A literature review of community informatics initiatives

The 'digital divide' between those who are able to exploit the potential of information and communications technologies (ICTs) and those who are not is seen as a major factor influencing wider social and economic inequalities. This critical review, by Brian Loader and Leigh Keeble of the Community Informatics Research and Applications Unit, University of Teesside, attempted to find evidence for the effectiveness of community informatics initiatives in challenging this divide. The review found that:

- The use of public access and support sites (such as UK Online centres) by those currently perceived as excluded from the benefits of ICTs is generally low.

- The location of many public access sites in libraries, schools, further education colleges and other public-sector venues may be a significant barrier for those who do not associate such institutions as being part of their lives.

- Similarly, ICT training and education which replicate earlier negative feelings of failure are unlikely to attract those who have been categorised as underachievers.

- The problem of sustainability is a common feature of almost all community informatics projects, with the role of public investment requiring clarification.

- Evidence of increased civic participation arising from community informatics initiatives was limited to a few cases, mainly involving existing political activists.

- Negotiations between the Government and commercial providers over pricing and regulation are likely to make a significant contribution to challenging differential patterns of access and usage.

- Good-quality research exists, but the extent and robustness of current empirical research in community informatics is not sufficient to help policy-makers and practitioners to design and implement effective strategies and actions.

- Both the barriers to low take-up and the cases of good practice identified could inform future development. However, these are not sufficient to support the contention that community informatics initiatives have yet made significant challenges to the social inequalities associated with adoption of ICTs.

Background

Policy responses to the digital divide have looked at the voluntary and community sector's role in developing local projects to provide public access and support for ICT adoption to those who are currently excluded. Such an approach has drawn heavily on a worldwide tradition of what in the UK, Canada and Australia is called 'community informatics'. Typically, community informatics initiatives have been designed to explore the potential transforming qualities of the new ICTs for community development, economic regeneration, democratic renewal and social support.

Through its UK Online programme, the UK Government has attempted to achieve its target of providing 'universal' access to ICTs by 2005. UK Online has been developing a network of community-based public access centres, using a mixture of existing community informatics projects, public-sector facilities and stimulation of new projects. Since 1999, the Government has invested £400 million through the New Opportunities Fund, the Capital Modernisation Fund and the People's Network to support over 6,000 ICT centres in deprived rural and inner city areas in England. More recently, the Office of the e-Envoy (based in the Cabinet Office) has focused attention on the potential of community and voluntary groups to act as intermediaries facilitating access to e-government services.

Given the significant amount of public funding devoted to challenging the digital divide, it is timely to ask what is actually known about the effectiveness of public access centres and related community informatics approaches in tackling exclusion. This critical review provides policy-makers and practitioners with an accessible, comprehensive examination of worldwide research conducted to date. It identifies the potential strengths and weaknesses of a range of community informatics initiatives as a means of providing effective support for people living in predominantly disadvantaged areas. The review addressed the following questions:

- What do we already know? What evidence currently exists from around the world on electronically networked communities as a way of improving life opportunities and support for people living in deprived communities?

- How robust is the existing empirical research? Does it provide methodologically rigorous findings that can be used to inform the work and practice of policy-makers, community groups, practitioners and researchers?
- What gaps exist in current research, and how do these shape a future research agenda?

Policy lessons and a future research agenda

Worldwide, many thousands of initiatives are experimenting with innovative ways of adopting ICTs for community development. However, the review's findings suggest that the general optimism of such approaches is not yet sufficiently matched by a similar scope of research providing systematic lessons to be learnt from these initiatives. Five common themes emerged from the review. These could critically influence policies designed to challenge the digital divide, and as such require further investigation:

- communities fit for the 'information poor'?
- connecting community places to community spaces?
- shaping the technology
- defining the digital divide
- sustainability.

Communities fit for the 'information poor'?

Policies for social regeneration are clearly linked to ideas for rebuilding community life. 'Informatics' – the social adoption of ICTs – is seen as providing a powerful set of tools with which to reconnect people and engage them in social relationships. In community technology centres, local people can meet each other and go on computer courses, take advantage of the provision of community hosts and servers, and develop community websites. Through such centres, the new media have become indispensable to community development in the information society.

Conversely, however, not all citizens may share the optimistic notion of community life as an embodiment of the ideal way to live. While many champion the positive benefits of strong communities, it seems that far fewer express concerns over how community relations may act as a means of domination. For many women, for example, their

local community may be the place where they are trapped and already overburdened with the roles of primary carer and social supporter. Moreover, communities can be characterised as one-dimensional and intolerant of differences and diversity. In this context, the Internet may be the source of escape from a geographical community, and may provide liberation in a virtual community of people who share similar interests.

Thus the new ICTs may provide technologies of empowerment for community groups and members, but also the means of their subjugation. Policy-makers need to be aware of this ambiguity in their negotiations and deliberations with community activists, public institutions, sponsors and the like.

Connecting community places to community spaces?

Much work has been carried out on the use of websites, email lists (listservs), discussion groups (usenet groups) and chat groups that enable virtual communities to provide social support. Research has identified a broad consensus that social support can have a beneficial effect on health and well-being. A growing literature has demonstrated the potential benefits to those who access computer-mediated social support. But when the demographics of those taking part are examined, participants tend to be characterised by reasonably high levels of education and skills.

Inequalities in accessing ICTs do not arise just as a result of income. A whole host of other reasons can contribute to individuals not being able to participate in these virtual communities and thus not gain the benefits in terms of support and information. As a result, the potential for such support to become dominated by middle-class, articulate individuals who are already more likely to make more effective use of and demands on welfare services becomes perpetuated.

Significant barriers to the adoption of ICTs by those currently excluded often arise from the inappropriate location of public access sites and ICT training which is perceived as irrelevant to their life experiences.

This would suggest that a key challenge for policy-makers might be to foster and sustain virtual community 'spaces', informal training opportunities, and appropriate access which is identified, developed and shaped by the perceived needs of excluded

groups. These spaces for interaction, information sharing and social support would not be shaped by the e-government agenda or commercial markets. Instead, they would provide an intermediate virtual space between the two.

Shaping the technology

The literature suggests that many projects are technologically led, and that they flounder because of a mismatch between the communication needs and social structures of community networks and the technological enthusiasts' perspective. In many instances, the two parties simply do not even speak the same language let alone share a common vision. But since the technology is shaped by social circumstances, it is important for community groups to be involved in that process if they are to 'own' and drive the initiative for themselves. Yet this 'bottom up' or grass-roots approach may be at variance with the 'top down' policies that emphasise computer literacy targets, jobs created and inward investment.

Defining the digital divide

A further theme to emerge from the literature was that of how to define the digital divide. Typically, it refers to the social division between those who are 'information rich' and those who are 'information poor' within countries. Consistent with top-down policy models, the emphasis for many community informatics projects has tended to be on the necessity of providing physical access and training for all citizens. This perspective, while consistent with a 'safety net' approach, falls short of the more pervasive features of the digital divide indicated above.

The research suggests that access may be important, but it is not the only factor – nor even the most important one – influencing Internet adoption by disadvantaged groups. The new media may be attractive to middle-class users who are already highly literate, well educated and keen to exploit the interactive potential of these media in their information and communication rich lives. But such 'qualifications' may act as significant barriers to take-up by socially excluded groups.

Sustainability

The final theme that arose from the review was that of the problem of balancing the need for innovation and the need for sustainability. On the one hand,

many community informatics projects are innovative social experiments designed to shape the new media for diverse community objectives, and to support virtual spaces and networks. But on the other hand, communities may need projects to be sustained for longer periods than short-term experiments. Policy-makers therefore need to explore the value of community informatics initiatives for commercial and public-sector stakeholders as a means of sustaining voluntary and community organisations and groups.

Policy and research questions

A genuine desire on the part of policy-makers to tackle the digital divide requires the following questions to be seriously addressed:

- What is known about the kinds of people who use ICTs (and for what purposes) in community informatics projects and public access centres, beyond crude attendance numbers?
- What kinds of community intermediaries (local champions, social networks, physical and virtual spaces, informal education) can stimulate and maintain improvements in computer literacy?
- How far can people living in disadvantaged areas be expected to contribute to content creation and electronic interaction?
- Can the commercial sector ensure more even access and adoption of ICTs across the population?
- Is the type of connection (e.g. broadband) important for influencing the adoption and types of usage of ICTs?
- What are the most effective models for sustaining community informatics initiatives, both economically and socially?
- Is there a stakeholder role for public, private and voluntary-sector agencies in pursuing sustainable strategies for challenging the digital divide (e.g. delivering e-government services, improving market shares, stimulating cost-effective voluntary organisations)?

The review acknowledges that these issues have been raised. However, the extent and robustness of existing empirical research in community informatics are not sufficient to help policy-makers and practitioners to design and implement effective strategies and actions.

About the project

The literature review used a staged process and included published academic and scholarly articles and books, along with practitioners' reports and documented case studies. More than 1,600 abstracts were generated in the early stages, but ultimately 49 studies were selected for inclusion in the review. The basis for selection was to include studies that:

- examined the use of ICTs for community development or social and/or economic regeneration;
- drew on empirical evidence that was critical rather than descriptive;
- were based in Europe or North America;
- were published in the last 10 years.

How to get further information

Further information about the survey methods and sources is available from the Community Informatics Research and Applications Unit (CIRA) at the University of Teesside, Middlesbrough TS1 3BA, or can found at: www.cira.org.uk/resources/

The full report, **Challenging the digital divide? A review of online community support** by Brian Loader (b.d.loader@tees.ac.uk) and Leigh Keeble (l.m.keeble@tees.ac.uk), is published by the Joseph Rowntree Foundation (ISBN 1 85935 197 2, price £14.95) as part of the Digital Age series.