintains the interest of the entire virtual community.

Although the site has undergone a major development, issues remain—e.g. its networks need active nurturing and adequate income support, as with many nonprofit organisations.

Key lessons

- A substantial portion of an extended community of interest will participate interactively in ICT-based means for extending the bonds, bridges and links between individuals and organisations if an appropriate online structure develops with a range of tools to support online communications.

- It is likely that significant gaps will occur in online participation by actual and potential members of a virtual community of interest. The reasons for this may not be readily obvious, although diversity in levels of ICT skills and ICT access seem key variables.
- Sustainable, long-term community development initiatives mediated through ICT may depend upon maintaining the active interest of members in continuing to share content of adequate quality and quantity.

Australian Chess Federation

The Australian Chess Federation (ACF) is responsible for organised chess in Australia, with over 3000 adult participants in chess tournaments, many thousands more who play occasionally and tens of thousands of juniors in school-based chess competitions. The ACF provides a rating service for players, organises the Australian championships, picks teams for international events such as the Chess Olympiad and generally fosters the development of the game through publicity and training of junior players.

The ACF communicates through a comprehensive website (www.auschess.org.au) that includes chess news, games from tournaments, an archive of tournament results and games and details of upcoming tournaments and events. Until recently it ran a lively bulletin board and it has experimented with an online game-playing service. The Federation also sends out a free, comprehensive, weekly email newsletter containing news, games, tournament details and other information. It is beginning to explore web conferencing.

ICT initiatives in groups like the ACF benefit from the commitment of a few highly skilled volunteers who are willing to invest time in their communities. Otherwise, limited resources (time, money and people) leave ongoing sustainability at issue.

Key lessons

- Technical support is vital and regular updating of material needs to occur.
- A heavy reliance on volunteers and a lack of funding limit the community building capacity of the site.
- Bulletin boards (BB) are a mixed blessing—extremely convenient for communication but time-consuming to operate in an efficient manner. The difficulties are considerable—censoring unsuitable posts takes a lot of time and maintaining reasonable control is difficult. Opinions on how liberal the censorship regime should be range from one extreme to the other. Also, a hard core of BB posters tends to dominate proceedings. The most successful policy involves making the most frequent posters the censors of the board—a ‘committee’ with distributed responsibility.

National Parks Association of NSW

The National Parks Association of NSW Inc (NPA), established in 1957, is a nonprofit community organisation seeking to protect and conserve the complete range and diversity of species, natural habitats, features and landscapes of New South Wales. It has over 4000 members in 19 branches, which are represented on a state council. Its head office in central Sydney has eight staff and a team of volunteers that serve the organisation and support the nine member executive.

The mission statement of the NPA recognises the need to 'work efficiently and think strategically to maximise the ability of its limited resources to achieve real outcomes ... relying on a broad support base, effective communication, sound relationships and an ability to rapidly respond to change'. Effort is essentially voluntary and so networks for communication and influence are paramount.

For some 40 years the *National Parks Journal* has been the prime means of communication across the membership and to the broader community. In 1997 NPA implemented a website (www.npansw.org.au) to disseminate information on the organisation and its operations. This was revised in 2002 to reflect the increasing scope of the NPA's programs and to facilitate communications across and beyond the membership on conservation and other issues. NPA has taken tentative steps towards setting up online discussion forums to add more structure to the existing email discussions.

NPA has used ICT to support more traditional face-to-face, written or telephone methods for building bonds, bridges or links between individuals and groups. It has had considerable success in these matters for decades. However, email communication has considerably aided bonding for relatively 'homogenous' groups around a local or state-wide issue. Email-based lobbying campaigns commonly help build bridges between more heterogeneous groups of stakeholders, linking them appropriately into the 'power and influence' hierarchy.

The diversity in membership demographics and in access to and facility with online technology means ICT developments at NPA will generally proceed with some caution to maintain a match between actual functionality and members' reasonable expectations.

Key lessons

- The organisational structure supports the development of trust, the technical requirements and the sustainability of the online version.
- The online community is integrated with the existing structure of the organisation to supplement existing services and focus.

Capricornia Online

Capricornia Online (www.capricornia.org) is a community initiative in the Rockhampton district of Queensland that developed as a partnership between Central Queensland University and Rockhampton City Council. The initial stage of the project, known as COIN (Communities on the Internet), was funded by the Australian Government's Department of Family and Community Services to focus on bridging the digital divide through training in ICT skills.

Capricornia Online grew out of this development process. It began operating in August 2002 to give effect to the COIN philosophy of the social appropriation of technology—of progressing beyond simple access objectives to employ technology for social and community purposes.

Community groups and individuals are able to sign up as members of this initiative, which has spawned a range of online communities such as Multicultural Corner, VOICES, Living History and Fishing the Fitzroy.

Multicultural Corner is building bridges across diverse ethnic communities by promoting dialogue with and between the various ethnic groups in the district. Multicultural Corner uses a 'mixed mode' approach that combines face-to-face and online interaction to develop trust and confidence.

VOICES employs some of the characteristics of talk-back radio in providing an online forum for community dialogue. The forum allows individuals to offer news items or discussion points for others to comment on. It originated as a discussion board for workers who had become unemployed when the local meatworks shut down. VOICES combined information for the workers with the opportunity for members to articulate their views.

Capricornia Online is still at a relatively early stage of development. The model has demonstrated its value—the challenge now is to extend the impact of the project to the whole community.

Key lessons

- A partnership of key stakeholders has an important role in underpinning development.
- A hybrid partnership of stakeholders, in this case the Rockhampton City Council and Central Queensland University, has added value by providing guided vision and leadership.