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A communications policy perspective on CTC sustainability in regional Australia: commercial viability and social good

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Abstract

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Keywords

community technology centers, sustainability, telecommunications policy, social good

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A communications policy perspective on CTC sustainability in regional Australia: commercial viability and social good

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Community Technology Centers (CTCs) seek to provide regional communities with access to information and communication technologies (ICTs) and broadband services. The focus of this paper is on developing sustainability in such CTCs in contexts that are often challenged by economic decline. An exploration of current communications policy is undertaken to better understand the provision of these equity initiatives. Using Australian legislation for telecommunications and broadcasting, the paper provides a framework to understand sustainability in CTCs. Out of this analysis a more detailed understanding of sustainability is advanced.

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INTRODUCTION

Community Technology Centers (CTCs) are seen as a potentially effective response to the isolation of regional areas in Australia (Geiselhart 2004; Simpson, Daws and Pini 2004). The term “digital divide” simplistically defines the needs of such areas on the basis of access to modern information and communication technologies as well as broadband telecommunications. The development of sustainability in CTCs is complicated by the reality of the digital divide, which in fact is a multifaceted phenomenon (Kling 2000; Gurstein 2003; Warschauer 2003). This paper responds to this challenge by returning to some “first principles” of communications technology deployment in society as described in existing communications policy.

Drawing on methods of the past communications policy presents itself as a useful guide in the deployment and management of CTCs. Within communications policy the value propositions that give rise to sustainability across a broad spectrum of circumstances are broadly defined. Using Australian communications policy the paper seeks to determine factors that contribute to sustainability and see how these may apply to CTCs. Further analysis of the differences between telecommunications and broadcasting enables the articulation of alternatives in the management of CTCs at both a policy level and individual level. The changing and convergent nature of ICTs and their uses nonetheless exposes the need for further research into the delivery of equity outcomes to underserved communities.

The paper is organized in the following fashion. The paper begins by highlighting CTCs as a practical response to the digital divide thereby suggesting that the attainment of sustainability in CTCs is a desirable outcome. The paper then goes on to define different approaches to sustainability as reflected in communications policy using Australian legislation as an example. The outcome of this analysis defines a matrix that describes four sustainability-related outcomes. This matrix is used to organize case study data from seventeen CTCs in regional New South Wales, Australia.¹ The paper concludes with a discussion about the framing of sustainability within debates about CTCs in regional areas.

CTCS AND THE DIGITAL DIVIDE

To many marginalised groups in the world, Community Technology Centres (CTCs) represent the public face of the global information revolution. Community Technology Centres (CTCs) refer to a broad range of public and private organisations that offer a range of technology based services and programmes to people who have been

¹ New South Wales (NSW) is the most populous state of Australia.

prevented from gaining access to such services (Servon 2002; James and Ziebell 2003; Shearman 2003; Farr and Papandrea 2004; Geiselhart 2004; James 2004; Simpson, Daws and Pini 2004). CTCs exist in a physical location, which distinguishes them from Community Computing Networks (Servon 2002, pp. 52-55) or more recently, Community Portals.

The effectiveness of CTCs seem to be derived from the way they are able to meet a broad range of information-related needs of underserved groups. These include access to online sources of information, education and training in the use of IT as well as developing social contact with others in the community possibly for combined action (Servon 2002; Farr and Papandrea 2004; Schuler and Day 2004; Simpson, Daws and Pini 2004). There is a growing recognition that CTCs provide an important avenue in the development of information-related skills as an alternative to mainstream institutions such as schools and libraries (Simpson, Daws and Pini 2004, pp. 335-336).

From an academic perspective, the study of CTCs represents a more recent manifestation of a research problem that has been prominent for a number of decades. The connection between telecommunications and development has been an important area of study for scholars as well as organisations such as the International Telecommunications Union (ITU) (Tarjanne 1997, p. 42; Lamberton 2001; Milward-Oliver 2005). The fundamental idea that has driven this research agenda is one that asserts access to communications technology enables individuals to fully participate in society (Miller 1996, p. 179; Castells 2000, p.71; Jaeger 2006).

CTCS IN REGIONAL AUSTRALIA

The establishment of Community Technology Centers in regional Australia represents a significant public policy initiative to overcome the affects of distance and isolation. The consequences of such isolation are many. High on the list of challenges is the cost of telecommunications. As online interaction with institutions such as Government and banks become increasingly necessary, there is a heightened need for access to broadband services.

The Networking the Nation program aimed to provide selected regional areas within Australia managed technology centers with broadband access. The purpose was to enable social and economic development in regional areas challenged by changing economic circumstances (Geiselhart 2004; Simpson, Daws and Pini 2004). Started in 2001 the program distributed money to communities on the basis of a business plan that was formulated by a local committee of interested community members (NSWDOC 2004). A basic assumption contained in these plans was a deadline of June 2005 when funding would cease. A primary goal of business planning was self sufficiency.

Given the limited funding agreement it is not surprising that the theme of sustainability figures prominently in discussion about these CTCs (Farr & Papandrea, 2004). Since June 2005 the need for further investigation into sustainability has increased as the reality of the post-funding environment becomes clearer. The need to re-orientate activities so as to ensure revenue streams are developed from services while maintaining a focus on the local specific needs of communities has created an uncertain context in which CTCs operate.

To that end the paper moves on to examine existing communication policy in Australia. This shift of focus from regional development to communications policy is suggested on the basis that the later represents a dominant method by which communication services and institutions have been managed in a public policy sense for a long period. To the extent that CTCs in regional Australia mediate access to not only to communication services but more specifically information, opens the way for a closer analysis of this area. Implied within a communication policy analysis are commonly agreed pointers of what constitutes sustainable delivery for such services which may be of use when considering CTCs.

COMMUNICATIONS POLICY IN AUSTRALIA

The justification for turning to communication policy to inform the exploration of sustainability in CTCs is that the fundamental rules that have guided the use of communications technologies in the past represents useful foundational knowledge when looking to new modes of service delivery such as CTCs. In addition to this the manner in which equitable access to such services is delivered to underserved sections of the community is particularly relevant when one considers that the primary purpose of CTCs in regional Australia is to respond to disadvantage brought about by distance and isolation.

Telecommunications

Looking to the legislation that governs the operations of telecommunications in Australia, the *Telecommunications Act 1997* (TSA 1997), it is clear that the authors of this policy believed that the interests of society are best served through an economically efficient telecommunications sector. The Act states:

[t]he main object of this Act ... is to provide a regulatory framework that promotes:

- (a) the long-term interests of end-users of carriage services or of services provided by means of carriage services; and
- (b) the efficiency and international competitiveness of the Australian telecommunications industry. (TSA, 1997, Section 3.1)

Sustainability of telecommunications in this context is therefore equated with the twin goals of end-users' interests and commercial viability where profit is the primary metric that defines sustainability. Funding for the provision of telecommunications services is enabled largely through direct payments from customers based on a time and distance basis. The information needs of customers have traditionally not been the concern of telecommunication carriers where the nature of communication was largely voice based and interpersonal (Macdonald 1998, pp. 295-296).²

Access to telecommunications services by disadvantaged groups has generally been through the universal service provisions of the *Telecommunications Act 1997*. Australia's Universal Service Obligation (USO) requires telecommunications carriers to contribute to a central fund that is used to fund the provision of telecommunications services to places that would otherwise be commercially unviable.³ The nature of the service specified in the Act is a 64 kilobit per second basic ISDN service. The USO is criticized for its limited vision for not incorporating new media such as wireless services (Coutts 2004) and its inability to effectively service marginalized sections of the community such as people with disabilities (Goggin and Newell 2000) as well as remote and indigenous sections of Australia's population (Ross 2005).

Broadcasting

In contrast to telecommunications legislation, it is apparent that the governance of broadcasting in Australia allows for a greater range of options for the delivery of broadcasting services. Five methods of governance can be found in the *Broadcasting Service Act 1992* (BSA 1992, Part 2): commercial, national, community, subscription and international. Common to each of these models is the identification of specific communities who are identified by their demand for genres of information. For example, in the context of radio broadcasting this may be described by terms such as "easy listening music", "news and current affairs", "youth radio" and so on.

In commercial broadcasting, the primary factor underpinning sustainability is the need to generate a profit (BSA, 1992, Section 14). Along with telecommunications, sustainability of commercial broadcasters is equated with commercial viability. The primary source of funding for commercial broadcasters is from advertising revenue. This lies at the heart of the "free-to-air" system of broadcast where consumers fund the production of programs through the purchase of advertised products. Ultimately these programs are made available to everyone through common receiving equipment.

National broadcasting is funded through the allocation of public funds from Government. In the Australian context, national broadcasters have an "arms-length" relationship with Government and are required to demonstrate their adherence to legislative requirements to Parliament on an annual basis (BSA, 1992, Section 13). Additional Acts of Parliament outline the specific charters that the national broadcasters, the Australian Broadcasting Corporation (ABC) and Special Broadcasting Service (SBS) must fulfill. In the case of the ABC, the primary goal is the promotion of social cohesion through the development of a sense of national identity and the promotion of

² For the purposes of this analysis the emphasis here is on "traditional" roles as telecommunications companies have now become active in the provision of information to its customers through the delivery of information content to mobile phones, the provision of internet-related services and partnerships with pay television companies.

³ A nominated service provider decided through a tender process carries out the provision of such services. The reality is that incumbent operator Telstra carries out this role in most cases.

education. In the case of the SBS, the primary goal is recognition and promotion of cultural diversity in the Australian community.

Situated in between profit driven models and public service models is the not-for-profit status of community broadcasting (BSA, 1992, Section 15) The decision to grant licenses to community broadcasters by the Minister is based on the degree of local community support and resources that can be garnered as well as demonstrated organizational ability. As many community broadcasters struggle to gain sufficient operating funds, there is a high reliance of volunteer support (van Vuuren 2002). Community broadcasters ideally serve the specific information needs of the communities in which they are located. Those who appear to enjoy the most success are those that have a ‘...dense interlocking network...’ with local communities (van Vuuren 2002, p. 105).

The fourth mode and fifth modes of broadcasting are respectively motivated by profit creation and public service goals. Subscriptions services are made available through the payment of a fee by individual subscribers who then require specially designed receiving equipment to access programming. International broadcasting services are those that are delivered from within Australia by means of a radio communications transmitter to audiences outside of Australia. Assuming broadcasts do not undermine the national interest no specific programming requirements are placed on broadcasters in this category.⁴

Table 1: Summary Comparison between Telecommunications and Broadcasting Policy

	Communication Type	Category	Information Need	Funding Model	Equity of Access
Telecommunications	One-to-one (private)		Interpersonal and ad hoc	User pays; profit oriented	Universal Service Obligation
Broadcasting	One-to-many (public)	Commercial	As per interests of listening community	Advertising-profit oriented; free-to-air	Free to air
		National	As per legislative requirements	Publicly funded; free-to-air	Free to air
		Community	As per interests specified by localized community need	Not for profit; free-to-air	Free to air
		Subscription	Highly specified	User pay; profit oriented	None
		International	As per foreign policy goals	Publicly or privately funded	Free to air

A COMMUNICATIONS POLICY PERSPECTIVE ON SUSTAINABILITY

The attributes of broadcasting just described are summarized along with telecommunications policy attributes in Table 1. The table indicates a diversity of approaches for the management of CTCs. In contrast to the telecommunications perspective with its emphasis on user pays, broadcasting policy suggests a diversity of approaches for the management of CTCs. Contrasts can be observed between commercially oriented service provision (commercial and subscription), publicly funded models (national and international) and those that are not-for-profit (community broadcasting).

In seeking to extract a fundamental proposition for sustainability two common factors can be distilled. These are: commercial viability and social good.

⁴ In practice, the overseas service of the ABC, Radio Australia, is responsible for the majority of international programming, which is once again guided by the relevant legislation.

Commercial Viability

The default policy for the provision of communications services appears as a market based model. A market-based model can be understood in terms of a textbook explanation of the open market in which businesses will succeed on the basis of consumer support and those that do not garner sufficient revenue from consumers will fail. This approach is clearly evident in Australia's telecommunications act that asserts the '...efficiency and international competitiveness...' is a primary object of the Act (TSA, Sec 3). It is also apparent in commercial broadcasting services and subscription services that are operated for profit.

Social Good

'Social good' is a term that is increasingly gaining currency in communications discourse (for example see Clark 2003; Bales and Gilliam Jr. 2004). The term broadly gives voice to the idea that communications technology delivers a dividend to society because individuals are better informed and better able to participate in the economic and social life of communities. Souter (2005, p. 13) outlines the underlying principles that give rise to such a dividend by stating that:

'...[people] have a need to share information, experience or social solidarity (for example, in maintaining family relationships). Similarly people do not seek information for its own sake, but because they can use it to protect themselves against vulnerability or to seize opportunities for advantage...'

Souter (2005) goes on to say that despite the many discontinuities in communications technologies development over the decades (as characterised by the different technologies vying for attention and adoption) the requirements for information by people have remained essentially constant.

Taking Souter's statement as a guide, social good measures can be found in communications policy. For example, the first object of Australia's Telecommunications Act is the promotion of the '...long term interests of consumers...'. The Act goes on to state that services of '...social importance...' need to be '...reasonably accessible to all...' (TSA, Sec 3). It is within this context that Universal Service Obligation is defined in terms of a basic rate ISDN service. Broadcasting, by way of contrast, is able to use audience size as a measure of social acceptance.⁵ In concert with this is the need for media proprietors to demonstrate their '...trust and candour....' in order to be eligible for a commercial broadcasting license (BSA, 1992, Sect 41).

Commercial Viability and Social Good

In many instances the goals of commercial viability and social good coincide. However, commercial viability cannot be simplistically aligned with social good. One example of this is the distribution of pornographic material where there is sufficient demand for such material but Governments are required to apply censorship controls over supply in order to limit exposure to children.

Another scenario in which the two concepts of commercial viability and social good can come into contention is described by the term "market failure". Market failure refers to the inefficiencies that arise when '...a gap between what "society" is prepared to pay for [a service] and the cost to the "economy" of supplying that [service]...' (Albon and York 2006, p. 369). In summary, there are times when insufficient commercial incentive exists for the delivery of a service which is important, perhaps necessary, for a community to function properly.

In telecommunications policy the Universal Service Obligation (USO) gives recognition to situations of market failure and provisions to overcome such failure in the public interest. In the broadcasting arena national broadcasting addresses the requirements to overcome the educational and cultural dislocation resulting from the thinly spread Australian population over its large landmass. As consumers would be unable to support the high cost of this social need it makes economic sense for Governments to fund national broadcasters as well as specialized distribution mechanisms such as satellite to remote areas.

While the benefits of access to communication technology and more specifically, information, are generally accepted, it is difficult to establish an unambiguous measure of social good. More problematic is determining who should pay for such access if insufficient commercial incentive exists to provide such a service. On the other hand, Governments can sometimes be observed to be reluctant supporters of bona fide social good outcomes as indicated

⁵ Even national broadcasters such as the ABC, who have no specific legislative requirement to meet reach audience targets, are not immune to such pressure when they are sometimes accused of being elitist and not serving the majority interests of the Australian public (Adams, 2001).

by the Australian Government’s lukewarm commitment to national broadcasting (Adams 2001). As will be explained, the latter issue represents a fundamental area of disquiet in relation to CTCs also.

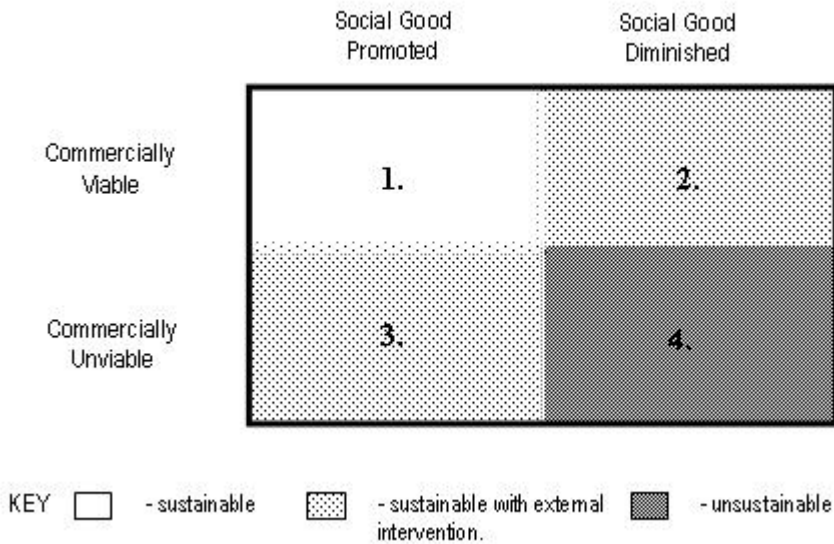


FIGURE 1. SUSTAINABILITY MATRIX

APPLICATION OF THE SUSTAINABILITY MATRIX TO CTCs.

In mid 2007 the author undertook a series of case studies in order to document and analyze the development of CTCs in NSW two years after funding from the Networking the Nation scheme ceased (as described in a previous section of this paper). Managers and volunteer staff from seventeen centers were interviewed to determine the nature of strategies aimed to achieve self sufficiency.⁶

When applied to CTCs the two issues of commercial viability and social good as detailed in the sustainability matrix (Figure 1) were found to be a useful starting point when making assessments about sustainability in CTCs. When focusing on the attainment of commercial viability all of the CTCs studied had been experimenting with a variety of measures to generate income. It can be observed that income generating opportunities are to a large extent determined by the nature of the economies in which each of the CTCs reside. For example some CTCs were located in popular tourist destinations which are able to generate income by offering Internet services to travellers keen to maintain contact with family and friends, download photos from digital cameras as well as conduct online business transactions such as banking and accommodation booking. Alternatively, CTCs located in areas which had a high proportion of retirees who had recently moved to the area experienced a high demand for fee-based training courses. On the other hand, areas that are economically depressed due to dislocation of local industry (for example, drought in rural areas and Government buy out of fishing licenses on the South Coast) experienced a high demand for training courses on the basis that such courses were free. Then there were CTCs who had difficulty in generating income because the surrounding community was isolated and small in number (less than 500 people).

Following the rationale contained within the sustainability matrix (Figure 1), factors pertaining to the social good need to also be scrutinized. All CTCs were able to demonstrate activities and services that make a positive contribution to the social and economic life of their regions. The extent to which such judgments are quantifiable is more demanding of the case study data. This becomes clear when considering some of the case study examples.

In one context, CTCs represent to varying degrees a quasi-formal component of human resource development in their local communities. Many of the CTCs receive payment for training of unemployed people. Some of these CTCs also provide training courses to the general public on a fee-based basis or for free if sponsored by a Government department such as the NSW Department of Community Services. Training and exposure to ICTs represents a strong incentive for volunteer involvement with more than 89% (N=46) citing exposure to and training

⁶ The author also conducted a free three hour training course at the CTCs during the visits.

in ICTs as a reason for their participation. About half of these volunteers (51%; N=46) report that their improved ICT abilities has had a positive impact on their involvement in other organizations (business and community) to which they belong.

Other services that CTCs provide to the local community are easily associated with social good outcomes. Access to the Internet, particularly email, represents a fundamental purpose for CTCs. One CTC customer indicated the importance of email access at the CTC to her as it was her only form of regular contact with her mother. CTC managers have been creative in offering service that respond to local commercial needs. For example, many CTCs provide printing and laminating facilities for individuals and local business in situation where such services do not exist. Three of the managers surveyed provide secretarial and managerial support to their local Chambers of Commerce.

Some CTCs are the source of information content. The media by which this content is transmitted varies ranging from paper based publications such as newspapers, posters and books, Compact Discs (CDs), CD ROMS, DVDs and websites. The nature of such information ranges from current local information (as in the case of local newspapers and some websites) to historical local information (such as published CD ROMS) to special interest needs including cookbooks, creative writing, music and video productions.

The source of such creativity was sometimes the work of individuals and at other places the consequence of group interaction within the CTC. In the former case, the CTC represents a service provider in that the necessary tools are provided to create an information product. An example of this is the printing of a piece of creative writing developed by a teenager as a personal activity. In the latter case, the CTC plays a role conducive to group innovation by providing a physical and social context for group formation, interactivity and creation. While occupying small sections of the case study data, the implications of such information products over the longer term appear significant. For example, the recording of oral histories from elderly locals who have actively participated in a local industry that is on the decline appears as a valuable contribution to the social good.

While training courses provide an example where information is easily commoditized and sold, there are also many occasions in which information is not so easily commoditized. Such is the near universal quandary of case study managers who complain that there are numerous occasions in which they are asked to provide information to individuals in the community on a cost free basis. The nature of such enquiries is sometimes related to a specific software or hardware problem in a computer but could extend to researching a topic on Google to provide the customer an answer. In the absence of a clear mechanism to recoup a return on time, effort and expertise the incentive to provide such a service to the local community is reduced.

In summary, all of the CTCs surveyed represent a physical space in which a range of “information-related transactions” can take place. Macdonald’s (1998) discussion on information transactions provides a useful perspective on the reciprocal nature of information exchange in social networks. While some information exchange is made possible by direct payment, a significant proportion of information transactions are facilitated through a method akin to bartering.⁷

Another aspect of the analysis of social good attributes relate to initiatives designed to avoid harm to CTC customers. All of the CTCs studied took active measures to prevent harmful experiences particularly to children. This represents a common requirement of all the members of the CTCA (Community Technology Centre Association) to which all of the case study CTCs belonged. This included specific prohibitions against the viewing and downloading of pornographic material, the use of CTC facilities to intimidate or threaten others and the use of facilities for online gambling. One CTC manager had taken specific action to forbid young people from accessing online chat and social networking sites because of the specific vulnerability this group had to online liaisons. Other managers expressed some disquiet at the images some teenagers accessed but generally used on-the-spot supervision by volunteers or themselves to manage and limit exposure to such sites. No CTC manager reported situations that are equivalent to the negative experiences of South Korean users of CTCs (PC Bangs) where Government has taken steps to reduce exposure to online games and the consequent effects of ‘...Internet addiction...’ (Kim 2005).

In bringing the two attributes of the sustainability matrix (Figure 1) together, it is possible to develop a more refined understanding of the concept of sustainability as it relates to CTCs in regional NSW. Sector 1 of Figure 1 indicates scenarios in which social good factors and commercial viability come together. Out of the seventeen case studies three operated totally on a self funded basis.

Sector 2 of Figure 1 indicates scenarios where external intervention is required to support social good goals. Thirteen CTCs benefited from assistance from Government, mostly Local Government, by way of rent assistance (1) or the provision of premises (11) or one grants (1). One CTC was housed in facilities owned by a community based organization (Progress Association).

⁷ He goes on to say that the necessity of ‘...informal information transactions...’ is a reflection of the difficulties of working with information.

Sector three of Figure 1 indicates situations in which commercial viability has been achieved even though controls have been put in place to avoid harm to vulnerable groups thereby promoting the social good. While all CTCs had agreed to adopt provisions to protect people, particularly children, none were actively engaged in deriving income from activities that were considered potentially harmful to vulnerable groups.

The fourth sector of Figure 1 represents scenarios in which commercial viability and social good are not attainable. No CTCs were observed to fit this case presumably because both factors work against the longevity of such an organization.

The presence of enthusiastic volunteers in the thirteen CTCs is an interesting aspect of CTC development. (Four CTCs in the study did not employ volunteers). Only one volunteer was found to be unhappy as a result of participation in the local CTC. In interviews, all volunteers displayed a strong commitment to making their local community a better place. This was in the main reflected in surveys also. Most reported that they gain satisfaction from giving their time and skills to help others. Out of this group about half had past ICT experience. Other volunteers also had an interest in IT but it was more from a position of ignorance. They enjoyed participating as it gave them valuable exposure to ICTs and related learning opportunities. It was also apparent that free access to a broadband-enabled Internet connection was one of “perks” that some of the volunteers enjoyed.

The important place that volunteers fulfil in staffing CTCs resonates with the observations in Van Vuuran’s (2002) study of community broadcasting in regional NSW and Queensland. The term “social capital” is evoked by van Vuuren to describe the value of such contributions to community as does Simpson (2005) in her study of CTCs in rural Queensland. Social capital enlists the economic theory of capital to indicate the value of a resource that can be used to create further economic and social value. This resource is largely intangible as it is underpinned by social networks that are characterized by trust and reciprocity (Simpson 2005). The assumption is that well-connected and co-operative communities stand a better chance of developing productive economies than poorly connected ones (ABS 2004). Nonetheless, Simpson (2005, p. 106) states that the term social capital is a contested one and this has perhaps reduced the weight of arguments calling for ongoing support of CTCs from Government.

The challenge in assessing what role volunteers play in relation to CTC sustainability is complex. On the one hand volunteers appear to be filling in the gaps that are legitimately associated with Government in its role to prevent market failure. Policy makers are quick to point out that while market failure is a necessary condition for Government to act it is not sufficient in itself if other methods are able to deliver a superior outcome (Albon and York 2006, p. 371). In this context, the latent resource that volunteers represent is one such alternative that policy makers look to when backing away from a commitment to support CTCs. However, Simpson (2005) warns of a situation where volunteers may get worn out by the burdens of supplying services without sufficient support from external sources such as Government.

On the basis of this study it is possible to cite a number of arguments to support the assertion that CTCs contribute to the social good sufficient to justify external support beyond the immediate community. One cogent example is the role one CTC has played in engaging teenage boys in activities that have steered them away from criminal activity. The expenses associated with policing the alternative activity and the subsequent administration of justice has been avoided. Some CTCs actively facilitate the creation of new small businesses. During the study of one CTC, an IT repair business was in the process of being established after a period in which the new proprietor was able to test the concept at the CTC. In this case and others, the CTC also facilitated the necessary contacts with the relevant Federal Government Department responsible for dispensing grants for this purpose.

It appears that the majority of CTCs in this study have been effective in engaging a diverse range of community participants and sometime connecting them with relevant program administered by Government and private organizations. The skill mix of individual managers is clearly seen in the thrust of activities that the case study CTCs undertook. By way of example, it is no accident that a manager with a strong background in corporate IT promotes activities that relate to commercial applications of IT while a manager with a background in applying for public research grants is adept at accessing funding opportunities offered by Government or other sources.

If anything, this observation reflects the flexible and ubiquitous nature of ICTs. ICTs can be used in a wide variety of circumstances as reflected in the range of activities observed such as personal communication, the management and administration of community groups, organizations and business, publication of information for advertising and the publication of information as a cultural product. Add to this the observation that many people appear to be enjoying themselves, as reflected in the strong volunteer support, it is difficult to see why the support for CTCs at the local level has not been more influential at the State and Federal levels. Certainly the level of government most visible in this study is Local Government who provide support to twelve of the CTCs by way of rent subsidies, grants and in kind support such as the provision of premises. It follows that the value of CTCs is most apparent at the local level.

In reflecting on the goal of sustainability Simpson (2005) makes the point that sustainability can be viewed as both an *end in itself* or a *means to an end*. The choice of emphasis appears as important when assessing the "success" of CTCs. If one adopts the former, the focus tends to income generation while attention to social good outcomes is diminished. This approach leads to a depressing conclusion that CTCs are in fact doomed. This is not a reflection of their effectiveness in a social good sense but is to a large extent determined by the economic conditions that regional Australia labors under. It is illogical to expect CTCs to gain this kind of sustainability where the obdurate forces of economic change in regional areas are closing down local banks, schools and supermarkets.

On the other hand, if one views sustainability as a necessary condition to enable social good outcomes to be achieved, sustainability becomes an element of a cost-benefit analysis. In this context, the cost of sustaining a CTC needs to be compared with the cost of losing the social good benefits should the CTC disappear. As argued in this case study the closure of a CTC may lead to a significant social and economic cost further into the future.

CONCLUSION

The models that guide and constrain the deployment of communications technology are designed to balance the needs of a diverse range of actors. The analysis of communications policy in this paper has provided a number of principles that can be used in the management of CTCs in both a policy sense and at an individual level. The establishment of social good and commercial viability as fundamental factors determining sustainability enables various CTCs to be assessed. The analysis addresses current policy approaches that draw back from the public funding of CTCs. Ultimately the paper argues that the cost of sustaining a CTC needs to be assessed against the social good outcomes the CTC delivers. The alternative emphasis on commercial viability as a primary indicator of sustainability is illogical when one considers the restricted economic conditions in which many CTCs are expected to survive.

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