

Community ICT Transformation: Next Steps

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Abstract

Information and communication technologies (ICT) are transforming the ways in which citizens and consumers interact and engage with each other, with institutions, organisations and government.

In February 2005 the Department of Communications, Information Technology and the Arts (DCITA) released two discussion papers: *The role of ICT in building social capital and communities* and *ICT transforming the nonprofit sector*. The former explored the community and social aspects of information and communication technologies (ICT) adoption and usage, and the role of ICT in community development, social capital building and social inclusion. The latter examined the economic and social benefits of ICT for non-profit organisations. A period of consultation on the papers took place from February to April 2005.

Cost, infrastructure, ICT skills and techno-literacy, and strategic awareness of ICT were identified as the major barriers to effective use. Finding solutions to address these issues of ICT use in the non-profit sector and in communities requires equal consideration and focus on the technical, social and economic aspects of ICT adoption. The recommendations in the submissions seek to address the infrastructure barriers, as well as the social and economic aspects including a desire for a coordinated approach to leadership for ICT capacity building in the non-profit sector.

Keywords

Social capital, non-profit, Internet, ICT

1. Introduction

The Department of Communications, Information Technology and the Arts (DCITA) released two discussion papers for public consultation in early 2005:

- *The Role of ICT in Building Communities and Social Capital*
- *Information and Communications Technology Transforming the Nonprofit Sector*.

Thirty-one associated Community ICT Transformation case studies were published separately, demonstrating the scope and nature of the ways that community and non-profit organisations have used ICT to enhance the delivery of services. Copies of the papers and the set of case studies are available online at <http://www.dcita.gov.au/ie/community_connectivity>.

This report provides a précis of the main findings of the discussion papers and a summary of the key issues and main recommendations drawn from the submissions received.

Overview of submissions

Thirty five submissions were received from non-profit organisations,¹ government departments, individuals and private enterprises in response to the discussion papers. The submissions raised a broad range of social, technical and economic barriers to increased use of ICT in the community and non-profit sector as well as providing further evidence to support continued work in increasing the uptake and use of ICT.

While there was recognition that there are significant benefits to be gained from ICT implementation, the submissions focussed predominantly on the barriers to basic adoption with limited discussion on strategic use.

The major barriers identified were cost, ICT skills and techno-literacy,² strategic awareness of ICT and access to affordable and adequate ICT infrastructure, hardware and software and adequate, trusted technical support and advice. These issues were described to be more prevalent for smaller, under-resourced non-profit organisations, and organisations operating and servicing clients in regional, rural and remote areas.

A pattern emerged that these barriers were equally technical and social in nature. In order to improve the use of ICT, a holistic view of technology and the environment within which it is applied that recognises both the technical and social elements are critical to achieving increased and effective ICT use in all contexts.

The following two sections provide an overview of each of the discussion papers, followed by a summary and analysis of the key issues raised by the submissions. The main recommendations from the submissions are summarised in the last section of this paper.

The recommendations below are drawn directly from the submissions received and do not necessarily represent the views of the Australian Government or the Department of Communications, IT and the Arts.

¹ DCITA defines the non-profit sector for the purpose of its research as the total number of public-serving and member-serving organisations that are prohibited from collecting or distributing a profit. The department acknowledges that there are other alternative descriptions of the sector in use across Australian society and internationally.

² Techno-literacy is defined for the purposes of this report as the ability to manipulate ICT hardware and software to communicate. As with all types of literacy there are varying degrees necessary for different tasks. Techno-literacy includes skills, knowledge and the ability to read and write.

2. Summary of submissions to *ICT Transforming The Nonprofit Sector*

Overview of the discussion paper *ICT Transforming the Nonprofit Sector*

There is a strong business case for non-profit organisations to apply ICT, particularly the Internet. They can use it to enhance their effectiveness through improved delivery of services and interactive engagement with civil society, the community sector, government agencies and the business community. ICT can also enhance internal organisational efficiency and increase an organisation's visibility and capacity to raise funds.

While research on the extent of ICT adoption across the sector remains limited, there is evidence that the uneven rate of adoption has hindered achievement of its full potential. Key barriers to the adoption and effective use of ICT were identified as access and technical support, technological literacy, cost, the fast pace of technological change and strategic awareness. Cost, access and trusted technical support were seen as the critical elements for the continuing growth of ICT in the sector.

Technological literacy is an ongoing issue for the sector, from the need for basic skills through to strategic awareness of ICT. In some instances this is compounded by a lack of strategic direction in the development of ICT strategies that do not value education and training as part of ICT implementation.

Although groups representing different parts of the sector are working towards addressing these issues, significant infrastructure, leadership and support issues remain that individual organisations or parts of the sector may not have the resources to resolve alone.

Non-profit organisations using ICT to build capacity and capability

Drivers for uptake of ICT

A number of factors were identified in the submissions as drivers for uptake of ICT across the sector:

- Need to reach regional, rural and remote clients — Factors such as the disparate and heterogeneous nature of communities in regional, rural and remote areas of Australia and their vast geographic coverage prohibit conducting face-to-face consultations regularly. In addition, ICT allows people to use basic tools such as email and more advanced communication tools including video conferencing to communicate in an interactive manner without the need for travel.
- Improving internal efficiency — ICT can transform the way an organisation operates including providing efficiencies by streamlining existing processes and creating new opportunities. Using ICT-based tools can assist with more effectively sharing 'back office' services and functions across different sites. For example, by sharing HR, IT, finance, procurement and project management among individual agencies can reduce duplication of effort and therefore can create significant savings and productivity improvements.
- Enhancing delivery of services and support — ICT, in particular broadband, allows organisations to provide a range of enhanced services and support to members and clients. ICT can be used as

a basis for client and service support between agencies, e.g. central referral service, joint case management or for sharing information regarding service/bed vacancies.

- Engagement of staff with ICT literacy skills — Recruitment of new staff with ICT literacy skills or some exposure to ICT can raise awareness of its benefits within an organisation and drive the uptake of ICT.
- Peer influence (from other similar organisations) — Due to the competitive nature of the sector and the desire to interact with other agencies within the same sector, non-profit organisations are motivating each other to adopt ICT.
- Government reporting requirements — Non-profit organisations that receive funding from external sources are often required to report electronically and in a variety of formats, placing a dependence on robust and effective ICT systems and the associated skills of staff in the sector.
- Budgetary demands: delivering more with less — Non-profit organisations are increasingly stretched for time and resources. As such, efficient ways of communicating and accessing support is identified as a key issue.

Some responses suggested that any new programs or policies aimed at enhancing ICT capacity and capability in the non-profit sector should target areas where use of ICT for service delivery and engagement has been underutilised, such as online counselling applications and models.

Clients and members of non-profit organisations often have complex and multiple support needs that cannot always be addressed by a single organisation, making referrals common practice. The ability to share data appropriately can reduce the workload of staff by alleviating the need for clients to continually repeat their story.

The adoption of effective ICT systems, using standardised (or interoperable) software, can assist with the development of social networks and shared resources. Standardisation and interoperability of ICT infrastructure and software within non-profits can also allow savings in maintenance and support. It can transform the way in which information is exchanged and shared. A number of submissions suggested that consequently, technology could be considered 'mission critical' for 'information workers'.

Adopting this mindset is likely to assist in encouraging non-profit organisations to implement ICT in a strategic manner by integrating and aligning it with organisational objectives to enhance the operational efficiency and capability of an organisation. However traditionally, the sector is focussed on achieving results for members and clients, rather than directing valuable time and resources into development of ICT strategies. Consequently, raising awareness regarding the potential benefits derived from ICT is fundamental to its uptake in the sector.

As identified above, the possibilities of ICT can be seen as highly beneficial. However, as a result of these changes a number of submissions highlighted the changing role of non-profit sector staff as 'information workers'. The changes to professional practice that have occurred with the increased use of ICT have required changes in the education and training of staff and managers. The staffing profile

of many non-profit organisations shows that there is a high rate of turnover and a reliance on volunteer staff. Ensuring that staff have access to cost effective training to gain the requisite skills represents a significant challenge for many organisations.

Strategic awareness of ICT

While some non-profit organisations are using ICT at a relatively basic level, submissions noted that some organisations, most of which are larger in size, are already realising significant management and operational benefits through integrating ICT-based solutions and tools into almost every element of running their organisation.

Integrating ICT in a strategic manner has enabled organisations to provide services and support to employees and volunteers, enhance customer relationship management, use e-commerce strategies to improve procurement and fundraising, service delivery and commercial transactions, streamline reporting processes and make the 'supply chain' of partners and service providers smoother and more efficient. ICT enabled one organisation to gather more detailed information about its clients and respond to their needs through sharing information between different workers.

Submissions suggested that in order to strategically integrate ICT, organisations need to take an investment approach to technology funding that recognises that potential benefits can sometimes be slow to realise. Key to this approach is getting the necessary support and commitment from management. This, in turn, requires senior management to have an awareness of the potential value of ICT and the productivity benefits and improved client outcomes that can be realised.

The key findings from the Australian Government's report *Achieving Value from ICT: Key Management Strategies* confirm that an essential component of successful ICT implementation is the adoption of complementary management and organisational strategies. This "involves flexibility, constant learning and a sound appreciation of the specific benefits, sometimes unexpected, the chosen technology can bring to your organisation".³

A number of submissions highlighted that an increase in recognition can be gained from an online presence and can increase an organisation's ability to be more proactive in achieving objectives and reaching clients. However, it was also shown to result in an increase in expectations from clients and members and an increase in the workload, expectations and responsibility of individuals and the organisation. This can have dramatic affects on smaller, often under-resourced organisations and can act as a deterrent to further ICT implementation.

As identified previously, taking a holistic view of the development of ICT strategies that takes into account the social, cultural, technical and economic impacts of technology was shown to lead to the development of more effective ICT implementation.

³ Department of Communications, Information Technology and the Arts 2005, *Achieving Value from ICT: Key Management Strategies booklet*, Australian Government, Canberra.

Leadership and coordination

Effective collaboration relies heavily on vision and leadership. Several submissions argued that ultimately, ICT adoption needs to be driven from within the sector and the government's role is as far as possible, to energise, motivate and inform the sector. The need was identified for "a shared organising framework to sharpen the focus on what is needed to improve the way the Australian non-profit sector gets the maximum value from its technology investments" (Private organisation). That is, with effective and strong leadership, goals such as demand aggregation can be more effective and more sector-wide.

For example, a number of submissions noted that there are potential benefits to be gained from bulk purchasing, or aggregating demand for ICT products and services to create economies of scale and enhance the business case for their provision on a commercial basis. It is important, however, to ensure that the independent needs of organisations are considered carefully to ensure their individual requirements are met and they are not forced to commit to long-term projects that are unsuitable or unsustainable. It was noted that smaller non-profit organisations are unlikely to have the spare staff capacity to commit to leading a demand aggregation project that would have long-term sectoral benefits but is outside of the day-to-day demands of the organisation and its service delivery. While larger organisations are more likely to have the resources available to undertake a demand aggregation strategy, they are likely to have already realised the benefits of bulk purchasing.

Some submissions suggested noted that there may be a role for peak bodies in developing an aggregated approach to ICT capacity building across the sector. These organisations have a good understanding of the requirements of the sector, have developed networks and information distribution channels and have experience in working to meet the needs of non-profit organisations.

It is important to recognise that the non-profit sector is not homogenous. Care needs to be taken in identifying meaningful synergies across organisations to ensure aggregation of appropriate groups to gain the best advantage from demand aggregation.

Technical support was identified in the submissions as an area of opportunity for aggregation of demand. However, a number of issues were raised for consideration in the development of demand aggregation strategies for other aspects of ICT:

- Infrastructure — Aggregation of demand for ICT infrastructure is based primarily on geographic location. While co-location, or clustering, of similar non-profit organisations is likely to be beneficial, it is unrealistic to assume that non-profit organisations of similar sizes and with similar organisational objectives can all be located within the same geographic areas.
- Hardware — The hardware needs of non-profit organisations tend to be different and usually limited in size, purchases are episodic and vendor margins are often relatively small, keeping prices competitive
- Training — Training requirements tend to be episodic rather than regular and the best outcomes are usually achieved with small groups, making it difficult and less effective when coordinating for larger groups of non-profit organisations.

Barriers to adoption and effective use of ICT in the non-profit sector

A common message conveyed throughout the submissions is that while the non-profit sector is increasing its uptake of ICT, it is succeeding slowly and uptake remains uneven, indicating that there are still a number of barriers to the adoption and effective use of ICT.

The barriers identified in the submissions can be grouped into the following main categories:

- Access to ICT infrastructure, hardware and appropriate software
- Skills (including basic ICT skill proficiency)
- Technical advice and support
- Cost.

Access to ICT infrastructure, hardware and appropriate software

A lack of physical access to ICT infrastructure, hardware and appropriate software was identified as a major barrier to the adoption and effective use of ICT.

This includes a lack of innovative solutions tailored to meet the needs of the non-profit sector and a lack of more basic ICT equipment such as PCs, and laptops. Even with the increased availability of refurbished PCs, some organisations are forced to share one computer between five or six staff, hindering the realisation of the full potential of ICT.

The lack of availability of software that is responsive to the needs of the non-profit sector was also raised as a barrier to the effective uptake of ICT. A number of submissions raised the issue of standardised software, in particular for client records management, which can allow appropriate sharing of data thereby reducing the stress and workload of staff and minimising the number of times clients are required to provide information.

The low data transfer speeds of dial-up and drop outs in connection were shown to result in users limiting their use of the Internet to essential tasks. Lack of affordable access to broadband networks, particularly for those organisations located in regional, rural or remote areas was noted as an impediment to the successful uptake of ICT. Broadband or high capacity networks, allow more complex and rich forms of collaboration and communication than can be achieved using dial-up technologies. It can allow converged voice, video and data management that can provide enhanced interaction. This can have significant benefits for many organisations and their clients and members, especially those located in regional, rural and remote areas of Australia and Indigenous Australians: "For the remote Australian Indigenous communities the natural and normal means of communication are via spoken word and visual gesture rather than text. Thus a key aspect of communications for social capital development must include audiovisual, two-way, communications between many locations, as well as robust audio and Internet ('WWW') communications" (Higher education institution).

However, many organisations simply do not have the funds to commit to a longer term investment in the technology required while others remain unconvinced of the benefits from the investment necessary.

Submissions also highlighted that while most websites meet WC3 standards, they continue to exclude many sensory impaired people from accessing information. Government websites are often not accessible by text reading software such as JAWS.⁴

Skills

While programs that provide funding to non-profit organisations for ICT infrastructure were welcomed by respondents, it was also noted that training and ongoing support are essential elements in ensuring that the best possible outcomes from the investment are achieved.

Workers in the community sector often have a relatively low ICT skill base and quite often a higher than average workforce age. In addition, as noted by a peak non-profit representative body, “the community sector often relies heavily on volunteer labour, who are also often older and have fewer ICT skills”. This means that intensive training of existing staff members is required, which with limited resources available, can have a detrimental effect on day-to-day operations and budgets. A large number of those workers are also part-time or casual, which can mean that non-profit organisations’ training requirements are often high and frequent.

Due to financial constraints, small non-profit organisations are mostly unable to provide sufficient remuneration to attract skilled ICT staff. Consequently, ICT issues are often referred to existing staff members who may lack the skills necessary to maximise the investment. This often means that initial attempts to develop ICT based solutions result in few gains, if any, reinforcing the view that ICT should not be considered a priority.

Organisational change is inevitable with the adoption of ICT so managerial choices and behaviours become critically important. In recognition of this, training needs to cater for not only the development of basic ICT skills, but also other important elements like strategic planning and change management. One suggested method for the affordable development of relevant skills is through the development of partnership arrangements or strategic alliances between and among governments, businesses and the non-profit sector. This could be in the form of sponsorship and donations or through valuable mentoring and support to individuals within an organisation or the organisation as a whole. Clustering, or co-location, of similar organisations can also be beneficial, particularly for smaller non-profit organisations, providing a coordinated environment within which to operate.

Technical advice and support

Affordability of relevant ICT solutions that meet the needs of the non-profit sector are important factors in effective ICT implementation. In an ever-changing ICT environment, it is difficult even for

⁴ <http://www.freedomscientific.com/fs_products/software_jaws.asp>. JAWS is a text reader and also outputs to refreshable braille.

ICT professionals to remain abreast of new technologies and applications and nearly impossible for staff members of small non-profit organisations. Access to reliable, quality, independent technical advice can give organisations the confidence they require to invest in long-term ICT strategies.

Access to quality, affordable helpdesk support was also cited as essential if non-profit organisations are to take advantage of ICT in a similar manner to businesses. As noted in one submission, “Nonprofit organisations are reluctant to invest their limited funds and resources in ICT unless they have certainty in its reliability and relevance”. Increasing the investment in ICT can increase an organisation’s reliance on technology, and if organisations cannot depend on the resolution of ICT issues quickly and affordably they are unlikely to make the initial investment.

Cost/funding

The cost of implementing and sustaining ICT solutions within a non-profit organisation was emphasised as a significant barrier to its effective uptake and use. This constraint ultimately underpins a range of challenges for ICT adoption in non-profit organisations.

Non-profit organisations face funding constraints that often deter or prohibit them from investing in ICT. Even when cost efficiencies are easily identified, which sometimes they are not, a lack of recurrent funding acts to prevent them from implementing effective ICT systems and long-term ICT strategies.

With the advent of government outsourcing, an increasing amount of community services are being provided by non-profit organisations, which also brings with it increased accountability and reporting requirements. However, many government programs do not provide sufficient funding to cover the cost of ICT capacity development required to meet obligations under relevant service agreements.

Again, organisations are often reluctant to invest in long-term ICT strategies that require an ongoing funding commitment. With a lack of guaranteed recurrent funding, sustainability of ICT solutions remains an issue that often deters smaller non-profit organisations from making a strategic investment in ICT. Several submissions argued for less emphasis on financial sustainability as an essential criterion in funding agreements.

The use of open source software is being increasingly recognised as a comparatively inexpensive and effective alternative to commercial software. However, open source software is often more suited to larger organisations and when implemented in smaller non-profits organisations it can:

“create costs and system failures, especially in areas such as troubleshooting operating system problems, staff training and incompatibility with existing commercial products, and especially as the most commonly used commercial products are available free to a large proportion of public-serving nonprofit organisations” (Non-profit organisation).

3. Summary of submissions to *The Role of ICT in Building Communities and Social Capital*

Overview of the discussion paper

ICT impacts on the communities in which we live and the way individuals, business, government and communities interact and develop. All sectors have shown increased interest in the concept of social capital and the role it can play in building stronger communities, increasing economic productivity and contributing to rural and regional rejuvenation. As the use and impact of ICT increases, so does the prospect that ICT can play a role in shaping the nature of community development and contributing to the building of social capital.

The commonly adopted definition of social capital is “networks together with shared norms, values and understandings that facilitate cooperation within and among groups.”⁵ Two of the norms pivotal to social capital are trust and reciprocity. These concepts are inherently linked, with reciprocity an underlying element of trust. Together they underpin our daily interactions and facilitate business, government and social exchanges.

Social networks, which define our communications in all aspects of daily life, are the second group of concepts associated with social capital investigated in the discussion paper. The central argument around the changing nature of social networks as a result of the impact of technology is that, with the highly portable and ‘always on’ nature of ICT, social networks are increasingly based around individuals rather than groups or places.

The discussion paper examined the role of ICT in building three main types of social capital:

- Bonding capital — Relations within similar groups which further strengthen social ties or bonds within these groups
- Bridging capital — Interactions between different groups which strengthen the ties across or between these groups
- Linking capital — Links formed between individuals and groups in different positions in society on the basis of power, social status and wealth.

The discussion paper also considered how ICT and social capital interacted and overlapped with the area of community development, both in geographic communities and virtual communities. Specifically, the paper considered the role of ICT in the formation of geographically-based ICT enabled communities and online (virtual) communities of practice/purpose, interest and circumstance. It concluded that ICT has a role to play in building social capital but that role will depend on how individuals, communities, organisations and governments incorporate ICT into their lives and social structures. The discussion paper also concluded that the increasingly technological nature of society means ICT can — and should — now be considered as one of the critical elements of the underlying (supportive) infrastructure necessary for higher-level community development.

⁵ Organisation for Economic Cooperation and Development 2001, *The well-being of Nations: The Role of Human and Social Capital*. Paris, OECD.

It argues that through access to and effective use of ICT, individuals and communities have a greater opportunity for engagement with others, broadening their understanding and building bonding, bridging and linking capital. Greater participation in communities — and adopting a ‘whole-of-community’ perspective to the potential benefits of ICT — is assumed to contribute to stronger social capital within the community at the local, state, national and global levels and hence contribute to improved economic and social outcomes.

ICT as essential infrastructure for community development

The broad picture from the submissions is that ICT can be used to build and extend social capital, which is necessary for well informed, cooperative and connected communities of many types. ICT is now seen as critical community-building infrastructure for social and economic development. However, the barriers to effective use of ICT by communities, non-profit organisations and individuals alike, act to limit the potential of using ICT for community building. Consequently, there remains a perception there is a risk that the “increasing reliance on new technologies could increase the isolation that [disadvantaged] groups face by creating a divide between the information rich and the information poor and contributing to the withdrawal of traditional service delivery mechanisms” (Public-serving non-profit organisation).

The barriers of access, skills and trust are discussed here from a social capital, community building perspective. Cost is not addressed in this section but it is recognised that the capacity to pay for ICT and Internet access will remain as a key impediment to the effective uptake and use of ICT.

Benefits of ICT for building social capital

The discussion paper argued that ICT supplements social capital more than it diminishes it, and that ICT appears to be more effective in supporting bonding social capital. Responses supported this claim; in particular, organisations serving rural, regional and remote communities highlighted the importance of the need to invest in social capital “in the belief that building and strengthening networks and cooperative behaviour and sharing information will lead to innovation and creativity within a community” (Regional member serving non-profit organisation).

Other examples described the success that communities and non-profit organisations have had in using ICT to create and extend online and offline social networks for business and social activities. Public and member serving non-profit organisations demonstrated their use of ICT to increase communication between organisations, marginalised social groups and between geographically dispersed groups. Finding ways of providing services to these groups and to connect geographically dispersed organisations is a problem for many non-profit organisations. “Community organisations in the Northern Territory are stretched for time and resources. As such efficient ways of communicating and accessing support has been identified as a key issue” (Non-profit peak group).

Responses from individuals operating small and one-person organisations/services stated that using ICT was of benefit to them for increasing personal and professional communication and information sharing with interest groups and communities of practice. However, a number of responses from

these types of organisations stated that use of ICT by clients often came with heightened expectations about faster service delivery leading to increased demands on individual workloads. This was further compounded by the need for workers to gain the skills and competencies necessary to perform their work. The changes to professional practice identified earlier, is relevant here.

The previous examples show how ICT has been used for increasing bonding social capital and, in some cases, bridging social capital to access professional support and information. They also show how using ICT created new problems. Examples of linking social capital were not clearly demonstrated.

Further research was recommended to address the lack of empirical research evidence, particularly from different contexts in Australia, on the link between ICT and social capital. This work will be valuable in explaining the different contexts and ways that ICT are used and describe the pathways that different groups and organisations have taken to building social capital and communities through ICT and Internet use.

Building on existing social and technical infrastructure

Organisations such as libraries, online access centres and telecentres were shown to help improve access to technology for individuals and communities as well as performing an important role in building trust and confidence in the technology. For libraries, the existing generalised trust in staff, their skills in information management and taking the role of info-mediaries enabled people who are socially and economically disadvantaged, or simply lack access, to increase and improve their use of the Internet.

Libraries were seen as being able to help bridge 'the digital divide' by creating informed communities, providing convenient places for learning and as a key institution for building social capital. Telecentres and other public Internet access points similarly play an important role for providing access to ICT often with support available for people to learn the basic skills to effectively use ICT.

Barriers to effective use of ICT for building communities and social capital

Although the responses were mostly positive about the possibilities of ICT for building communities and social capital, a number of barriers remain to be addressed. In section 2, a number of key barriers to effective ICT use by non-profit organisations were identified, covering access to ICT infrastructure, hardware and appropriate software, skills (including basic ICT skill proficiency), technical advice and support and cost. In this section the focus is the social impact of ICT access, techno-literacy and trust on building communities and social capital.

Lack of access to ICT

Lack of access to ICT was shown to either reinforce or limit the community and social capital building opportunities offered by ICT. Access was discussed in terms of the cost of purchasing and maintaining technology as well as the need for access to adequate bandwidth, stable technology networks and public access points. Access was further discussed in terms of ensuring that all people,

particularly those with a disability, who are socially or economically marginalised or are from culturally and linguistically diverse backgrounds (CLDB) are not further digitally excluded. Access to broadband and specialised online tools and information was seen as an opportunity for CLDB and other people with diverse needs to engage in wider social networks and to access community resources.

For example, the lack of information, software, and training in languages other than English was raised by a number of respondents as a barrier to use for CLDB. The provision of information and services online needs to be done in a manner that meets the literacy levels of the target group. Individual perceptions about using ICT were suggested as being gendered. For example, in rural areas it was argued that men would likely benefit from increased use of ICT but that the social and cultural beliefs of particular groups can often be a barrier to seeking information and support. The expectation that ICT can support this needed to be approached with caution and realistic expectations.

A number of respondents disputed the argument that dial-up was adequate for basic online interaction. "There is a strong desire in each community to better participate in the online world. [But] Drop-outs, other online business priorities such as email, banking and ordering take priority". This example demonstrates how, even with Internet access, inadequate bandwidth and poor technology can restrict the use of the Internet beyond commercial activities, directly reducing the possibilities for ICT to contribute to community building and positive social capital outcomes.

Access to broadband was seen as one way of addressing the technical problems often attributed to dial-up access. In addition, broadband was perceived as being able to deliver access to specialised information and services that can be used by people with special needs. For people with a disability, broadband can enable access to resources and social opportunities in a manner that suits their needs. In particular, where visual and auditory means of communication are preferred, broadband Internet allows for videoconferencing, access to large digital audio files and other specialised services. For people from CLDB, provision of information, software and training in local languages would increase the useability and effectiveness of ICT.

One recommendation relevant here was for government to focus projects away from what programs are needed to close the digital divide and towards "what programmes are most likely to create healthy functioning Australian communities".

ICT skills/techno-literacy

Feedback supports the argument that techno-literacy is a critical component of ICT implementation and underpins the use of ICT: "There are whole social groups that have little experience or capability to engage or use ICT generally" (State-based council of social service). Individuals who lack the skills, knowledge and understanding of ICT and online environments are less likely to use ICT and risk further digital exclusion over time. However, the relationship between ICT use and skills and improved social and economic wellbeing was seen as needing further empirical evidence. "There are real differences between information poverty and financial/material/social poverty; the ability of the former

to measurably impact on the latter is difficult to measure and should not be overstated” (Non-profit ICT organisation). Although this concern raises legitimate questions of causality, the majority of responses argued that a lack of, or low levels of, techno-literacy was a critical barrier to effective use of ICT and therefore will impact on achieving positive outcomes for individuals and organisations alike.

Developing trust in building communities and social capital online

Trust is an essential social norm for achieving social and economic outcomes: “Trust is the foundation of community building” (Telecentre). This observation succinctly describes the views expressed in the submissions on the importance of building and maintaining trust and reciprocity between and among individuals in communities.

Trust was raised in the submissions in a number of different contexts, all drawing on aspects of trust as, “...the level of confidence that people have that others will act as they say or are expected to act, or that what they say is reliable” as well as in terms of social or generalised trust, which “... refers to the general level of trust in a society—for example, how much one can trust strangers and previously encountered institutions”.⁶

Respondents stated that there is a role for government, business and non-profit organisations to develop and maintain trust in the use of ICT by demonstrating leadership by using ICT for engaging with communities and ensuring access to ICT. Government agencies using ICT to communicate with rural, regional and remote communities was strongly suggested as a means to promote its use by establishing regular communication with groups and individuals.

Trust was further discussed in the context of the behaviour of individuals and organisations in online and offline communities and how offline interactions in some communities was a causal factor in developing trust in the online environment. Developing trust between people and organisations through face-to-face and voice-to-voice interactions was repeatedly stated as a necessary condition to developing trust in technology. In communities where existing social norms highly value face-to-face and voice-to-voice relationships trusting in online interactions is likely to be limited to social networks where individuals know each other in the offline world.

The importance of reciprocity was raised in terms of action and follow-through from organisations and people. One example explained how a group of rural women participated in an online meeting with a government minister. The interaction was well received, but participants wanted to see meaningful feedback and action. “Online discussions can make the politician aware of where to improve things — but its only useful providing there is feedback and ACTION!!!!!!” [original emphasis] (Telecentre). Other submissions agreed that following up with ongoing meaningful interactions online and offline is an essential element to building trust.

⁶ Productivity Commission 2003, *Social Capital: Reviewing the Concept and its Policy Implications..* AusInfo, Canberra.

Trust and confidence in using ICT

Building confidence and trust in the use of ICT was expressed from a holistic perspective of an individual's or organisation's experience of ICT as a 'total technology experience'. That is, a view that encompasses all elements of ICT and Internet use from purchase, support, connection, etc. through to use. The total experience will impact on how people understand and relate to technology and the purposes to which they put it.

The inherent complexity of ICT and the need for varying degrees of techno-literacy were shown to impact positively and negatively on user's willingness and extent of use of ICT and online interaction. For example, a response from a group representing older Australians raised concerns over the security and use of personal information shared on the web that went beyond transactional trust (e.g. banking). For example, older users, "...want to have confidence that privacy is guaranteed — they want to be assured there is redress if defrauded without having to process a convoluted or hidden complaints process". Users were aware of the potential positive and some of the negative aspects of Internet use and were willing to 'give it a go', but negative and complex situations that do not have clear and easily understood rules of operation resulted in the reinforcement of negative perceptions and stereotypes and reinforced existing barriers.

Major online threats identified were spam, malicious code, spyware and phishing as well as antisocial online behaviour. Submissions identified that skills and knowledge to manage online threats was low. Concerns were raised over people's knowledge of social sanctions for inappropriate online behaviour. Suggestions focussed on the need for ongoing education and awareness strategies to help make individual users and organisations aware of the threats and how to manage them. It was suggested that education strategies were twofold, where "...firstly information and skills are provided to alleviate immediate problems, and secondly, provide information on how individuals report incidents and be involved in democratic processes to redress inappropriate corporate, government and individual's behaviour" (Telecentre).

These types of processes were seen as important for empowering users and therefore build trust and confidence in using ICT by developing the skills, knowledge and confidence of end-users. This ties back directly to how trust is developed and maintained online and the need to ensure that users have affordable access to trusted information and support about ICT that are focussed on enhancing basic and intermediate techno-literacy.

Trust in online communities

Trust in online communities was shown to be influenced by the level of generalised (or social) trust already existing between and among individuals and in their relationships with institutions, as well as their confidence and skills in using ICT. In communities where there is a strong tradition of highly valuing face-to-face and voice-to-voice interaction, online users are more likely to use ICT to communicate with people they know rather than to interact with strangers. People wanted to 'know who they are talking to' as a means of negotiating online social relationships. In the example above, the existing bonding social capital acted to support and limit the nature of online communication.

In developing initiatives and policy that influence the online world, an essential value or principle is to focus on people first. "...it is recommended that policy and initiatives adopt the focus of prioritising the client and their needs, and that the solutions address client's barriers to using ICTs and participating in the particular initiative" (Telecentre).

Developing trust was seen as a local phenomenon requiring local leadership and an appreciation of the culture of the groups and communities using ICT. Other values important to online trust were valuing diversity and accepting the heterogenous nature of communities. The social and cultural differences among people within communities and organisations were seen as a key factor in understanding and designing solution to the barriers and opportunities for building communities and social capital. Taking a one-size-fits-all approach will not succeed.

Trust in engaging online with government, business and organisations

There was detailed discussion in the submissions on how government, business and organisations use ICT and how to improve online interaction between individuals and organisations associated with these groups. Local governments and libraries were seen as potential sites of access and learning about ICT which, it was argued, would also help with developing trust in technology.

Developing trust offline between business, organisations and government was seen as an essential element to initiating trust in the online environment. A number of submissions suggested that this would be best achieved through community driven projects where end-users define their needs and solutions are supported by government. Partnerships with business, government and other non-profit organisations and building on existing social networks and infrastructure was supported as a practical and cost effective way of accessing the necessary social and technical resources needed. Appropriate use and protection of personal information was cited as a key consideration in people's decision to use ICT for business purposes and in some cases for deciding who and where to interact online.

4. Summary of recommendations from the submissions

The recommendations raised in the submissions were extensive and have been grouped below into categories that align with the key issues and major barriers raised throughout this report.

The recommendations below are drawn directly from the submissions received and do not necessarily represent the views of the Australian Government or the Department of Communications, IT and the Arts.

Access to ICT infrastructure, hardware and appropriate software

- Make further use of existing ICT resources and infrastructure in communities, such as the ICT facilities at schools, including extending access for non-profit groups to school ICT facilities/computer labs, libraries, online access centres, local council ICT facilities. Governments are to look at the barriers that exist to wider community access to government owned/funded ICT facilities (as above) and work towards enabling full and open access.

- Improved promotion, resources and support to ensure that community technology learning centres and similar online access centres are able to: form sustainable partnerships with businesses and government departments; engage well-trained, high quality staff and volunteers; be appropriately located and maintained; and undertake evaluation on a regular basis and make modifications where necessary in accordance with user needs and community impacts
- Upgrade the Universal Service Obligation (USO) to ensure higher digital data access rates and introduction of a Community Service obligation similar to the USO but targeted at the non-profit sector for the provision of ICT infrastructure. Consider expanding the definition of 'standard telecommunications services' to include features such as call waiting, facsimile and modem usage and digital connections.
- Address the telecommunications needs of consumers in aged care facilities and other institutions, and group accommodation such as caravan parks and rooming houses. Residential aged care providers should be required to install telecommunications cabling in each resident's room and be allocated funds to upgrade existing facilities for this purpose.

Skills/techno-literacy

- Tailor the design and adoption of flexible ICT curricula to the particular needs and learning requirements of adults and children from disadvantaged communities, particularly with regard to local employment markets and opportunities
- Acknowledge the interrelation of all educational stages in lifelong learning, and the need to align ICT policies, programs, resources and support with the varied and changing needs of users at different life stages, particularly seniors, those from low socio-economic and Indigenous groups
- Fund, sponsor and partner the development of practical, innovative community education and access programs to assist take-up and effective use of online services. Programs should include those with a specific focus on seniors, mature aged workers and non-profit organisations.

Technical advice and support

- Establish an independent ICT technical advisory and support service with a specific brief to facilitate the adoption of ICT through the smaller non-profit organisations, including establishing a register of ICT experts on a regional basis for non-profit organisations and providing access to subsidised legal advice on ICT issues from an agency that understands the not-for-profit environment
- Individuals from business and government and early/leading adopters of ICT in the non-profit sector could play mentoring and support roles to staff in smaller agencies
- Improved access to affordable and reliable hardware and software; including 'green' PCs, refurbished PCs as well as resources for website development
- Provide access to training and expertise, help desk expertise that is affordable and responsive to the needs and levels of understanding of the sector, including development of a Remote Desktop Monitoring Service for non-profit organisations.

Cost/funding

- Better recognition of the full costs of ICT for non-profit organisations in government funding agreements, including infrastructure costs and cost of ICT staffing
- Provision of tax breaks for non-profits on acquisition of ICT infrastructure.

Strategic awareness of ICT

- Hosting of ICT information/awareness workshops aimed at boards and senior executive staff members of non-profit organisations. Running 'new ideas' sessions for boards and senior management of related type organisations (e.g. small community organisations, mid-sized organisations who work within a national framework but are separately run in each state). Use these sessions to encourage boards to develop their thinking about potential ways to use ICT to transform their organisations.
- Enhanced case studies about 'good practice' in ICT uptake, to include how obstacles were addressed, etc. by ongoing research and documentation of how non-profit organisations are using ICT at a basic and strategic level. This would increase the knowledge base and awareness of the possibilities that can be achieved through using ICT. Documenting failures is a part of this process as it is necessary to show how not to do it as much as document the successful projects. Case studies may include project plans or blueprints setting out the different models used for a variety of different organisations and would be more comprehensive about: the impact of the ICT project on operations; the input of business/government/philanthropic foundations (where relevant); how obstacles were addressed; ongoing implications of the project; board and senior management role in the project; stakeholder involvement; and evaluation of project impacts.
- Research whether (and how) ICT impacts differently on small, medium and large non-profit organisations and whether there is a difference between metropolitan and rural/regional communities in their adoption and use of ICT. Development of appropriate strategies to bridge possible gaps in ICT adoption and use.
- Use of feedback mechanisms such as telephone surveys, focus groups, structured interviews to obtain the ideas of stakeholders (e.g. members, clients, funding bodies) about how ICT could be used to improve the work of non-profit organisations
- Fostering debate across the sector so that ICT strategies are considered within a wider context of organisational and regulatory reforms for the sector, including articles on ICT issues in journals and magazines pertinent to the non-profit sector
- The use of other forms of media, i.e. radio/television/newspaper etc relevant to older age groups to increase awareness of where the available information is located and details of the web address
- Ongoing education and awareness strategies for users and non-profits on online threats and how to manage them, including a guide on how to manage online privacy concerns.

Leadership and coordination

- Establishment of a coordinating or leadership body building on the existing networks and strengths of the sector was seen as a key strategy to increasing the capacity of individuals and organisations to use ICT. Possible outcomes could be: develop an end vision of what the sector's ICT infrastructure should look like; develop transitional strategies to assist agencies to towards that

position; improve coordination and planning around ICT skills and infrastructure funding programmes; raise awareness of local and national online opportunities through traditional media; focus on clustering relationships (building networks) between large and small non-profit groups and between different sectors, including the building of virtual networks; and provide focus for 'e-confident/e-inspired' non-profit organisations.

- Establish a web-based community sector site, supplemented by quarterly or less frequent face to face meetings/conferences of leading non-profit organisations/peak bodies. This site could provide information on: sector development and policy tools; links to useful sites; regular bulletins of useful information, information on government reviews, policies and consultation processes, and other sector campaigns and consultation processes, etc; chat room capacity and other communication and capacity building resources; and capacity for a coordinated process for inputting into government reviews and other consultation processes.
- Development (and promotion) of a range of ICT infrastructure models for NGOs and pathways for their growth and support to enable efficiencies in financing, networking, training and support
- Creation of regional community-owned ICT providers/aggregators, with individual non-profit organisations as members and influencing its goals and direction. Aggregating demand through a community-owned organisation is more likely to gain the confidence and support of the sector than a model that requires a for-profit firm to be making decisions about ICT delivery and service levels.
- Improved links by non-profits with business groups who are working with non-profit organisations on collaborative projects, including investigating strategies to ICT adoption and use that have been successfully used in the SME marketplace
- Development of better linkages by government with leading International organisations involved in non-profit sector ICT capacity building. DCITA to establish links with major sectoral bodies such as the National Roundtable of Nonprofit Organisations and the Centre for Nonprofit Management. Support to be provided to these bodies to take on a leadership role for the sector on ICT issues.

Changes to government reporting requirements

- All levels of government to work together to come up with standardised reporting for non-profits and that it be a requirement that non-profits have to attach an ICT Plan to receive government funding.

Trust in ICT use and in online communities

- Developing tools to evaluate the impact of ICT on building and developing social networks and investing/funding long-term projects focussed on the use of ICT to develop social capital
- Government agencies to lead by example in using broadband technology such as video conferencing for the delivery of information/advisory services and for meetings in addition to face-to-face interaction.

Conclusion

The responses to the discussion papers demonstrate the myriad of ways that communities and non-profit groups are using ICT to transform the non-profit sector and for building communities and social capital.

The review of the submissions explored the inherent complexity and interconnectedness of issues providing valuable insight into the nature and context of how ICT is used in communities and in non-profit organisations. A pattern emerged that these barriers were equally technical and social in nature. In order to improve the use of ICT, a holistic view of technology and the environment within which it is applied that recognises both the technical and social elements was shown to be critical to achieving increased and effective ICT use in all contexts.

The submissions raised a broad range of social, technical and economic barriers to increased use of ICT in the community and non-profit sector as well as providing further evidence to support continued work in this area.

Opportunities and barriers to the effective use of ICT in communities and the non-profit sector remain focussed on what can be termed basic ICT literacy and access issues. Cost, infrastructure, ICT skills and techno-literacy, and strategic awareness of ICT were perceived as the major barriers to effective use. The extensive range of recommendations made in the submissions seeks to not only address the infrastructure barriers, but clearly supported the need for a coordinated approach to leadership for ICT capacity building in the non-profit sector. Key to developing solutions was the need to ensure end-user knowledge and experiences are highly valued, and incorporated in the development of solutions.

The consultation process has shown that there is considerable opportunity to use ICT in the community and non-profit sector to achieve improvements in operational efficiency and capability, delivering services and support, and building communities, networks and connections.

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