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Much ado about unicorns and digital divides

by Jan Steyaert

Abstract

This paper argues that there is no digital divide, but rather several divides. The paper explores the different positions on the continuum stretching from zero access via access in the local community technology centre and dial-in access to full broadband at home. The observation is made that the the digital divide is not strictly digital, but another aspect of traditional social and economic stratification. Poverty of Internet access neatly corresponds with poor health care, poor labour market opportunities, etc. The observation is made that the digital divide – which by now is neither a divide nor digital – is not about access to the Internet, but about accessibility of information, relevance of information and information literacy. Finally, the paper touched upon the difficult issue of personal responsibility and the public/private sector's remit regarding the digital divide.

> *"In the field of mass communication as in almost every other field of enterprise, technological progress has hurt the little man and helped the big man"Aldous Huxley, 1958*

Introduction

In November 1988, my travels through Central America brought me to Puerto Barrios, a small village and harbour on the Caribbean coast of Guatemala. I have few memories of the place, apart from waiting long hours in the local bus station and being obliged to watch the local television set. Amidst the American programmes Miami Beach it was, if I remember correctly there was suddenly an advertisement for canned cat food with tuna, chicken or rabbit flavour, and I was struck by the divide between the television broadcast and the local setting. The divide was one of language, but also of relevance. No cat in Puerto Barrios could dream of getting canned food with special flavours, let alone being served a meal in the first place. The concept of canned pet food was so alien to the circumstances in Puerto Barrios that it made the whole situation hilarious.

A decade and a half later, talking about the divide is popular. The digital divide is on everybody's mind. London is said to have more Internet domains than the whole of Africa, the gaps between information rich and information poor are widening, access to the Internet is the foundation for a digital apartheid.

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In my opinion, little has changed or is changing. The information divide between the developed and developing world is omnipresent but not new and if not for its dramatic consequences, the current situation would have been as hilarious as advertising canned pet food in Puerto Barrios. I will indicate that the current hype around the Internet as a tool for social development is not new, but bears many resemblances to the medieval belief that a unicorn horn could prevent death from poison.

Differences in access

In 1995, the North American weekly magazine *Newsweek* described the average Internet user as being politically conservative, white, male, single, native English speaker, living in North America and aprofessional, a manager or a student. A lot has changed since that time, if only through the now widespread availability of the Internet in western countries. Seldom has a technological innovation gone through such a rapid diffusion process. And although the speed of diffusion seems to be slowing down the community of Internet users still grows every month. The latest figures for the United States report an additional 2 million users every month.

Despite this fast diffusion process, it is obvious that there are significant differences among those having access and those not having access. The *Falling through the Net* series of surveys of the US Department of Commerce probably holds the most recent and extensive dataset on Internet access. Its September 2001 data[1] indicate several divides: high income households are more likely to have Internet access than low income households, people who are employed are more likely to be computer and Internet users, children and teenagers are the most likely Internet users, households of married couples with children are more likely to be Internet users than other types of household, the higher a person's level of education, the more likely it is for them to be an Internet user. Each of these divides is well researched and documented, both in the *Falling through the Net* studies as in surveys in other countries.

Similar inequality in access level can be discerned between nations. Industrialized countries, with only 15% of the world's population, are home to 88% of all Internet users. Finland alone has more Internet users than the whole of Latin America (quote from World Economic Forum). "The 400.000 inhabitants of Luxembourg between them share more international Internet bandwidth than Africa's 760 million citizens." (ITU World Telecommunication Development Report 2002). Inequality is not limited to Internet access but expands to other products and services of the so-called information society, such as mobile phones. Bangkok was once said to have more mobile phones than the whole of Africa, although that statement from 1997 is no longer valid.

Digital divides call for action. The past years saw an unusual shared interest of NGOs, governments and industry to address the issue and close the gaps. This has resulted in a myriad of initiatives, such as neighbourhood access centres (called community technology centres in the US, digital playgrounds in the Netherlands, the commercial variant is often called cyber café), low-cost computers (such as the Indian 'Simputer'or the Brazilian 'Popular PC') and low-cost software (such as Linux and the work of the Free Software Foundation, see www.fsf.org). The initiative of the Benton Foundation www.digitaldividenetwork.org and the digital divide campaign at www.oneworld.net provide a near comprehensive overview of these initiatives and act as valuable sources of inspiration for those who want to fight the digital divide.

Changing positions

Looking at the statistics of who is and who is not on-line provides us with information

[1] Published under a new title (*A Nation Online*) but basically a continuation of the earlier studies.

on the current situation. More important however is the historic data that tell us whether the digital divides are increasing or decreasing.

In western countries, the latest figures generate the clear message that the digital divide between different socio-economic groups are decreasing. The gender gap that was so visible in the mid nineties has evaporated with now 53.9% of the US male population being online versus 53.8% of the female population. As noted, differences across income category still exist, but are decreasing. The growth of Internet usage in low-income households was 25% (US, between December 1998 and September 2001) versus only 11% for high-income households. Slowly, the digital divide across income categories is closing. The same can be observed for other fault lines in the digital divide, such as education. The group who hold degrees beyond Bachelor level showed a growth rate of 9%, while the group of those with only a college degree showed a growth rate of 30%.

At the same time, a new divide is emerging. Internet access is no longer simple Internet access but needs to be differentiated in at least four categories: free low-service dial-in Internet access, paid dial-in access, broadband access through cable or DSL, fibre to the home. Especially the jump from metered access where each time unit of computer connection results in costs and unmetered access where a monthly fee for unlimited access seems to be making a lot of difference in the way the Internet is used. Interestingly, broadband seems to diffuse well among low-income groups. Castells mentions no-income student groups as one reason and peer-to-peer music sharing (the old Napster application) as another possible explanation.

On a global level, a similar picture of ever-changing positions emerges. The position any specific country takes on the map of Internet access continuously changes over time. Countries jump positions with other countries and improve or worsen their chances in the race of connecting citizens to the Internet. Least developed countries like Togo or Benin are leaping ahead with mobile phones because in the early stages of diffusion, they did not rely on heavy investments (Kelly, Minges & Gray, 2002). Some countries make the link between being connected and generating income, establishing imitations of Silicon Valley, like the often quoted Indian Bangalore technology-valley in India, or similar initiatives, providing business-to-business technology services on the global market from Bangladesh, Ghana or Togo. Even individual companies embrace the web to upscale their local trading, such as at www.ethiogift.com.

Overall, both on the national and the global level, the process of diffusion of Internet access is not surprisingly new but follows the structure of traditional diffusion processes of innovations, so clearly described by Everett Rogers (Rogers, 1996). Over time, diffusion patterns follow an S-curve with a small minority of innovators taking the lead, followed by early adopters, an early majority, late majority and finally what Rogers labels the groups of laggards. At the start of a diffusion process, social inequality is unavoidable, but as ever larger groups embrace the innovation, exclusion diminishes. Additionally, as time progresses and diffusion increases, the original innovation takes on different forms. What once was just Internet access now has many different forms, from dial-in connection to broadband or access over the mobile phone such as the Japanese 'DoCoMo' or 'i-mode' system.

Another layer of inequality

In the analysis of the digital divide, it is essential to discern the current fault lines of the divide and a historical perspective on the dynamics of differential access. In addition to that, it is necessary to highlight the similarity between the digital divide and the traditional socio-economic stratification on which individuals or countries can be ranked.

The Dutch social and cultural planning office generated shock with their 2000 study on the digital divide by indicating that the digital divide is not digital at all.

Differences in access to computers spread out across the population in much the same way as access to the labour market, to income, health care, to cultural activities. The so-called digital divide is yet another aspect of the omnipresent social stratification among individuals and households.

On a global scale, we can also observe the similarity between the digital divide and traditional ranking of countries in terms of human development or economic status. The previously mentioned statement that London has more Internet domains than the whole of Africa can be coupled with the old statement that the telephone directory of Manhattan is bigger than that of the African continent. 80% of the world population may not yet have heard about the Internet, as was stated at the 2002 World Social Forum, but similarly 50% of the world population has never made or received a telephone call. These data relate only to media access, not even mentioning access to a family doctor, clean water, or education facilities.

The world development indicators published by the World Bank and the human development indicators used by the UNDP (United Nations Development Programme) clearly provide an illustration of the correlation between Internet access and other indicators. The situation of countries regarding access to the Internet is not significantly different from their position in terms of the economy, health and other dimensions of social development. This observation of differences in Internet access, mirroring other layers of social inequality, does not make the inequality less real or less in need of action. On the contrary, it stresses the importance of addressing inequality both on the individual and national level, at the same time highlighting the complexity of the issue of differential Internet access.

Beyond access

The common rhetoric on the digital divide stresses the need to 'be connected', to have access to the Internet. This could easily lead to the assumption that having such access will be a quantum leap forward in social development. Unfortunately, life is not so simple. There are several intermediate variables between having Internet access and its contribution to social development.

Language

One critical variable is language. Estimates in 2000 were that 68% of the websites were in English, 16% in other European languages (such as Spanish, Portuguese, French) and 11% in Asian languages (Chinese, Arabic, Japanese). However, the estimated on-line population has a different distribution with 44% being native English speaking, 32% non-English European languages and 25% Internet users having an Asian language as their mother tongue. In terms of world population, the difference is even greater with only 14% of the world population having English as a native language.

The status of English as 'lingua franca' is strengthened by these developments. Access to the information that is available on websites calls not only for the appropriate hardware, software and connections, but also for a good working knowledge of the English language. Fortunately, with more non English citizens and organisations being connected, this imbalance will gradually decrease. My expectation is also that in other parts of the Internet (e-mail, chat), the language imbalance is much smaller than for websites. Meanwhile, the need continues for initiatives from the public sector (such as UNESCO's investments in the universal networking language) or the private sector (e.g. Altavista's babel fish translation service or the English-Arabic translations at www.ajeeb.com).

Relevance of information

There is a lot of information available on the Internet. It dwarfs the Encyclopaedia Britannica, for so many ages the symbol of comprehensive data. But is the information that is available the information we need? Is Internet information relevant to social development?

There is no editorial board for the Internet, and as a consequence information on a myriad of topics is available. Whether you want to know all about the Marquis de Condorcet or Pieter Breughel, search machines such as Altavista or Google will find it all. But equally, if you want to gamble for money or watch pornography or play online games, the same Internet offers it all. It is an illusion however to think availability of much is equal to availability of everything. I would dare to state that there is a negative correlation between availability of information and its relevance to social development. The information that is most essential to social development is lacking, whereas information that is trivial or harmful to social development is abundant.
In the mid seventies, the information needs of poor households in the United States were researched. Relevant information needs included access to good and cheap childcare, how to get rid of lead in the plumbing, where to get money to bridge the time to the next pay check, how to get rid of rats in the vacant neighbouring building. Although most local authorities in Western countries now have an extensive web site, very few provide information on these topics. You can easily find the agenda for the next local council meeting, but nothing about whom to call with concerns about decreasing safety in the street. The North American Children's' Partnership made it clear in a 2000 report: that there is a lack of local information, too much literacy is assumed by the authors of information, too much information is in English only and there is hardly any cultural diversity in what information is available.

On a global scale, we see a similar disparity between the availability of information on the Internet and its relevance for social development. Imagine the following case. Bangladesh is one of the poorest countries in the world, health and health care are problematic. Cholera is widespread due to the need to rely on lakes and ponds for drinking water. Improvements do not always call for big investment; a subtle change of behaviour could make for substantial changes. Several organisations started promoting the use of an old sari as a water filter by folding it several times and placing it over the mouth of a jug before collecting water. This simple technique creates a barrier against plankton that carries the cholera bacteria. Would access to the Internet be of much help here? Using the Internet, once you know about using saris as a filter, you would be able to get full details on how and why. But would using the Internet get the initial message to Bangladesh people in a more timely and convincing way?

Another case equally puts the relevance of Internet access into perspective. On UNDP's human development index, Niger scores even lower than Bangladesh and ends on the one but last position in the ranking of countries by level of human development. Life expectancy at birth is extremely low at 44.8 years. Among the health risks in Niger, malaria is prominent. Again, a reasonably simple and effective method is available in the use of mosquito nets at night. Would access to the Internet in Niger help to spread awareness of that simple health measure?

In case you still have doubts about the relationship between the availability of information and its relevance to social developments, open your favourite Internet search engine and compare the results for searches on 'cat canned food' and 'sari clean water'.

Responsibility

There is a final issue that needs to be mentioned as part of the analysis of the digital divide and it deals with the balance between public, private and individual

responsibility on closing the digital divide. I can only introduce it here as an issue calling for our attention, without providing answers or suggestions how to deal with it.

There is currently an obvious differential access to the Internet both within and between countries. But who should be responsible for reducing these inequalities? In the US, the Heritage Foundation and the Benton Foundation fought an interesting debate on which share of the burden should be carried by the public or the private sector, but what about the individual? To what extent should the risk of the digital divide be a shared risk? Allow me to introduce three situations to substantiate the thinking about the responsibility of the individual citizen or country.The first example comes from the latest Belgium budget survey, but no doubt has its parallel in other (Western) countries. The 2000 household budget survey confirmed that poor households spend less resources on computers and the Internet. While the average household spends 68 euro a year, a poor household only invests 6 euro a year in new media, a difference of 62 euro. This is no surprise and explains the differential Internet access of households. However, the same budget survey found that a poor household spends 78 euro more per year on cigarettes than an average household. Should the welfare department of a local authority invest in providing computers for poor households or should these households be encouraged to stop smoking and restructure their consumption patterns?

A similar situation can be found on a global scale. The investment made by international organisations and Indian society to create initiatives like the Bangalore silicon valley are well known. But how to relate these investments to the news that in early February 2002, India and Russia signed an arms deal including India's purchase of long-range strategic bombers, the continued shipment of T90 tanks and several decommissioned fighter aircraft. This new deal adds to an earlier record arms deal that allowed Indian firms to build Su-30 MK1 warplanes under license. Again, the question can be asked about who is responsible for investing in getting connected.

The third situation that is relevant to our questions goes back to both old and new research. The children's television programme *Sesame Street* failed in its original goal to address the inequality in language skills between children from poor and other households because although language skills increased by watching *Sesame Street*, those of children from average households increased much more than those of children from poor households, thus increasing rather than decreasing the inequality. Despite this it was an instant commercial success. Following the success and failure of *Sesame Street*, Tichenor and others (Tichenor, Donohue & Olien, 1970) undertook a seminal study into the information behaviour of households and found that lower-income households make less use of the information they receive. Recent research on Internet use amongst Swiss households found that less educated people use the Internet predominantly for entertainment, while more educated people use the Internet in a more information oriented way. This also relates to the earlier reference to low-income households being surprisingly well represented among broadband users as a consequence of Napster-like applications. The message that comes across is that even in circumstances of equal access to information, there is a significant difference in who succeeds in translating information access into social development and who does not.

As indicated, the issue of responsibility is introduced here as something we need to take into account when analysing the digital divide, without providing clear answers as to how to address the issue. It relates to the broader discussion on the democratisation of responsibility and ties in with the work of people like Anthony Giddens on modernity (Giddens, 1991) and Ulrich Beck (Beck, 1994) on the risk society. It goes to the core of the egalitarian model that we wish to see reflected in social welfare and social development: equality of opportunities versus equality of outcome.

Conclusion: the digital divide and the unicorn

It is useful to summarise the main elements of our analysis here before turning to the intriguing title and explain the commonalities between unicorns and digital divides.

The initial observation about the digital divide was that there is no divide, but rather several divides, a multitude of fault lines in the statistics on Internet access. Neither is there a divide because there are no two very distinguished positions, but a continuum stretching from zero access via access in the local community technology centre and dial-in access to full broadband at home. The positions of specific socio-economic groups or individuals on that continuum change regularly.

Secondly, we observed that the digital divide is not strictly digital, but another aspect of traditional social and economic stratification. Poverty of Internet access neatly corresponds with poor health care, poor labour market opportunities, etc.

Thirdly, we made the observation that the digital divide – which by now is neither a divide nor digital – is not about access to the Internet, but about accessibility of information, relevance of information and information literacy. Finally, the paper touched upon the difficult issue of personal responsibility and the public/private sector's remit regarding the digital divide.

Having made these observations, it is now easy to see why digital divides are so similar to unicorns. Both come with lore, with significant sections of society being fascinated and attracted by it. Just like royalty and adventurers searched for the valuable unicorn horn, a strong but weakening effort has been present to find and 'capture' the digital divide. This was reflected in an unusual common goal of NGOs, governments and business organisations. Both the unicorn and digital divides also thrive on partial sightings. Just as the unicorn horn was very real and an interesting commodity for Danish merchants[2], fault lines in statistics on Internet access are very obvious and real. The *Falling through the Net studies* in the US and similar surveys in other countries, the data in the UNDP 2001 report on human development and many other data sources provide ample illustration of differential access to the Internet. Unfortunately, both unicorns and digital divides also share the naïve belief of humanity in quick fixes, in easy solutions. The presence of a unicorn horn did not save anybody from poisoning, because the underlying causal model was simply wrong. Similarly, getting citizens in the developing world connected to the Internet as a stepping-stone to social development is too often based on a grossly simplified causal model. The relation between Internet access and social development is a highly complex one, to the point where investments in health care, road infrastructure, education and other services might be much more appropriate than the ultimate goal of being connected.

There is no shortage of policy statements on the global digital divide. Recently Kofi Annan strongly voiced the message of such statements: "this digital divide can - and will - be bridged". There is equally no shortage of meetings about the digital divide, with the planned world summit on the information society in 2003 as a major next and possibly powerful step. It is organised by the key players in this field: the International Telecommunications Union (ITU), the United Nations Conference on Trade and Development (UNCTAD) and the United Nations Development Programme (UNDP).

It will be clear from the paper that the author supports such initiatives but has little hope about their effects if they continue to single out the digital divide as a key problem and/or solution. Technology is just one aspect of global inequality in social development. Equally, technology is just one piece of the solution. If the link between being connected to the Internet and social development is not explicitly present or strengthened, having the Internet is as useful as owning a unicorn horn to prevent poisoning. Beating the drum about the importance of 'being connected' in such situations is equal to advertising canned cat food in Puerto Barrios.

The unicorn horn was in reality the tusk of male Narwhals, a species of small whales found in the Artic seas.

"The test of our progress is not whether we add more to the abundance of those who have much; it is whether we provide enough for those who have too little."
Franklin D. Roosevelt

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Tackling transport-related social exclusion: considering the provision of virtual access to opportunities, services and social networks

by Susan Kenyon

Abstract

In recent years, it has been recognised that a lack of adequate transport can both contribute towards the experience of social exclusion and act as a barrier against efforts to increase inclusion, because it reduces access to the opportunities, services and social networks that are necessary to enable inclusion. However, it may not be appropriate to increase access simply by increasing people's physical mobility. This paper discusses findings from research into the possibility that virtual access to opportunities, services and social networks may help to increase inclusion and could, therefore, be a useful tool in both transport and social policy. Taking case study examples from the UK government's publication on transport and social exclusion, the paper applies the results of the research to these practical examples, to illustrate how virtual mobility could help to alleviate exclusion.

Introduction

In May 2002, the UK government's Social Exclusion Unit (SEU) published a report, entitled 'Making the Connections: Transport and Social Exclusion' (SEU, 2002)[1]. The report presents interim findings following a year-long study, incorporating an extensive public consultation, into the links between (a lack of) transport and the experience of social exclusion. The report presents both qualitative and quantitative evidence to illustrate the extent of this link. Drawing together statistics on access to (for example) community groups, education, employment, healthcare, leisure facilities, other local services (including shops), social networks and volunteering, with further illustration given by citations from focus groups and interviews, the report is authoritative in its conclusion that lack of transport acts not only to enforce and reinforce exclusion, but could act to prevent the success of initiatives to tackle social exclusion. Furthermore, the report was commissioned by the Prime Minister, following the results of the SEU's research into neighbourhood renewal, which highlighted both the role of transport problems in the economic and

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[1] Hereafter, referred to as *Making the Connections*.

social decline of poor neighbourhoods and its function as a barrier to the regeneration of deprived areas. The report can, therefore, be expected to inform policy priorities, its recommendations influencing the direction of both social and transport policies that have the reduction of exclusion in society as an aim.

The report's recommendation is that transport-related social exclusion be tackled via schemes, which aim to increase access to transport, by those who have previously experienced transport-related exclusion. The report contains case study examples of a number of schemes, which provide transport to both communities and individuals who have previously found that their access to transport has been inadequate. The implicit suggestion is that these schemes be adopted to assist in the alleviation of (transport-related) social exclusion. These schemes include: demand responsive public transport, which run user-determined routes, at a time and often at a location requested by the user; car sharing schemes, whereby, for a small membership fee, users have access to a fleet of (self-drive) cars, on demand; and 'wheels to work' schemes, which provides jobseekers with access to heavily subsidised cars, mopeds, driving lessons, car insurance and car maintenance, whilst they are seeking work and in the first few months of employment.

It sounds logical that the problem of inadequate transport should be addressed by providing access to more and better physical transport. However, this may be inappropriate, for a number of environmental, health, financial, social and temporal reasons. That is, not only will many of the schemes be expensive and take a long time to introduce, any increase in physical mobility is likely to have negative congestion, environmental and health impacts. Indeed, the extent to which the government should be seen to be encouraging policy solutions which increase cultural and practical dependence upon motorised mobility, should be questioned. It may be more appropriate to reduce the need to travel, through changes in planning and the location of services; or by providing alternative, non-mobility-orientated means of access. The potential role of these solutions, however, receives little attention in the *Making the Connections* (points 5.09 – 5.13, inclusive), an omission which renders the report incomplete.

This paper suggests that alternative means of access, via Internet-based virtual mobility, have the potential to provide a valuable contribution in the fight against social exclusion. The paper will briefly outline the links between transport and social exclusion, before turning to define virtual mobility. Following a discussion of the results of research into the potential role of virtual mobility in transport and social policy, the paper applies these findings to two case study examples from *Making the Connections*, illustrating the potential role for virtual mobility in social and transport policies which have greater inclusion as an aim[2].

Overview of the links between transport and exclusion: rethinking accessibility

Exclusion

The publication of *Making the Connections* is indicative of the relatively recent sea change in both political and academic thinking with regard to the causes and consequences of social exclusion. At the turn of the century, not only was social exclusion deemed to be a government priority, but understandings of the term had developed beyond the narrow focus upon social exclusion as being a term to describe the cluster of characteristics, or experiences, felt by an individual or community as a consequence of poverty.

The focus upon poverty as the sole cause of exclusion is both erroneous and

[2] The case studies, taken from *Making the Connections*, are used with the kind permission of the Social Exclusion Unit.

damaging. To focus upon exclusion as the consequence of poverty is to fail to recognise that poverty can be the consequence of exclusion; and that there are numerous other factors which contribute towards, or cause, the experience of exclusion. Thus, where policy focuses upon the redistributive definition of the causes and the nature of exclusion, there is the danger that goals will be mistargeted and resources, misdirected. Whilst poverty can be a cause of exclusion, it should be seen as being just one contributory factor within one dimension of exclusion. It can be more accurate to conceptualise social exclusion in terms of nine dimensions. Within these dimensions, there is a number of factors which, when experienced by an individual or community, can contribute towards the feeling of exclusion by the individual or community. If we conceptualise exclusion in this way, we can see that poverty is a contributory factor within the economic dimension. Other contributory factors in the economic dimension include unemployment and lack of access to credit facilities. This is more easily explained in tabular format. Table 1, based upon the schema developed in Kenyon et al (2002a), illustrates the nine dimensions of exclusion, alongside a description of potential exclusionary factors within each dimension.

Dimension	Potential exclusionary factors (not exhaustive)
Economic	Income poverty; lack of access to credit; lack of access to markets unemployment
Living space	Neighbourhood characteristics, including crime, safety and the local environment; disunity of community; availability of services; geographical isolation / accessibility
Mobility	Inadequate or unavailable public or private transport; reduced access results
Personal	Class; culture; disability (mental or physical) ethnicity; gender; health; religion; skills
Personal political	Ability to make decisions over one's own life: powerlessness; restricted choices
Organised political	Ability to influence decision making at an organised level: denial of citizenship rights/freedoms; disenfranchisement; low participation in interest groups; lack of representation
Social networks	Isolation; loneliness
Societal	Social factors at societal level: crime; education levels; family dynamics; health and social care; inequality
Temporal	Time poverty: reduced access results

Table 1: Dimensions of exclusion, alongside example potentially exclusionary factors

This new understanding, seeing social exclusion as more than poverty, or as more than a poverty-oriented condition, allows us to see that one can be excluded without being poor; and that one can be poor, yet not necessarily excluded (for it is only when the potentially exclusionary factors (e.g. income poverty) are experienced as exclusionary that the person can be said to be experiencing social exclusion). This inclusive definition opens the path towards the development of a more effective social inclusion strategy.

Transport and exclusion

This broader understanding of the causes of exclusion and its consequences is reflected in the Social Exclusion Unit's consultation on transport and social exclusion. For the first time, the government explicitly acknowledged that there might be a non-poverty-

related source of exclusion. In linking transport and exclusion, the government links transport and social policy in a way that few before them have. The links between social exclusion and transport had been under-explored, until relatively recently. The flurry of activity in this area, in both the academic, government and voluntary sectors, in the late 1990s/early 2000s (including ACRE, 2001; Age Concern London, 2001; Church, Frost and Sullivan, 2000; DETR, 2000; Hine and Mitchell, 2001a, 2001b; Lucas, Grosvenor and Simpson, 2002; Root, 1998; Simmons, 1997) has successfully built upon a largely theoretical base of sociological literature (including Aird, 1972; Berman, 1982; Freund and Martin, 1993; Gorz, 1971; Wajcman, 1991; Whitelegg, 1997), drawing attention to this relationship between lack of transport and lack of access to opportunities, services and social networks and to the disproportionate burden that deprived neighbourhoods face, in terms of accidents, environmental degradation and other health costs of increasing traffic levels. In many cases, the publications provide important case study evidence to illustrate these links, demonstrating the many ways in which people can be excluded from transport: because of cost; poor physical accessibility of the vehicle, or the interchange; lack of availability of the mode of transport at the origin or destination of the journey; safety fears; cultural barriers; and psychological barriers. A full discussion of the barriers to public transport use can be found in DETR, 2000: SEU, 2002. Review of policy development and previous research is in Kenyon et al, 2002b.

Table 1 highlights the role of transport in social exclusion, in the 'mobility dimension' to exclusion. When we consider the other dimensions, it becomes apparent that the lack, or denial, of access to adequate transport – private or public transport which is acceptable, accessible, affordable and available (DETR 2000) and which can meet the economic and social needs of the individual or community – can actually contribute to the experience of exclusion within each dimension. For example, in the economic dimension, lack of adequate transport to interview, or to the site of employment, could prevent somebody from taking a job, something which could both cause and reinforce exclusion from employment on both an individual and a neighbourhood level. In the personal dimension, lack of mobility can prevent access to education and training, which could, in turn, reinforce powerlessness and restricted choices in the personal political dimension, for example, in the face of health and social care professionals, a powerlessness that often results from the lack of social capital that, in turn, can result from low levels of education and poor access to information. Lack of adequate transport to visit family and friends and to activities that allow the individual to make new friends can both cause and reinforce exclusion in the social networks dimension.

Social exclusion can:	Lack of access to transport can:
1. Cause mobility-related exclusion	1. Cause social exclusion
2. Be caused by mobility-related exclusion	2. Reinforce social exclusion

Table 2: Social exclusion and transport

Lack of mobility can both cause and reinforce social exclusion, disproportionately affecting people and communities who are at risk of, or who currently experience, exclusion – for example, lone parents, older people, people with disabilities, people who are on a low income, or unemployed, people living in rural areas and those living on urban 'sink' estates (SEU, 1998).

This 'mobility-related exclusion' has been defined as:

The process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility. (Kenyon et al, 2002a)

Accessibility

The majority of research into the relationship between social exclusion and transport, including that detailed in *Making the Connections*, suggests that there is a need for an increase in physical mobility, primarily by public transport, to overcome mobility-related exclusion. However, whilst an improvement in the adequacy of private and/or public transport could increase use and thus decrease mobility-related exclusion, for some people, in some situations, it is unlikely to ever be able meet all of the mobility needs of all of the population. In addition, it is likely to be financially costly, to take a long time to implement and to be contrary to government environmental aims. Thus, it is unlikely that an increase in physical mobility would be able to represent a complete solution to mobility-related exclusion.

The primary function of mobility is to give access, to educational or employment opportunities, services, social networks, supplies, etc. (for an alternative view, where mobility is promoted as a good in itself, see Salomon, 1986; Gray, 2002). Where people have inadequate mobility, the consequence, currently, is denial of access to, or exclusion from, these goods. When we perceive mobility as access, we start to think about ways in which to increase *access* to these goods, as opposed to ways in which we can increase *mobility*. Access can be achieved through non-mobile means. For many years, people have been able to communicate and therefore to maintain social networks, learn, trade and gather information about all manner of things, via technology as old as smoke signals, or semaphore, to written word (mail), the printed word and more modern devices, including the telephone, telegraph, fax, radio and television. More recently, people have been able to communicate via the Internet, using, for example, web pages, bulletin boards, email and instantaneous chat facilities. This form of access, via the Internet, can be called *virtual mobility*:

> *... a shorthand term for the process of accessing activities that traditionally require physical mobility, but which can now be undertaken without recourse to physical travel by the individual undertaking the activity. (Kenyon et al, 2002a)*

Virtual activity

Research undertaken by the author (Kenyon et al, 2002b) suggests that virtual mobility is currently being undertaken, across society and with little variation according to personal characteristics, providing an alternative way to access activities. Virtual mobility is *substituting* for travel, primarily chore-like activities, including shopping and banking. Importantly, it is also providing increased access where previously access has been denied because mobility has been inadequate. In this sense, people are using virtual mobility to *supplement* their physical mobility, providing access to opportunities, services, social networks and supplies, from which they have previously been excluded. In these cases, people are using the Internet to create a *new means of access* to existing activities. However, people are also using the Internet to access *new activities*, activities that they would not be able to access even if they had adequate mobility, highlighting the disadvantage that people who do not have access to virtual mobility may face.

The most popular use of the Internet, by participants in this research, is as a communications device, allowing communication with friends and family and, as people become more comfortable and confident in their Internet use, with persons unknown. This function is particularly valuable for communication with people who are overseas, or who live at a distance, allowing friends and family to maintain a closeness that would otherwise be lost, or allowing a friendship that would not otherwise have emerged, because of poor, unavailable or expensive communications, or a lack of opportunity to meet, face to face or otherwise. The Internet is greatly used as an

information resource, for work, education and play; as a news resource; in a wide variety of ways for entertainment; for shopping and banking; and as an advisorial resource, particularly for medical information for both physical and mental health problems, gathering information and support from both static web sites and through online support groups, where people can talk with professionals, fellow sufferers and other people (family, friends) affected by the problem.

In providing access to the above forms of participation, it can be suggested that use of the Internet is acting to improve quality of life. Through Internet use, it appears that people are being offered new access to activities and access to new activities, without the need for an increase in physical mobility. It can also be suggested that this form of access to participation is acting to alleviate mobility-related exclusion, in addressing the deficiency of access that arises from a lack of access to adequate transport.

Clearly, there are limitations to the use of virtual mobility and it is unlikely that it will be appropriate for all activities, or all people. There may also be economic and social consequences of virtual mobility, including the possibility that that vulnerable people may feel even more excluded as a result of an online world. These issues will be discussed below. However, if the concept of virtual access to opportunities, services, social networks and supplies were to be applied in a policy setting, there is a strong possibility that it could fulfil a useful role in and be a useful tool of both transport and social policy.

Making the connections between the case study evidence and the virtual mobility solutions

In this section, the concept of virtual mobility is applied to two case studies, taken from *Making the Connections*, to illustrate the role that virtual mobility could play in the fight against mobility-related exclusion. Firstly, the case study will be outlined. Secondly, possible policy solutions will be applied. The policy solutions are taken from three areas of possible policy change, identified in *Making the Connections* as 'mainstream transport' solutions (general transport policy, incorporating public transport services), 'specific transport' solutions (services for targeted groups) and 'reducing the need to travel', the latter incorporating ICT-related solutions, the category within which virtual mobility solutions fall. An assessment of the role of each policy solution will be undertaken[3].

It is clear from the above that lack of access to adequate transport is reducing access, not only to employment, but also to information about employment opportunities and to interviews. It is suggested, in the text, that the primary barriers to employment are: lack of access to a car; the high cost of public transport; lack of availability of public transport service at the origin and destination; and the time consuming nature of public transport. Linked to this latter point is the restriction that Phil places upon the journey duration that he perceives to be acceptable: 30 minutes. We can assume that Phil's unemployment and his daily job searching tasks means that he and his family live in a no-wage, therefore low income, household, and that the access problems that Phil faces are also experienced in relation to other activities by his partner and child.

It could be suggested that improvements in public transport could help in this situation. However, it is unlikely that public transport to the level of Phil's expectations, providing a more direct route to employment at a lower cost, could be achieved, at least, not in the short term, because of the levels of financial and infrastructure investment required, plus the levels of ridership or, alternatively, subsidy that would be required to make the service viable. In addition, in suggesting that he is willing to travel

[3] All web sites mentioned in this paper are correct at the time of writing.

for only 30 minutes to employment, Phil will be restricted to employment within a five mile radius of his home, assuming that he is to travel by bus, or only slightly more if he travels by rail, if the time taken to access the interchange is taken into account. More specific transport solutions, for example, 'Wheels to Work' schemes, or more targeted subsidy for travel to interview and help with travel costs, more efficiently administered, in the form of subsidy or loan, for the first few months of employment, could help to ease the financial and temporal burdens of travel. Such schemes do not have to operate at the government level: they could work well as company-based travel schemes.

> 'Phil lives with his partner and child, who is under five years of age. He has been unemployed for between one and two years, but is actively seeking work in the IT industry. He would be prepared to travel up to 30 minutes in order to get work. He stated that his employment opportunities are restricted by transport provision. 'I haven't got a car and the cost of public transport on a low income is often too high... there are loads of places that I'd like to work in Liverpool, like Bootle or Walton, but I can't as it would take me two buses to get there [and] I'd have to pay double the cost'. His job searching consists of visiting the job centre and the library and he tends to walk while undertaking his day-to-day searching. He would normally travel by bus to interviews, when the journeys can be quite lengthy, with his last trip taking over an hour. The average cost is between £3 and £5.'
> *Making the Connections*, chapter 1, section 1.4.

Box 1: Phil.

Changes in planning, to bring employment closer to the workforce, with incentives for relocation from out of town areas, or along public transport routes/close to interchanges, are unlikely to help in this situation, in the short to medium term. However, virtual mobility could usefully be employed, in the following ways.

Phil spends a considerable amount of time looking for employment, travelling to the job centre or to local libraries. This is something that could easily be undertaken online, as job centres and places of employment post their vacancies on web sites, particularly those in the IT field. Jobcentre Plus[4] is a UK government web site, which allows the user to search for jobs by job group, type, title and location, the latter allowing search for local jobs, by postcode; to search for national jobs; and even for jobs in the European Union. The site also offers advice on applying for jobs; the benefits that one can receive whilst looking for work and once in employment; and advice on training. Commercial employment agencies also post employment opportunities and related advice online[5]. If job centres were to allow virtual signing on, virtual applications and possibly, even, virtual interviews, via web cams located in an accessible (job/community) centre, even more travel could be eliminated. Online training could help Phil to gain more skills, without travelling to a site of education, which could open up more employment opportunities to him[6].

A significant source of information about job vacancies is through word of mouth. Informal social networks could be built online, through which Phil could find out about job opportunities[7], or perhaps arrange to share lifts to work. This contact may

[4] www.jobcentreplus.gov.uk.

[5] See, for example, www.manpower.co.uk, www.peoplebank.com, www.reed.co.uk.

[6] See, for example, www.beginners.co.uk, www.learndirect.co.uk, www.open.ac.uk.

[7] The majority of UK self help groups for people who are unemployed have web sites with advice and opportunities to meet face to face, for example, www.tuc.org.uk/the_tuc/tuc-3841-f0.cfm. However, overseas chat rooms for unemployed people can be found at jobsearchtech.about.com/mpchat.htm and www.adusa.com/OPN.htm (note: the author has only visited web site based information about these chat rooms and has not entered the chat rooms, for reasons of research ethics).

also act to broaden his geographical horizons, making travelling beyond the 30-minute home-to-work radius more attractive. Phil would not necessarily have to have his own PC, something that may be unaffordable, particularly given the length of his unemployment. There are many initiatives which supply access to community IT facilities, provided by the voluntary sector and the government, which can be used free of charge and, usually, without restriction and without pre-booking. These centres also provide both formal and informal support and IT training[8]. Plus, of course, there is great potential for telecommuting, or telecottaging, if working in an IT based industry[9]. Finally, where the principal wage earner has accessibility difficulties, it is highly likely that these difficulties are also experienced by dependents in the household, in this case, Phil's partner and child. Access to virtual mobility has the potential to help all members of the household to access services, learning, social networks, support and supplies.

Whilst some of these opportunities for virtual mobility can already be realised, others, such as virtual signing on, would require legal change, cultural change, training, or financial investment to provide access to the technology. However, this could be achieved in the short term, with political will. Community level investment has already succeeded in providing open, usually free, access to the Internet, within all types of communities, alleviating the need for home access.

The limitations of virtual mobility are clear. It is highly likely that Phil will continue to need to travel to his place of employment and to interview, in the short term at least, in which cases there will be no substitute for improved access to adequate transport. However, it would seem that there is a possibility that virtual mobility could assist in alleviating some accessibility difficulties, with the potential to both substitute for and supplement current travel, for some activities, which could save both time and money, whilst also giving access to new opportunities – assuming, of course, that virtual mobility was itself accessible.

> 'She has problems walking and now spends most of her time in a wheelchair. She visits the doctor at least once a week and the Queen's Medical Centre (hospital) every week. She is driven by her husband to all appointments and has to rely on him as she is not allowed out of the house alone. She cannot use public transport as she feels it is not wheelchair friendly. 'You can't get wheelchairs on the buses... if there's no-one available to take me by car I can't go anywhere because the buses aren't wheelchair friendly'. She would therefore like to use Dial-a-Ride more, but 'they can't take you to the doctors or hospital appointments and they are always so busy because disabled people can't get on normal buses'.'
> *Making the Connections*, chapter 1, section 1.22.

Box 2: Fiona.

Fiona's accessibility problems are not just related to her medical needs. She is unable to travel or to access activities or social networks independently and has therefore lost freedom at a fundamental human rights level, but also at a practical level. Her ability to associate, to maintain and make social networks, to participate in groups and hobbies has been severely curtailed, if not entirely removed. As such, there is the strong possibility that Fiona's mental health, as well as her physical health, could deteriorate, as a result of isolation and dependence. In addition, if something were to happen to her husband, Fiona would be unable to access medical and other services, or social

[8] Government initiatives are UK Online centres; examples of community initiatives are www.tvco.org.uk and www.stockton-online.ac.uk.

[9] See, for example, www.tca.org.uk, which has links to information about teleworking and telecottaging, or www.nrec.org.uk/wren.htm, a site for a telecottaging organisation.

networks. In the short term, this could result in missed hospital appointments; in the long term, it could lead to deeper social isolation.

Changes to transport at the mainstream level are likely to help people with disabilities, in the short to medium term. The Disability Discrimination Act (1995) (DDA) requires that all new public service vehicles (capacity 22+) are wheelchair friendly (with space for 1 wheelchair to board and be carried). These facilities also help other travellers with mobility difficulties, including those with children, or pushchairs; those carrying luggage, or shopping; and older people. In addition, reduced fares for people with disabilities and for older people have recently been introduced, across the UK. However, there is no requirement in the DDA for old buses to be modified; and the legal requirement that there be space for *one* wheelchair means that wheelchair users cannot travel together and that they, or people with pushchairs, are not able to board if another wheelchair or pushchair user is already aboard. In addition, changes in the accessibility of and at the interchange are not legislated and will not keep pace with developments in vehicle infrastructure; and driver training, such that patience is kept and assistance and respect are given, is desperately required.

Such changes may be unlikely to help Fiona to travel independently, as she suggests that she is unable to leave the house alone. Reform of regulatory barriers to demand responsive and community transport could be of greater benefit and could, because of their door-to-door nature and onboard assistance, afford Fiona greater independence, possibly negating the need to travel with her husband. Changes in specific transport could also be of benefit. Fiona mentions Dial-a-Ride. Legislative change could, for example, allow greater flexibility to such services, for example, allowing Dial-a-Ride to serve hospitals; or could allow hospital services to take passengers to destinations other than home to hospital – to GPs surgeries, for example, or to a friend's house; and simplification of the claims process for help with the cost of travel to hospital could encourage greater take up, each allowing more independent travel. And again, whilst changes in planning policy to (re)centre hospitals and other medical services in or close to populated areas will benefit in the long term, in the short term they are unlikely to be effective.

Virtual mobility could, however, provide some benefit to Fiona. There is some value in the ability to: book transport services online; to book hospital appointments online, at a time convenient to the patient and in consideration of transport availability; and to reschedule appointments online, if transport becomes unavailable. It is unclear why Fiona must travel to the hospital and to her GP's surgery so often, but consultation and checks on progress could be undertaken online, possibly with the aid of a web cam, or digital photographs; and perhaps prescriptions could be reissued and ordered online, then delivered. Perhaps this information could then be shared between the hospital and the GP's surgery, to eliminate the need for one of these weekly visits. Some of these solutions would require legislative change and/or greater provision of higher specification technology, to medical centres and, of course, in the patient's home, if they are unable to access an online community centre. However, online consultations, via email and web cams, are already underway[10] (Burrows et al, 2000; Carter and Grieco, (nd(a)) and (b); Loader et al, 2000; Muncer et al, 2000; Pleace et al, 2000) all discuss the online provision of health and social care).

Perhaps the principal way in which virtual mobility could help Fiona is in its social function. Virtual mobility can be effective in increasing access to communication with existing friends and family; and with new friends, in chat rooms, or interest groups. There are a plethora of support groups for medical conditions on the web,

[10] Email advice is available at, for example, www.nhsdirect.nhs.uk and www.netdoctor.co.uk, although there is a significant time delay between query submission and response (24 hours and failure to guarantee a response, respectively). www.ebvonline.org provides a link to the community doctor, with whom residents can have an online consultation.

providing links with fellow sufferers, support for friends and relatives, or access to expert advice, providing comfort as well as information, even (and especially) when the illness is rare[11]. Fiona could also access information and discussion about hobbies, playing chess online[12], reading novels[13], watching or discussing movies[14], or finding out about gardening[15]; and she could gain intellectual stimulation via online learning, other online services, or just chatting to like-minded people. And she could regain some independence, shopping or banking, or possibly working, online. Whilst such applications of virtual mobility can seem superficial, they can provide real increases in quality of life, particularly for people who are unable to access activities offline. Whilst virtual mobility cannot provide Fiona with face-to-face contact nor, at this stage, with access to all services and social networks, it could provide access to activities that are supplementary to those that she is currently able to undertake and it could act as a substitute to physical travel, for some activities, where physical mobility is problematic.

However, we should not presume that Fiona will be able to access virtual mobility. The above suggestions assume that Fiona is able to use the hardware and software necessary to enable her to access virtual mobility. We do not have sufficient information about her disability to know whether or not she has sufficient dexterity or vision to effectively use a PC, or whether special equipment would be necessary. From the information that we have about her situation, we can suggest that it is unlikely that Fiona would be able to independently access an online centre, thus for virtual mobility to be a reality at the present time, she would need to be able to afford to purchase a PC, or other equipment, plus afford the cost of connectivity, neither of which can be assumed, particularly because the majority of people with disabilities have low, or no, (independent) income. These concerns are expanded in the following section.

Important reservations regarding the online world

The above discussion has sought to highlight the possibilities and limitations of three clusters of solutions to the problem of social exclusion that is influenced or caused by a lack of access to adequate transport: namely, mainstream transport solutions; specific transport solutions; and solutions which reduce the need to travel. The discussion has sought to highlight the role of virtual mobility in a socially aware transport policy and it has become apparent that the use of new technology could provide benefit to both Phil and Fiona, to differing extents and in different ways. However, important caveats should be raised, with regard to the quality of online activities; the social effects of the online world; and differential access to technology.

With many activities, whilst the activity itself cannot be conducted online, the primary purpose of the activity can be achieved. For example, in visiting family friends, the primary purpose of the activity is communication, which can be undertaken online. However, many activities fulfil more than one purpose. For example, in attending a mosque, one's primary purpose is worship, which could be achieved online, via a web cam broadcast of the service, but the secondary purposes of community togetherness, exercise (gained through travel), social stimulation and interaction with peers would be less well served online. This is also witnessed in relation to grocery shopping: a chore

[11] There are many thousands of health information web sites and support groups, providing information and empowerment alongside support. www.netdoctor.co.uk, for example, provides links to discussion lists on many illnesses; www.prohighway.com offer live onlinechat with consultants; and www.brainchat.org is a chat room for people with neurological disorders.

[12] At www.chessclub.org

[13] Some novels available for free at www.literature.org, or buy at www.amazon.co.uk

[14] Discussion: www.moviething.com. The majority of online movie sites currently offer movies of low quality, e.g. broadcast.yahoo.com, www.movieflix.com.

[15] At www.garden.org, you can not only find information about gardening, but can join gardening-related discussion lists and chat rooms.

for many, but an important source of social interaction for others. Thus, the effective conduct of activities online might only occur when each of the purposes of the activity can be achieved. Until this point, virtual mobility may be considered to be a second choice option, the 'poor man's mobility', rather than a realistic, satisfactory or even preferential access choice.

Secondly, the social effects of the Internet are uncertain. There is much concern, not only in the literature and the media, but also amongst the general population, regarding the decline of human relations; the importance of face-to-face and physical contact; an increase in social isolation; deception and misrepresentation; and the decline of community. These concerns have been well discussed in the literature (see, for example, Adams, 2000; Cornwell and Lundgren, 2001; Graham, 2000; Hamburger and Ben-Artzi, 2000; contrary views from Baym, 1995; Hampton, DATE; Rheingold, 2000), despite the lack of real evidence to validate these concerns. Fears regarding the social effects of virtual mobility could act as a barrier to its adoption, both in policy and in society. Thus, it is of central import that research into the social desirability of virtual mobility be conducted, to allow policy judgement to be made, either way.

Finally, there is a digital divide in the UK, a gap in access to ICTs that is determined by an individual's characteristics, despite voluntary sector and government initiatives to expand free or low cost access. Those who experience social exclusion and mobility-related exclusion are also likely to experience exclusion from virtual mobility, because the factors that determine access to physical mobility – including income, employment type, location, age, impairment, family structure – are likely to be replicated in terms of access to virtual mobility. Virtual mobility can be costly, in terms of the cost of hardware/software and of connection, the latter requiring access to credit, which many low-income families will not have. Virtual mobility requires certain skills, including physical dexterity; and an awareness of the possibilities of the Internet and the desire to use the Internet, both of which come from exposure, which itself is likely to be as a result of employment-type and income-determined factors such as exposure in the workplace, or via family and friends who are online. Impairment, particularly visual impairment, which often prevents access to physical mobility, could also act as a barrier to the use of both hardware and software, which are designed, in general, for the non-disabled. Finally, the majority of Internet content is designed for those who traditionally have dominated the online world: white, middle class, male professionals. If virtual mobility is to benefit those who are socially excluded, the Internet must provide access to the services from which these groups are excluded by virtue of their low physical mobility, providing the relevant content that they require.

It is important that these issues be considered in any policy that proposes to use virtual mobility as a tool to combat aspects of social exclusion.

Concluding remarks

In its timely consultation on transport and social exclusion, the government has successfully linked transport and social policy, bringing them into the heart of government. However, there is a danger that the policy that is developed following this consultation will fail to move beyond the traditional perception that mobility-related exclusion is merely the result of an imbalance between transport and social exclusion, such that a 'rebalancing of the scales' between the two, where transport is increased and exclusion is, therefore, decreased, will be sufficient to address the problem. The government's preliminary report into transport and social exclusion fails to identify the potential role of ICT in providing access to opportunities, services, social networks and supplies and, as such, misses the opportunity to integrate ICTs into a socially aware transport policy that has the reduction of exclusion as an aim.

This research has highlighted the role that virtual mobility currently plays in providing both new access and access to new activities. In applying virtual mobility to two case studies, taken from the preliminary report, the paper has illustrated both the potential benefits and shortfalls of this form of access. Despite recognising its limitations, the paper has suggested that there can be a role for virtual mobility in alleviating mobility-related exclusion, providing an increase in accessibility without the negative environmental and social effects associated with an increase in physical mobility, with a shorter time-scale and less financial investment than solutions which require changes to the transport infrastructure.

Clearly, further investigation is necessary to examine the extent of the role that virtual mobility could and should play within a socially aware transport policy. However, the author believes that this role will be both necessary and valuable if the negative social effects of reduced accessibility are to be effectively tackled.

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Information technology in rural nonprofit agencies: local concerns and global potentials

by Karen V. Harper-Dorton & Dong Pil Yoon

Abstract

The growth of information technology impacts all parts of the world from individual households to organizational and societal levels. Little is known about the extent of access and the utilization of information technology that is occurring within small social service organizations. Investigative studies generally target access to hardware and the Internet with little attention to the skills and information required to maximize or even access existing information technologies.

It is known that disparities exist in information access where many are excluded by the nature of income, geographic location, age, education, minority status, as well as factors unique to various societies and organizations. This gap in technology is widening even more for small social services organizations in the nonprofit sector where community services are in demand for workforce development and lifelong learning opportunities in today's global economy and changing world. Many agencies and individuals are excluded from access, particularly in rural areas where distance and isolation compound their technological or 'digital' division.This article reports the findings from a random sample of rural nonprofit agencies and investigates their acquisition and utilization of information technology. Concerns of resources in general suggest that these agencies are likely to remain behind the curve of emerging technologies and to forego efficiencies that could be realized in both service delivery and agency management.

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Introduction

Information technology has become a driving force in the workplaces and economies across the globe. Commerce, higher education, safety and military initiatives are at the forefront of technology development on national and international levels. Expanding at rates faster than ever imagined, the recent growth of information technology leaves many unanswered questions in its wake.

Global deployment of information technology touches every nation, government, community and household. Investigation into computer usage and Internet accessibility in the United States addresses individual and household usage with little attention to concerns of organizational responses at the community level (ESA & NTIA, 2002). Concerns of the impact of information technology on public policies and infrastructure supports of public and private organizations give rise to questions of 'digital divides' among agencies and organizations (SEEDCO, 2001).

From a social work perspective, concerns of social service agency preparedness for service delivery in the information age call for answers if we are to serve families and communities regardless of income, race, age, education or geographic location. Even though there is a growing consensus that information technology impacts education and service delivery and has the potential of serving the common good (Independent Sector, 2001), the nature of the impact of technology is not understood without empirical evidence from the public and nonprofit social service sectors. There is little empirical explanation of the involvement of the nonprofit sector in technology.

Much remains to be learned about the roles that nonprofit organizations can play in reducing 'digital divide' issues for human service organizations and those families and communities that we serve. Information technology resources are not dispersed equally as digital inclusion varies by income, rural and inner city locations, racial minorities, education and age (NTIA, 1995, 1998, 1999, 2000). The human side of information technology has particular relevance for the social service sector and for the many nonprofit organizations that deliver services. Building technology capacities begins within agencies and communities where resources can be channelled to support training agenda, hardware and connectivity, especially for small communities and rural areas where budgets are small and staff are few.

Stemming from a US. Department of Commerce project funded to increase information access through computer literacy training, this article provides a case example of action toward digital empowerment in a rural state. The 'Nonprofit Collaboratives to Facilitate Rural Community Networking' project (NPCOLLAB) was funded to build informational age capacities among rural households, small nonprofits, and community-based agency associations. Bringing together a collaboratory involving the campus, National Guard, public agencies and nonprofit organizations, integration of technology in workforce development and lifelong learning goals reached many communities and households.

Shedding light on the digital divide

In the United States, widespread agreement calls for 'universal' access to information technology for all Americans. Universal access has not been realized as those without access to computers and the Internet are digitally divided from those who have access, a separation that involves information and skills along with hardware and line access (Young, 2001). A series of annual assessments, *Falling Through the Net*, reports usage of information technology throughout the nation (NTIA, 1995, 1998, 1999, 2000). NTIA's survey data show the digital divide challenges of a nation working to establish an information technology platform for new horizons in education, workforce development, communication, and new careers in a digital world, including global networking and national security.

At the outset, studies exploring access to telecommunications, i.e., telephones, computers and the Internet, brought national attention to those Americans who were experiencing unintended but very real digital exclusion. Four populations were identified as being separated or excluded from information access - the digital divide phenomenon. These four groups continue to be behind the swell of participation in computer and Internet resources even though the divide is shrinking (NTIA, 1995, 1998, 2000). Despite expansion of the numbers of Americans online, only slightly more

than half (54%) of the population had Internet access with 66% using computers in 2001 (ESA & NTIA, 2002).

Funding opportunities of the U. S. Commerce Department, Technology Opportunities Program, target the four following populations with special attention to rural access challenges in both technical and training aspects of participation in the information age:

1) Poor households in central cities and rural areas reflect the greatest digital disparities in the study with only 7.6% of those in central cities and 4.5% of those in rural areas having computer access according to 1994 data (NTIA, 1995).
2) Families living in central cities that had incomes below $15,000 in 2000 increased to 17% and families in rural areas increased to 11.3% in computer ownership (NTIA, 2000, p.17).
3) Minority Households including Native American, Black and Hispanic households were the groups most excluded from information technology in 1995, particularly for those living in rural areas. By 2000, computer ownership in Black households was 32.6% and 33.7% in Hispanic households, both below the national average of 51% (NTIA, 2000, p.5).
4) Young and elderly households in rural areas, 11.9 and 12.3% respectively reported having a computer in 1994 (NTIA, 1995).

By 2000, computer ownership in rural households had increased to 38.9%. It is noted that computer access does not fall evenly across all households, particularly disadvantaged households such as the very young or elderly. (NTIA, 2000). Less-educated people in central cities lacked access to information technology. There was a direct relationship between information access in relation to educational achievement - higher education was correlated with greater access. Central city ownership of computers grew from 38.5% to 46.3% between 1998 and 2000. (NTIA, 2000, p. 14). There are common characteristics among these groups. Commonalities are evidenced by problems of poverty related to age, education, and minority status. Problems of access are particularly evident in central cities and rural areas, areas known for concentrations of poverty and economic and workforce development challenges.

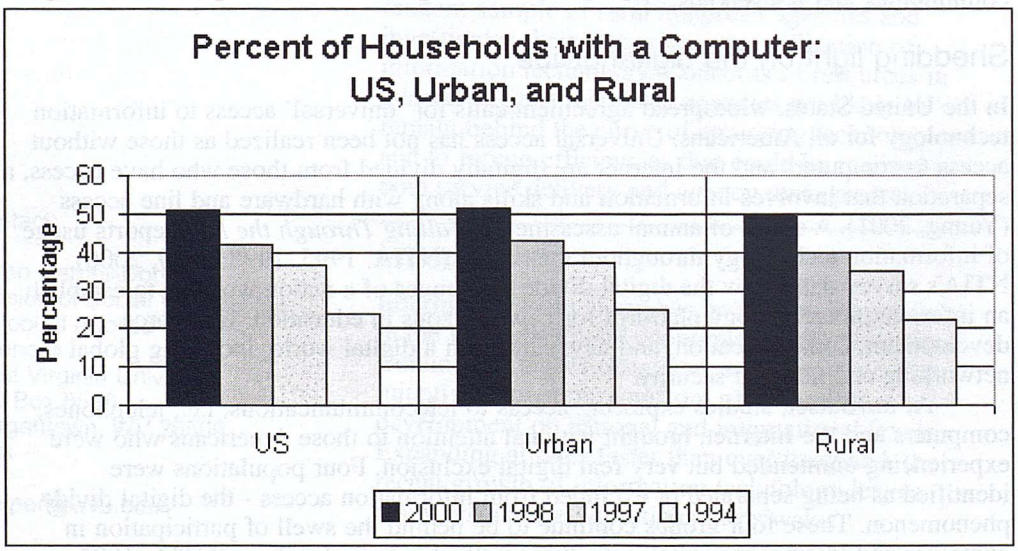

Figure 1: Comparison of computer ownership

Figure 1 compares household ownership of computers for the nation and for urban and rural areas from 1994-2000. All categories of households have increased to similar annual levels, with rural households having made the greatest increase from its 1994 level. It needs to be noted that despite numerous accounts and measures of increased computer access, only about 50% of the U. S. had household computer access in 2000 (NTIA, 1995, 1998, 1999, 2000). Computer access requires sets of information and skills, but maximizing computer access requires Internet access. Without a doubt, changing technology causes counting and estimating usage to be a moving target!

Comparable data that in 2000, 41.5% of American households reported having Internet access, a sharp increase from the 1998 rate of 26.2%. Of rural households, 38.9% were online in 2000, an increase over 22.2% in 1998. The relationship of income to Internet connectivity correlates positively with higher incomes, about two-thirds of households earning above $50,000 have access. Overall, more and more people are digitally included in the information age, or at least are moving toward computer literacy and/or connectivity. Access is not evenly dispersed and is least often reported as a resource by low-income families, rural households, minority families, or elderly citizens. From the perspective of workforce development and social service experience with welfare-to-work families, the need for skills to utilize computer and Internet access for productive work and employment enhancement continues. Given the combination of lack of income and technology skills in rural America, the campus/ community collaboratory proved to be an effective partnership in digital inclusion.

Rural nonprofit agencies: a case example

Having a long history of partnering and linking campus/community initiatives for rural development and education initiatives, community-based social workers, social work educators, National Guard leaders, and community action practitioners joined to broaden technology access in rural West Virginia.

'Non Profit Collaboratives to Facilitate Rural Community Networ king,"a U. S. Commerce funded project based in the Division of Social Work, West Virginia University, is located in the center of Appalachia, a region known for problems of poverty and small rural social service organizations. Computer literacy training, communication networking opportunities and access to life-long learning are limited for many who live in the state's rural counties and small towns.

The primary focus of this project is to increase information access for rural families and to assist a broad range of nonprofit organizations in building capacities for informational and technological access throughout rural counties and isolated regions. Secondarily, education and lifelong learning goals are extended to communities, nonprofit organizations and especially welfare-to-work families who are in need of new skills and information.

West Virginia is typical of rural areas in the nation. Factors such as isolation, poverty, and technology challenge many organizations and families where there is lack of access to Internet connections. For many in search of Internet access in rural areas, often small, privately owned telephone providers cannot support adequate bandwidth for current technology demands. For example, eight or more separate telephone companies serve West Virginia's population of 1.2 million. The large major telephone carrier serves only about two-thirds of the state. Recognizing inadequate infrastructure support and finding ways to bring rural areas into the informational age with technology, economic assistance and technical support are important means of economic development in present day operations and include business incubation and extension of technology into rural classrooms (Hoffman, 1999; Baldwin, 1999).

Reasons for surveying rural nonprofits

Experience in the project soon discovered that information access and workforce development demands, particularly with welfare-to-work families, are being met mostly by small rural nonprofit agencies located throughout most communities and in every county in the state. Gathering information concerning the state of technology and its utilization among nonprofit agencies in West Virginia was determined to be an important step in helping agencies gain needed skills and increase information access to better serve their consumers. First hand information suggests that major technology gaps are present for many agencies. Field visits and personal inquiries provide information that small agencies are poorly equipped for the age of information technology. For example, in one agency a staff person is assigned to manage all agency e-mail because only one computer is online. Other agencies do not have computers, and some lack Internet access. Further, outdated equipment prohibits efficient use, as does outdated software and a general lack of technology skills among staff.

The survey was designed to gather information concerning budget, training needs, size of organizations, and access to technology resources including hardware, software and the Internet. This information gathering effort was relatively quick and inexpensive. Survey methodology was selected, as a reliable way to learn about the technology information needs from a statewide random sample of nonprofit agencies. In addition, focus groups at community conference events provide qualitative accounts of efficiency needs that are useful additions to survey data.

Survey methodology with rural nonprofits

This analysis reports findings from a 2000-2001 survey that was initiated to gain an understanding of the characteristics of nonprofit agencies' technological preparedness to carry out their own operations while contributing to technological capacity building with their consumers and families in rural communities. In order to examine the state of technology resources in rural nonprofit agencies providing social services and capacity building for workforce development, an exploration of on-line yellow page listings of social service agencies in West Virginia produced a population of 800 listings. Utilizing a table of random numbers, a random sample of 300 agencies was drawn from this list. Once selected, surveys were mailed to agency directors assuring confidentiality and soliciting their voluntary participation. Only one mailing with repeat mailing of questionnaires returned with incorrect addresses was conducted. From this mailing, 151 (50%) surveys were returned. a strong response rate for mailed surveys and one that is believed to be reflective of interest in the purpose of the study concerning technology and Internet resources.

Findings

Descriptive analysis of survey data offers helpful insights into the state of information access for this sample of rural nonprofit agencies. According to Table 1, agencies whose staff had taken training sessions offered by the Nonprofit Collaboratives project comprised approximately 19 percent of the random sample of nonprofit agencies statewide. Given the random nature of the sample, this finding suggests that a broad range of nonprofit agencies have participated in the project. There were many very small agencies among the respondents, 50.3% reported having less than 15 employees. Agencies with 16-50 employees comprised 21.2% and an additional 25.8% were larger than 50 employees.

The pattern of annual budgets fell out in quadrants as those agencies with less than $100,000 yearly represented 23.2% of respondents; 21.2% were between $100,000 to $400,000 annually; 18.5% between 400,000 to $1,000,000; and 31.3% above $1,000,000. Considering the finding that nearly half of the agencies had budgets below

$400,000, it is not surprising that a roughly similar proportion of agencies report having fewer than 15 employees, a finding indicating a strong representation of very small agencies with small annual budgets.

Variable		Frequency	%
Taking Training Courses*	Yes	28	18.50%
	No	121	80.20%
	Missing	2	1.30%
Number of Employees	Less than 15	76	50.30%
	16 to 50	32	21.20%
	More than 50	39	25.80%
	Missing	4	2.70%
Annual Budget	Less than $100,000	35	23.20%
	$100,000 to $400,000	32	21.20%
	$400,000 to $1,000,000	28	18.50%
	More than $1,000,000	48	31.30%
	Missing	8	5.30%
Number of Computers	None	9	6.00%
	1 to 5	54	35.80%
	6 to 20	52	34.40%
	More than 20	34	22.50%
	Missing	2	1.30%
Frequency of Computer Use	Daily	135	89.40%
	Weekly	5	3.30%
	Rarely	1	0.70%
	Missing	10	6.60%
Connected to Internet	None	8	5.30%
	Less than 25%	33	21.90%
	25% to 75%	34	22.50%
	More than 75%	66	43.70%
	Missing	10	6.60%
Usage of e-mail for work	Yes	68	45.00%
	No	67	44.40%
	Missing	16	10.60%
Ownership of web page	Yes	74	49.00%
	No	61	40.40%
	Missing	16	10.60%
Ownership of server	Yes	58	38.40%
	No	77	51%
	Missing	16	10.60%

*Respondents had taken technology courses in NPCOLLAB Project

Table 1: Characteristics of the study sample (N=151)

All but 9 (6%) agencies reported having computers. Agencies with 1- 5 computers comprised 35.8% and those with 6-20 computers comprised another 34.4%. It is noted that 34 (22.5%) agencies had more than 20 computers although 71 (47%) agencies reported having more than 16 employees with half of this group having more than 50 employees. These data suggest that employees in some agencies are either sharing workstations or foregoing using technology altogether. In 89.4% of the agencies, computers were used daily although about 27% of agencies had less than one-fourth of agency computers connected for Internet access. For 43.7% percent (n=66), more than three-quarters of agency computers had Internet access. Forty-five percent of the agencies reported using commercial email for work related tasks. Of respondents, 49% (n=74) and 44.4% (n=67) respectively reported having a web page and server. This finding is misleading in several cases for many small agencies. Member agencies of larger associations of geographically spread agency networks do have web page and server support for their membership; and for some, data are regularly submitted on disks for entry at central locations. County and state member associations provide server support, in many cases, for small member agencies. Thus, neither server nor web page management is a task that typically is carried out independently by small agencies.

Variable	Annual budget High / Low	Test Statistics
Number of computers	* = 196.13	p = .000 *
Usage of commercial email for work	* = 1.02	p = .995 (NSI)
Ownership of web page	* = 20.35	p = .005 **
Ownership of server providing email accounts	* = 18.69	p = .009 **

Note: * < .05, ** < .001; NSI = Non significant

Table 2: Profile of technology facility by annual budget

Table 2 provides a profile of the technology resources by annual budget. By and large, there are some differences between high annual budget and low annual budget in terms of the number of computers, ownership of web pages and servers providing email accounts. However, there is no difference between high annual budget and low annual budget in terms of the usage of commercial email for work. Findings from this sample reflect provision of web page and server resources to mainly be from association networks of member agencies, a provision that maximizes resources in terms of money and expertise.

Figure 2 provides a profile of the technology resources in nonprofit agencies and shows that more high-end technology resources are present only in a few agencies such as: web cam (14%), satellite TV (4%), palm pilot (4%), and digital camera (2 %). Surprisingly zip drives (11%) and cellular phones (9%) are not very common. List serve (8%) and computer networks (37%) are low and may be reflective of both funding and expertise. About a third of the rural nonprofit agencies report having a scanner (37%), CD burner (36%), video camera (33%), and pager (29%) indicating that the remaining two-thirds of respondent agencies lack these resources. Considering common and low-

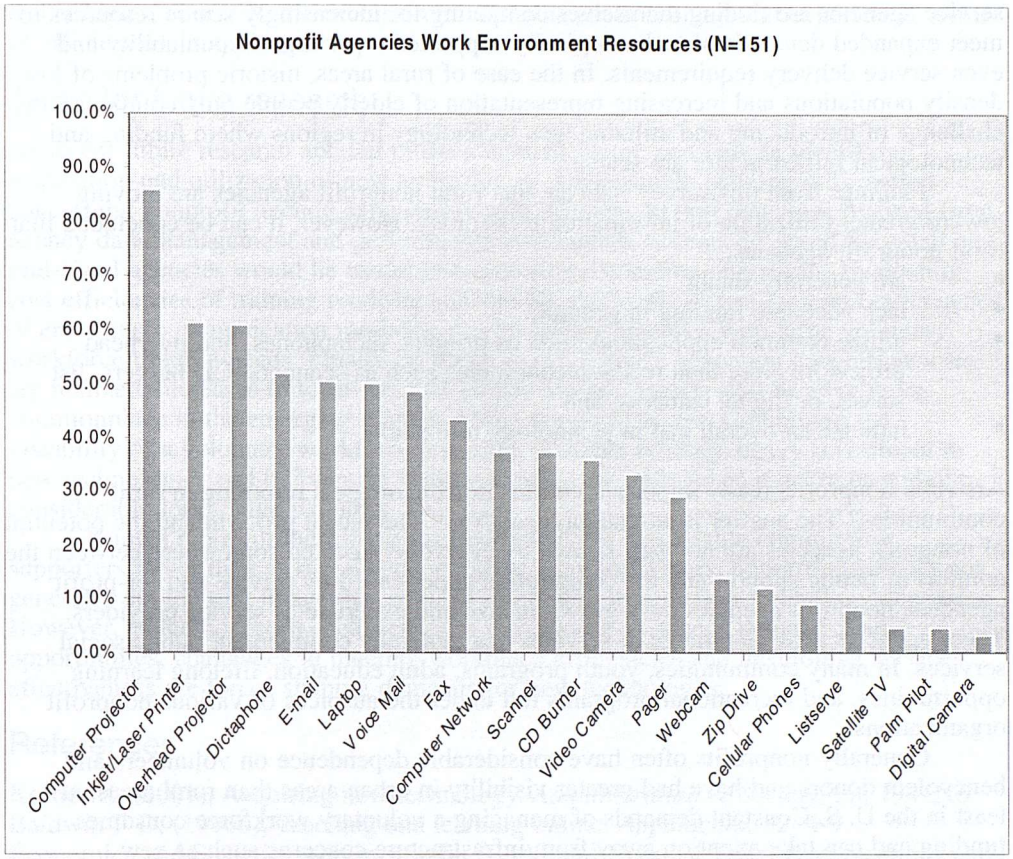

Figure 2: Profile of technology resources used in nonprofit agencies

end technology, most commonly reported resources include: inkjet/laser printer (61%), and overhead projector (61%). About half of the agencies have dictaphone (52%), laptop (49%), voice mail (48%), and fax (43%) equipment.

It needs to be noted that 85% of respondent agencies reported having a computer projector. This is inconsistent with the state of technology resources generally available and is thought to reflect a misunderstanding concerning the nature of this item. Also, it is worth noting that 19% of respondent agencies' employees participated in NPCOLLAB training where the most frequently requested trainings were e-mail and Excel; entry level skills that do not support computer projection equipment utilization. In addition to survey data, focus groups at community conference events generally indicated having:many outdated computers,strong interest in learning how to download documents, strong interest in data management, training needs for spreadsheet management, web page design and e-mail.

This additional qualitative information provides information about the state of technology usage among these rural service providers and is useful in planning future fact training and capacity building efforts.

Discussion and future directions

Gaining information on the state of technology and its utilization for capacity building in rural areas and nonprofit social service agencies, however enlightening, is a sobering experience. This survey adds to the scarce literature that suggests that nonprofit social

service agencies are finding themselves competing for increasingly scarce resources to meet expanded demands of technologically supported reporting, accountability and even service delivery requirements. In the case of rural areas, historic problems of low density populations and increasing representation of elderly people only compound the challenge of introducing and utilizing new technology in regions where funding and technological infrastructure are scarce.

Findings from this survey indicate that rural nonprofit agencies are moving toward greater utilization of information technology. However, it can be concluded that rural nonprofit agencies:

- are generally small;
- lack adequate funding in general;
- utilize common applications such as printers, dictaphones, and overhead projectors more than recent technologies such as scanners, CD burners, list serves, or digital cameras; and
- indicate an overall gap in technology utilization.

Are rural nonprofits really important entities in technological retooling in rural communities? The answer is an unequivocal "Yes!"The recent gro wth and the potential of nonprofit agencies are not well known by everyone. Located somewhere between the comfort of public support and the competition experienced by private and for-profit agencies, nonprofit agencies have grown in size and expertise as service providers. These agencies provide a range of services that generally complement public social services. In many communities, youth programs, adult education, lifelong learning opportunities, and recreational programs fall under the auspices of various nonprofit organizations.

Generally nonprofits often have considerable dependence on volunteers and benevolent donors and have had greater visibility in urban areas than rural areas, at least in the U. S. Constant demands of managing a voluntary workforce consumes funding and can take attention away from infrastructure concerns such as new technologies and their technology skills training and development. Combining the instability of a voluntary workforce and often unstable funding, heavy investment in new technologies and training are understandably not undertaken quickly or without considerable long-range planning.

Known more for their image as traditional and dependable community supporters rather than as risk takers or cutting edge innovators, nonprofit agencies are generally not the first image that comes to mind with information technology expansion. However, as the nonprofit sector changes in response to service demands and opportunities, challenges in meeting workplace efficiencies and developing service effectiveness are forces shaping demands for new technologies.

Findings similar to those in this study are reported by Corder (2001) who also raised the concern of technology acquisition among nonprofit agencies. From a sample of 650 human service providers, Corder (2001) identifies seven factors that are consistent with the slow adaptation of new technologies in the nonprofit sector:

1) lack of economic resources
2) slow adoption of new technologies due to lack of autonomy
3) turnover in voluntary workforces
4) donor commitments for investment in new technologies
5) lack of governmental funding for investment in information technology
6) gaps in technical expertise; and attitudes of key personnel.

These factors seem germane to the problem of adapting, utilizing and expanding new information technologies in nonprofit agencies, particularly for those small and sparsely located rural agencies. Again, research focuses mostly on the acquisition of new

technologies, almost to the exclusion of concerns about training and expertise in terms of efficiencies in applications.

Areas for future research

Areas for future research abound in the nonprofit sector, certainly in identifying acquisition and utilization of new technologies. For example, gaining information concerning nonprofit agency experiences with efficiencies and outcomes realized from agency data management and performance information systems designed for small and mid-sized agencies would be useful in monitoring expanding operations. Evaluating cost efficiencies of training modules suitable for electronic distribution and efficiencies of emerging communication modalities could inform agencies with large voluntary workforce training needs. Finally, as training and distance education cost efficiencies are realized, increases in local-national-global communication will become more commonplace in the emerging markets of the nonprofit sector. Combining the instability of a voluntary workforce and often unstable funding, heavy investment in new technologies and training are understandably not undertaken quickly or without considerable long-range planning.

Known more for their image as traditional and dependable community supporters rather than as risk takers or cutting edge innovators, nonprofit agencies are generally not the first image that come to mind with information technology expansion. However, as the nonprofit sector changes in response to service demands and opportunities, challenges in meeting workplace efficiencies and developing service effectiveness are forces shaping demands for new technologies.

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Implications of computer-mediated communication on professional counselling in social work practice –a case study of the youth service in Hong Kong

by Ernest Chui

Abstract

Computer-mediated communication (CMC) has become increasingly prevalent, especially amongst young people. In western countries, helping professions like social work and clinical psychology have gradually adopted this novel means of communication in their professional service to their clients. There are both merits and limitations in the application of CMC to professional working relationships. The author highlights the possible strengths of CMC in overcoming geographical distance, in facilitating client disclosure, and in eliminating social status differences. On the other hand, CMC is also handicapping in that it depletes non-verbal cues which are essential to professional counselling. The anonymity in CMC also induces fake information or even false identity, which may be found in both the client and the professional practitioner. Moreover, there are administrative, as well as professional implications in the process of adopting such an innovation. The author cautions the Hong Kong social service sector and the academics to prepare for such a new challenge of information technology, to better facilitate counselling for young people who are apt to engage in CMC.

Introduction

Clinical counselling has long been a face-to-face interaction between the counsellor or therapist and the client. With the advance of telecommunication, telephone interviews or counselling has been practiced in western countries for decades. As personal computers or 'home PCs' have become pervasive the frontiers of interpersonal communication are pushed onto yet another plane and there has been increasing adoption of 'Internet counselling' in psychotherapy (Binik *et al.*, 1997). The prestigious American Psychological Association (APA) has also alerted its

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members to the increasing prevalence of such a novel medium of professional relationship.[1]

Nevertheless, Hong Kong, being an ethnically oriental society but baptised by western liberal cultures, has yet to develop its infrastructure in this direction of innovation diffusion. More specifically, the professional community of counselling and social work has not equipped itself, in terms of either the technicalities or the ethical aspects, to encounter the Internet or Cyberspace counselling interface. This article attempts to highlight the background of prevalence of professional counselling over the Internet (hereafter called the Net) and the specific issues confronting professional social work practitioners in Hong Kong. Particular focus will be given to analysing the implication of counselling over the Net for the youth population.

Professional counselling on the net: historical and theoretical underpinnings

Professional clinical counselling for individuals has been practiced by clinical psychologists and social workers. People seek professional advice and guidance when they feel distressed or troubled by personal problems. They would like to have tangible advice offered by the professionals to help ease their psychological and/or emotional disturbance or to solve their problems. The professionals, by making use of professionally trained skills in communication and analysis, help their clients to analyse their problem, identify their internal strengths, mobilise the resources available in their physical and social environment, suggest alternative directions of actions, and not the least, provide support and assurance to their clients. All these have been made possible through the medium of intensive conversation between the client and counsellor or therapist. Besides using verbal communication skills, professional therapists often resort to non-verbal means such as touching as a way of support and comfort. Moreover, therapists may also provide some experiential exercises, even with the aid of equipment (e.g. administering tests or using audio-visual aids) to allow the client to simulate some particular situations and/or experience. All these processes have to be undertaken in a face-to-face situation so that the communication between the therapist and the client is direct, immediate and rich in content.

However, there are a number of reasons that render such face-to-face interviews unfeasible. Personal counselling services may not be easily accessible to clients who are home-bound, have impaired mobility, or are simply ignorant of the available services. Service coverage may also be constrained by geographical remoteness. Shortage of professional practitioners poses another limitation to avail all help-seekers with counsellors. There are also some people who are hesitant or even resistant to face-to-face contact with other people to disclose their problems, not even professional counsellors. All these call for the need of alternative modes of service that are more accessible, albeit indirect. The emergence of telephone hotline services rightly suits the purpose. Binik *et al.* (1997), citing research studies by a host of scholars (cf. Lanska, Schmitt, Steward & Howe, 1993; Paulsen, Crowe, Noyes, & Pfohl, 1988), shows

[1] The American Psychological Association's Ethics Committee issued the following statement on November 5, 1997 based on its 1995 statement on the topic of "services by telephone, teleconferencing and Internet": The Ethics Committee can only address the relevance of and enforce the 'Ethical Principles of Psychologists and Code of Conduct" and cannot say whether there may be other APA Guidelines that might provide guidance. The Ethics Code is not specific with regard to telephone therapy or teleconferencing or any electronically provided services as such and has no rules prohibiting such services. Complaints regarding such matters would be addressed on a case-by-case basis. Delivery of services by such media as telephone, teleconferencing and Internet is a rapidly evolving area. This will be the subject of APA task forces and will be considered in future revision of the Ethics Code" (http://www.apa.org/).

the equivalence and reliability of telephone versus face-to-face interviews in the diagnosis of psychological disorders. Psychologists have also reported successful experiences in conducting psychotherapy by telephone. They have even argued for its legitimacy as an adjunctive tool to direct personal counselling. Binik *et al.* also quoted Sims and Sims' (1973) report that a higher incidence of help-seeking behaviour is found by emotionally insecure adolescents who discussed a greater number of personal and school related problems with a therapist over a telephone than they did in person (Binik *et al,* 1997). The case of the viability of counselling over the telephone thus seems substantiated.With the advance of computer technology, aided by its pervasiveness in penetrating everyday life, the frontier of such indirect counselling further stretches to the Internet".The Samaritans, an international agency providing telephone hotlines to at-risk people having suicidal inclination, began providing assistance by email in 1994. This illustrates that established and prestigious professional bodies accept such a novel means of indirect counselling.

There is indeed a multitude of benefits to Internet communication, as reported in the literature. Computer-mediated Communication allows for greater accessibility of therapeutic support regardless of geographical distance. This is particularly beneficial to those people living in remote areas or in places where social services are geographically dispersed. Besides, CMC enables one to have better control of the schedule and intensity of communication, which may not be so feasible in a face-to-face contact. The greater sense of control is best illustrated by the fact that CMC can be terminated "at a click", that is, "all you have to do is 'exit' the Net"(Wellman & Gulia, 1999). This avoids the embarrassment and immediate confrontation possibly aroused in face-to-face interactions. Rheingold suggested that there are some people who seem to prefer using these depersonalised modes of communication to get very personal with each other, and that "[f]or these people, at the right times, C MC is a way to connect with another human being."(1995:147).

Apart from these practical advantages, CMC itself also has some inherent features that facilitate interpersonal communication. CMC may allow participants to engage in communication without disclosing their real identities since there can be no way to verify the true identity of the engaging participants.[2] The anonymity contributes to facilitate help-seeking behaviour. This is particularly helpful for those who generally find face-to-face interaction anxiety provoking (Binik *et al.,* 1997). This increased ease of relating with another person over a computer instead of having direct contact is supported by research indicating that individuals are willing to take more risks in such a distanced interaction (McGuire, Kiesler, & Siegel, 1987, cited in Binik *et al.,* 1997). People tend to make more daring decisions via CMC than they do face-to-face. This is particularly evident for a group of people who apparently have an inferiority complex in relating to some authority figures (Rheingold, 1995). In fact, this feature is related to the anonymity characterizing CMC. The lack of status or situational cues about gender, age, race, etc. can encourage people to engage in interaction without any association with possible patron-client or superior-inferior relationships, thus making CMC contact of a "relatively egalitarian nature"(Wellman & Gulia, 1999:176). The actual content of the communication on the Net takes greater importance over the prestige of the person sending out the message, a factor that often influences face-to-face interactions (Binik *et al.,* 1997:91). This is particularly crucial for empowering those people who are of lower social status and those disenfranchised groups.

[2] A word of caution given the speed of advancement of computer technology. The gradual but increasing use of computer-aided video image transfer has enabled video-conferencing from home PCs so that now it is only by the user choosing either not to install such a device or not using it that preserves the privacy that sustains the anonymity of CMC.

Binik and his associates (1997), drawing upon the comparison between counselling over the phone and the Net, postulated that since research findings indicate an increase in problem reporting over the phone, one may infer that this may also happen in the case of CMC. It is postulated that '[a]s compared with the tele phone, computer-medicated psychotherapy removes one more human element (the voice), and there is little reason to believe that it should fare any worse than telephone therapy"(Binik *et al.,* 1997:84). The privacy inherent in the communication over the computer allows the users to express emotions that are not easily expressed in person. The very act of engaging in CMC itself serves a therapeutic function by enabling the client to express frustration and hopelessness and release from tension and anxiety. This is particularly aided by the fact that CMC is normally mediated by means of the keyboard and people have to translate their meaning and feelings into literal words onto the computer screen. This provides a pacifying or at least postponing effect of one's heightened emotions.

In actuality, the social work profession in the United States has recognized such merits and has ventured into providing mutual help support groups services via the Internet (Weinberg et al., 1995a; 1995b, 1996; Finn, 1995a, 1996). Finn noted that merits characterizing in-person groups can also be found in computer-mediated groups. Such therapeutic elements include support, information, problem solving, diminishment of shame and guilt, and acknowledgement of the universality of experience (Finn, 1995a). The therapeutic aspects of support groups suggested by Yalom (1970), namely installation of hope, universality, group cohesion, catharsis and altruism, can also be found in such computer-mediated groups (Weinberg et al., 1995, 1996). There are also advantages of holding groups 'on-line' as compared to 'in-perso n groups'. These include flexible meeting arrangements, supportive intimacy, increased accessibility, privacy for those who are stigmatised, reduced salience of irrelevant differences related to race and status, and precise information exchange (Galinsky et al., 1997). In response to the critique that CMC groups are dwarfed by their impersonalising effect rendered by the lack of direct facial and other non-verbal exchanges, Finn referred to Walther (1992) to suggest that 'CMC group members attempt to reduce the uncertainty of lack of nonverbal and social cues by overcompensating in the direction of playfulness, affection and depth"(Finn, 1996:31). More specifically, member s compensate by using intentional misspelling, lexical surrogates, spatial arrays, grammatical markers and capitalisations and the like, to communicate their socio-emotional messages. The following serves to illustrate — **:-)** (smile), **:-D** (laugh); **:-<** (angry); **:-(** (unhappy); **:-O** (surprised). Finn further postulated that, 'the combination of asynchronous communication, uncertainty, and anonymity may actually facilitate more positive and open relational communication" (ibid).

However, there are also some reservations as to the desirability of CMC as a means of counselling. In the first instance, similar to the case of communication over telephone, communication over the Net removes the use of posture, gestures, and facial expressions. Moreover, it is depleted without the tones of voice of the engaging parties. Therapists are therefore unable to observe the behaviour of the client. This would certainly reduce the amount and richness of information which helps the therapist to diagnose the client's underlying problems. On the other hand, the client is also not able to perceive the therapist's empathetic and supportive gazes and gestures. Such nonverbal elements in a therapeutic interface are of equal, if not more, significance in a therapeutic process. Furthermore, there is the worry of the possible lack of genuineness and authenticity of the content of CMC, which is the core of a professional helping process. It touches upon the fundamental issue of commitment and responsibility on the part of the client (Binik et al., 1997). Successful professional therapy hinges upon the client's frank and genuine self-disclosure. In the absence of a live therapist as in a face-to-face interview, a client may be tempted to selectively disclose or even make up false stories to conceal his/her own problems. Such concealment can of course still be present in direct interviews, but the therapist can make use of his/her professional

judgment to differentiate between genuine or false information. Besides, their professional training can even help them to enable the client to work through such resistance or inhibition which might be caused by the client's transference, projection, fear, or other irrational beliefs, etc.[3] Deprived of the opportunity to make use of such skills in a direct interview, the therapist cannot actually work on such issues. Rheingold also made clear his reservations about CMC by saying that, 'the authenticity of human relationships is always in question in cyberspace, because of the masking and distancing of the medium, in a way that it is not in question in real life" (Rheingold, 1995:147). CMC is even regarded as merely 'instantaneous and illusory" (Stoll, 1995, quoted in Wellman & Gulia, 1999:179). On the other side of the dyadic therapist-client relationship, there is similarly the query on the genuineness on the part of the therapist, resembling the worry about the client's sincerity or genuineness in disclosing his/herself. CMC allows not only for the anonymity of the client but also of the therapists themselves. One may question whether the 'therapist" on the other side of the Internet line is a qualified professional or merely a layman. This raises the alarm of the possible abuse of client by people with ulterior motives.

Research findings reveal that individuals are willing to admit more pathology to a computer than to a human assessor (Binik *et al.,* 1997). This may bring out the issue of the client's exaggeration of their problems, which might distort the therapist's diagnosis and intervention plan. On the other hand, in contrast to the situation in a face-to-face interview where the client is required to respond to the therapist's advice or questions immediately, he/she might be inclined to postpone or even evade such a response in a CMC context. This will adversely affect the effectiveness of the therapeutic process if the client does not comply with the therapist's guidance. On the other hand, there is another possible unfavourable condition confronting the therapist. As mentioned above, one of CMC's benefits for individuals is the ease of exit from the interaction. This advantage turns to be a drawback in the context of therapeutic process. The therapist cannot retain the attention and presence of the client via the Net, unlike the case in face-to-face interviews where the therapist can resort to more direct interviewing methods to engage with the client.

The above concerns, raised at the theoretical and practical levels, are related to the use of CMC in general, and in professional helping relationships in particular, and are exemplified in the embryonic attempts of some Hong Kong social work practitioners in their provision of 'counselling on the Net'services. From here, we depart to examine the case of Hong Kong in more detail. The analysis to follow is based upon the author's interviews with the social workers involved in CMC counselling, and content analysis of 'ICQ' (which stands for 'I Seek You') communication between the social workers and their clients, and other secondary data from various local studies.

Youth counselling on the internet in Hong Kong

Professional counselling by social workers in Hong Kong is provided at both individual and group contexts and the main thrust lies in direct face-to-face contacts between the social worker and the client(s) concerned. There are also telephone-hotline services provided to some specific groups, viz. youth (especially those experiencing drug addiction or suicidal attempts), battered spouses, AIDS patients. However, it is only in the last two years that the prevalence of CMC amongst the youth population has been

[3] Transference is the client's projection of a particular role onto the therapist. 'Irrational belief', according to cognitive behavioural therapy in social work practice, encompasses a host of beliefs which may include magnification, over-generalisation, catastrophising, emotional reasoning, etc. which are inappropriate beliefs held by the client and are blocking them from a realistic appraisal of their own problems. These are possible roots inhibiting the client to disclose to a therapist.

observed by the social work profession and the service agencies. The prevalence of CMC is grounded upon a host of factors peculiar to Hong Kong. The compact geographical and social environment of Hong Kong facilitates innovation diffusion more easily. Hong Kong benefits from the availability of computer hardware and software, given its proximity to Taiwan and Japan which have voluminous exports of computers. This geographical and trading advantage enables it to have a fast and wide coverage of home computers in society. According to the government's estimate, there were 1.5 million households in Hong Kong, which had been on-line, i.e. 79 percent of the total population of 1.9 million households or 6+ million people (Apple Daily 8 January 2000). This has significantly increased from 765,000 households (or 40 per cent) in 1998 (Hong Kong Policy Analysis Centre, Oriental Daily 23 March 1998). With respect to youth, the 'Breakthrough' Social Service Agency in H ong Kong surveyed 1,409 secondary school students, and found that about half of the respondents habitually used ICQ (Apple Daily 14 Jan 2000).

In view of the increasing prevalence of CMC amongst youth, some youth service agencies started to launch counselling or support by means of email in 1998. There are currently three social service agencies operating on-line counselling. The Tung Wah Group of Hospitals (TWGH) Social Service Centre operates a 'Youth Centre on the Net' service named 'My Club of Tea' (http://www.mctea.hkstar.co m). It offers communication and para counselling on the Net by means of email, and has been operated by some 40 social work students since June 1998. In the period between June 1998 and March 1999, there had been a total of 21,000 hits, an average of 75 per day. Besides the TWGH centre, the Methodist Church Social Service Centre also operates an 'eMotion' service, which is open to all age groups. However, th ese two services are basically working with email in which the social workers may respond within 24 hours. It thus is limited in its inherent time-lag which cannot provide instant feedback or support to the help seekers. The Boys' and Girls' Clubs Associa tion similarly provides email and ICQ communication for the youth (http://www.v-care.com.hk). Nonetheless, the service is not particularly aimed at providing counselling but merely a means for chatting.

Taking cognisance of the limitation of email in not providing instantaneous response to the help seekers, two social work teachers in the Department of Social Work and Social Administration of The University of Hong Kong (HKU) launched an experimental research project in December 1999, with the assistance of a group of social workers students (Yeung et al., 2000). The project offers counselling by means of ICQ. The researchers surmised that as ICQ has become the most 'trendy' means of communication amongst youth, it is imperative to utilise such a means to get in touch with the potential clients. In fact, the service has been well received and numerous engagements have already been made both locally and overseas.

Controversies and implications arising from counselling over the Net

In view of its increasing popularity amongst youth and its adoption by academics and social services agencies alike, there is a need to examine the potential strengths and limitation of such ICQ counselling in Hong Kong's social service context.

The TWGH, in evaluating its own service, pointed out the following merits. Firstly, counselling over the Net allows the centre-based service to overcome the physical geographical boundaries or limitations in service provision. Secondly, it also provides an unconstrained atmosphere and context for the youth members to express themselves freely. Thirdly, it facilitates the counselling process by eliminating the labelling effect, since others will not see the help-seeker as in a conventional centre-based service setting. Fourthly, it shortens the relationship building time required in a face-to-face interview. Fifthly, it helps to build up a 'public sphere' in which people could share views in an egalitarian manner. Finally it can even facilitate the feeling of

'being in the same boat' amongst those who communicate through the chat-room (Tung Wah Group of Hospitals, 1999). This view is shared by a youth centre supervisor interviewed by the author, whose centre also had trial runs of ICQ counselling. He alleged that the relationship between the engaging parties in ICQ (i.e. the social worker and the youth members) 'turns to be more equal than in other se ttings".

Another crucial merit of CMC lies in its facilitation of expression by the participants. A YMCA youth centre supervisor reviewed his centre staff's ICQ communication with the members and pointed out that 'the client s express their very true feelings in a genuine manner. It is particularly interesting, as those members normally will not have the same expression or behaviour in our centre or even in the setting outside of the centre. The situation [of ICQ communication between the clients and the centre worker] elicits the reason for their *naked* expression". He further used psychoanalytic concepts to explain this by suggesting that at the state of a lower defence mechanism, people will express more freely and truly. In fact, from the author's content analysis of the ICQ communication between a social worker and some youth members (provided to the author with consent of all parties concerned), it was found that some youth could really disclose very personal issues and feelings to the worker. For instance, one member disclosed her liking of another member within the same volunteer group but was too embarrassed to express this face to face to others. Another expressed his denial of his ability and his generally pessimistic outlook. In response to these frank disclosures, the worker provided assurance and practical advice to the members to tackle those problems. This proves that ICQ counselling can serve its basic function. In another instance, in a survey conducted by the Independent Commission Against Corruption (ICAC) it was revealed that 55.4 per cent of the respondents alleged that they would say something deep inside their heart, which they would not tell others in other situations. In the 'Breakthrough' study, 23.2 percent of the youth respondents wanted to engage in genuine communication with someone (Apple Daily 14 Jan 2000). This shows that ICQ communication is not only a trendy behaviour amongst the youth, it also serves a positive function of providing a conduit for them to ventilate their suppressed emotions or vent out their emotional needs of companionship or support.

There can be other merits pertaining to ICQ-counselling. The HKU ICQ-counselling team pointed out the following.[4] In the first instance, the concealment of identity can facilitate the help-seekers to express themselves freely. Secondly, the time lag allowed in communication over the Net, albeit just a few seconds, can provide more room for both interacting parties to be more reflective than during face-to-face interviews. Thirdly, the automatic saving mechanism of the ICQ dialogue into the computer memory can provide reliable documentation of such interactions and that facilitates follow-up actions to be taken afterwards. One of the counselling team members added that one should not simply pass a moral judgment onto it as having a negative impact on the youth. He was actually making such a proclamation in response to the commonly held criticism against young people engaging in ICQ. This draws our attention to examine the potential limitations of counselling over the Net.

Indeed, there are also reservations about the desirability of adopting CMC in counselling. As revealed in the study conducted by 'Breakthrough' mentioned earlier, 95 per cent of the respondents used false identities in their communication. In another instance, Chow's (2000) survey on 868 secondary school form students revealed that amongst the 530 who had engaged in ICQ, the majority (85 per cent) of them would not disclose their identity and personal information on the Net. In addition, the ICAC survey also revealed that most ICQ users used false identities in their communication.

[4] In fact, the HKU ICQ counselling team listed ten merits of ICQ counselling, which include: convenience; cost-efficiency; avoidance of embarrassment; breaking through geographical and even national boundaries, etc. (See Yeung et al, 2000)

Based on this, the Commission was alarmed by the negative effect of encouraging youth's dishonest behaviour in general, and thought it would breed attitudes conducive to deception and corruption. Put in the present focus, the falsity of CMC would jeopardize the actual function of counselling over the Net, and may also constitute an abuse of such counselling services. In fact, one of the student counsellors of the HKU ICQ-counselling service alleged that there had been incidents where help-seekers played tricks on them. This echoes the concern of the lack of authenticity and commitment on the part of the help-seekers as mentioned earlier. Apart from this, the quality of counselling is also somewhat compromised in CMC. The youth centre supervisor interviewed by the author raised his concern of the difficulties involved in providing appropriate intervention to the ICQ help-seekers. He alleged that, 'due to limitation in ICQ communication, the worker finds it too difficult to explore the issue by reading the text only and to understand the clients' emotional status through their non-verbal cues."This mirrors the earlier discussion of the constraints upon the counsellor in not being able to access the non-verbal aspects of communication found in face-to-face interviews.

Besides these limitations related to the quality of the counselling process through CMC, there are other practical concerns involved. As revealed by the author's content analysis of the ICQ communication, it is observed that nearly all of such contacts were made during the late evening or even after midnight. The young people who engage in CMC would probably go on-line at late night. If they indulge in such CMC activities for prolonged period of time, this would adversely affect their health. It might also jeopardize their normal daytime activities like schooling and interpersonal relationships. In fact, Kiesler and her colleagues have warned of the possibility of depletion of personality and culture induced by CMC. They asserted that, 'using the computer tends to be absorbing and conducive to quick response, which might reduce self-awareness and increase the feeling of being submerged in the machine .[resulting in] the overall weakening of self- or normative regulation"(Kiesler *et al.*, 1984:1126). Furthermore, the anonymity characterizing CMC, coupled with the reduction in self-regulation and self-awareness, might result in 'de-individuation"whereby one becomes submerged or absorbed in a group. This raises the alarm of the possible threat of undermining the CMC users' interpersonal and social skills, and even their propensity of social affiliation.

On the other hand, since CMC has to be conducted by means of the computer, the availability of a computer can be an issue of concern. Although the prices of computer hardware and software have been in constant decline with the speed of advancement in technology, it still requires a considerable amount of money from either the young people or their parents in acquiring a reasonably functioning computer. In this connection, there arises the problem of differential access to computer and, in corollary, CMC and on-line counselling, amongst youth from different social strata. The author's own research findings help to verify such a class difference in computer ownership and competence (Tsang, Chui & Law, 1999). Thus, it might be postulated that those youth coming from less well-off families, who have less access to and command of computers, would experience a relative disadvantage in seeking help from counselling on the Net.

Implications on social service provision and the social work profession in Hong Kong

In view of the increasing popularity of CMC amongst the youth, and the concomitant upsurge of CMC counselling services provided by social service agencies, there is a need for the social work profession in Hong Kong to take necessary and appropriate steps to meet this novel challenge.

The social service agencies have to devise workable managerial guidelines and systems to accommodate the more flexible deployment of staff responsible for such duties as CMC counselling. Such activities are usually diverging from the normal routines of operating services in the daytime, rather, they are conducted during the evening and night when the youth can have more privacy and enjoy their solitude. In connection with this, it is worth investigating whether and how the service agency supervisor or administrator can supervise such Internet counselling or worker-client interaction. The problem is particularly acute or difficult as such Internet communication is normally undertaken outside conventional office hours. If such interactions are to be regarded as normal professional duties carried out by the concerned staff, the duty roster has to accommodate such late night shifts. However, in practice, it is rather difficult to monitor whether a staff member actually carries out such duties in the absence of the supervisor, since such on-line communication is normally carried out at home instead of in the office. In close connection to this, if such activities are to be monitored by a professional or administrative supervisor, it calls into question whether the communication between the social worker and the clients should be reviewed and how it can be implemented. As alleged by the YMCA youth centre supervisor, such ICQ counselling would result in a complicated situation where the social workers 'continue to carry out their professional self at home and in private time".[5]

On the other hand, there is also an issue related to the service coverage or client catchment of such CMC counselling. It is advisable for social workers not to engage in CMC counselling for the youth members within the same centre. Since CMC may perhaps elicit very wild or unconventional patterns and contents from both the youth members and the worker(s) in response, it might cause some confusion in the role and image of the concerned social worker. The case might be that while the social worker engaging in CMC outside normal office hours may appear to be rather permissive in his/her CMC with the youth members, he/she might appear to be more restrictive when returning to the normal centre setting in which rules and regularities are to be observed.

There are also lessons to be learnt by the social work practitioners. Although there are inevitably some limitations and drawbacks inherent in CMC, it nonetheless has become an indispensable hobby of young people. Social workers need to modify their conception about CMC in general and CMC with their clients in particular. As long as there is a potential youth market who are less prone to approach social workers for help in direct contact, there is a need to provide the CMC channel as a means of support. In practical terms, social workers have to meet with the new wave of technological advancement by equipping themselves with the relevant skills in CMC. They have to be proficient in using specific words, phrases, symbols, etc. More important still, they have to be more sensitive and incisive in detecting the underlying messages or emotions expressed in the text of CMC. In consideration of the possible incidence of confusion of role-conception by the youth towards the Net counsellor, social workers have to exercise self-discipline in the use of CMC. Specifically they have to maintain a clear conception and separation of the identity and roles in being an acquaintance or friend of the youth, or a professional counsellor.

As for the social work profession at large, there are more fundamental concerns. Professional bodies have to devise relevant codes of practice to guide and regulate the conduct of Net counselling. The American Psychological Association has devised a

[5] Admittedly, this problem is not entirely insurmountable. Previously, with the provision of telephone hotline services there can be 24 hour services provided by para counsellors on shift duties. Similarly, Net-counselling may perhaps be implemented in a centralised place with night-shift staff. The administrative as well as supervisory arrangements can still be resolved. Yet, the issue is the desirability and feasibility of allocating scarce professional human resources in operating 24/7 services.

special statement on professional relationship mediated via telephone and computer, as an adjunct to their elaborate professional code of ethics. At the time of writing, The Hong Kong Social Workers' Registration Board, which is an independent statutory body set up in 1998, vested with the authority to register and exercise disciplinary measures to social work practitioners, is in the process of finalising its code of practice. According to the author's review of the draft Code, there is no single indication of the drafters' awareness of the issue. Nonetheless, given that Net-counselling is still novel and rare in Hong Kong, it is understandable that the Board has not yet taken full cognisance of such an emergent need.[6]

All the above issues pertaining to administrative and professional accountability concerns have to be seriously addressed before a more systematic and fully fledged implementation of the provision of Net-counselling is to be launched.

Conclusion

To every wave of new technological advancement, there inevitably arouses a stage of initial resistance or scepticism of its possible adverse effects on human activities. As Shotton remarked, 'anxieties about technology have been ever-present"(1994:673). The increasing prevalence of computer-mediated communication (CMC) is also characterized by such a path of development. The above review of the phenomenon of increasing CMC and its adoption in professional counselling practice illustrates that there are inevitably both merits and limitations. The lesson to be taken is that one should capitalise on the strengths of a novel innovation while maintaining caution in fending off its possible adverse impacts.

With specific focus on the help-seeking behaviour of youth over the Net, it warrants the critical reflection upon the possible implications of such a phenomenon. Does it reflect the increasing alienation of the youth from the mass, adult-dominated society and culture? Or is it only a transient phenomenon like other trendy fashions? Does it reflect that youth are increasingly rebellious against the authoritative domination by the adults? Is it a more fundamental concern of the distortion of human relationships that has made direct face-to-face interactions discomforting or threatening? Does it indicate a trend of increasing social isolation or loneliness rendered by the prevalence of electronically mediated technology? All these are pertinent issues to be seriously considered. The helping professions in particular, who are at the front-line of the interface with their clients who venture to seek help via such a means, should be equipped both practically and conceptually in handling these issues.

In the academic field, there is also the need to have more research in exploration into the psychological roots of the CMC users, and the implications of CMC upon them in terms of social and other related aspects. Only by having a more informed utilisation of new technologies can humankind benefit from such innovations and human needs be met in more appropriate and desirable ways.

To close our discussion, it warrants quoting Shotton at length, to highlight the need to contextualise the increasing prevalence of computer-mediated communication in contemporary world. She remarked,

> *the philosophies of the current age positively cultivate the fulfillment of one's own end regardless of others; ... it is 'each man for himself' ... the desire for success, prestige, status, money, and to be at the forefront of technology are all encouraged ... Western culture is now object- and task-centered, the nurturing, caring society seems all but to have disappeared ...This could be described as a 'schizoid' era, with the Dependents [on computer-mediated communication] merely conforming to this image. (Shotton, 1994:684-5).*

[6] In fact preceding the establishment of the Registration Board, the HK Social Workers' Association was the professional body in Hong Kong with a code of ethics for social work practitioners. Yet, the Code also did not include any guidance for practitioners in engaging in Net-counselling.

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Face-to-face and globally connected? 'Community' in the Network Society

Conference review by Susan Kenyon

A one-day conference organised by the Community Development Foundation in collaboration with the ESRC 'Virtual Society?' programme and the Active Community Unit of the Home Office
16 May 2002, Said Business School, Oxford, UK.

'Community' in the Network Society' brought together a multi-disciplinary and multi-sector audience, to hear prominent figures from the national and international stage discuss the impact and use of technology upon and by society and community. Both speakers and audience held a balance of theory, observation and practice; and a balance of scepticism and enthusiasm for the concept of the online community. Under the chair of Ruth Lister, Professor of Social Policy at Loughborough University and the watchful eye of the co-organisers, Kevin Harris, (Community Development Foundation) and Steve Woolgar, (Virtual Society? programme), the conference produced considered presentations and useful debate, as delegates sought to understand the effect that online connectivity is having upon communities and social relationships.

The key research questions for cyber sociologists centre around the issue of the impact of information and communications technologies (ICTs) upon 'community' –more specifically, examining the nature of community online, alongside research regarding the impact that being online has or could have upon the offline community.

Two key questions occupy the cyber sociologist's thoughts. Firstly, *how valid is the concept of community online*? Is it valid to suggest that online communities can exist, independent of temporal and spatial constraints, where misrepresentation and deception can occur; people do not meet face to face; and communities are based upon interest and, thus, exclusivity? Secondly, *what effect does or could the online world have upon offline community*? Will geographical communities suffer and human relations decline as people are increasingly removed from their offline world; will those who are not online find themselves increasingly excluded and socially isolated from any sense of community; or, conversely, could ICTs be actively employed as a tool to build geographical community? Such questions were central to the day's debate and,

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unusually, in my experience of conferences discussing the social impact of the Internet, many presentations were based upon observed study, rather than purely upon theory, reflecting the extent to which study in cyber sociology has progressed in recent years.

The conference opened with a presentation by Keith Hampton, from Massachusetts Institute of Technology, whose research findings persuasively challenge dystopian views regarding the effect of the Internet upon community. Hampton reported research that was undertaken during a two-year ethnographic study, during which time he lived and worked in Netville, a newly built residential estate in suburban Toronto, Canada. Approximately 60 per cent of the houses within Netville were equipped as 'smart homes' from their construction, containing free, high-speed Internet access and free online services, including local discussion forums, jukebox and health services – the perfect geographical site on which to study online interactions, the development of both online and offline community and, by virtue of serendipity (that is, the failure of the developer to wire up every home), to compare interactions between those both on and offline.

The principal aim of Hampton's research was to examine the impact of ICTs upon community and social networks in Netville, to allow better understanding of the potential role of ICTs in encouraging, or even facilitating, the development of (geographical) community. Hampton's informative review and critique of studies that identify a link between the rise of technology and the decline of community, written from the 1880s to the present day, betrayed the direction that his research findings were to take. The majority of studies into the impact of the Internet suggest that it reduces both face-to-face and telephone-based communication with friends and family, reduced community involvement, a reduction in the size of social networks and an increase in loneliness and isolation. Hampton, however, suggested that these findings might be incomplete, failing as they do to include an assessment of the import of Internet-based communications in community and social networks.

Both qualitative and quantitative evidence was cited to illustrate the following findings from the Netville study. Firstly, Internet-based communication did not substitute for or decrease face-to-face or telephone-based communication, or overall social contact. Rather, online contact *lead to* face-to-face contact and community involvement, in barbecues, parties, information sharing, neighbourhood watch and collective action. Secondly, Internet use did not reduce the size and scope of residents' social circles. Instead, the opposite was observed, with online residents talking on a regular basis with twice as many residents; recognising three times as many local residents by name; and making four times as many telephone calls to fellow residents, as those who were not online.

Hampton's thesis was challenged in the second plenary, as Alison Gilchrist, from the Community Development Foundation, suggested that the three 'I's of community – identity, interaction and influence –cannot be fulfilled online. Gilchrist, whose views were significantly less popular with the more technophile audience than were Hampton's, gave a theoretical yet engaging presentation, in which the psychological importance of face-to-face networking in building informal social networks was stressed. Community, it was suggested, requires association and the existence of common goals, or interests; attachment to others; and coalitional alliances between actors, which cannot easily be recreated online, in large part because of the limitations of this mode of communication, including the lack of visual indicators, the opportunity for misrepresentation and deception, the suppression of diversity and lack of an emotional or empathetic bond between online communicators.

For Gilchrist, community cannot be developed without 'faces and spaces'. However, the reaction from the audience indicated little agreement. Gilchrist was challenged over her portrayal of virtual networking as impoverished in comparison with its physical counterpart. Challenges were made to Gilchrist's suggestion that one cannot have serendipitous contact via the Internet; that online communities are necessarily

homogenous, tending towards exclusion; and that geographical communities are necessarily heterogeneous and welcoming. As participants suggested that online interaction can overcome problems inherent in offline communication, including those of time, space and disability, Gilchrist seemed powerless to refute suggestions, many of which were supported by case study examples, that a richer, rather than a poorer life, as she suggested, can be gained through participation in online community.

Parallel sessions, both between and following the two plenary sessions, produced more informal discussion about experience and practice of online community building. Jan Steyaert, from Fontys University, discussed the Dutch experience of technology and community. Exploring the digital divide, deconstructing the concept of community and exploring the historic relationships between community and technology, Steyaert presented research that explored the effects of the introduction of community technology centres (CTCs), or 'digital incubators', in four cities in The Netherlands.

The aim of the research has been to explore the conditions under which technology can enhance and strengthen community. Steyaert's balanced presentation highlighted both the positive and negative community impacts of CTCs and community 'web streets', concluding in true academic tradition that more research is essential if we are to understand not only the impact of technology on community, but also the impact of community in tailoring technological applications to fit their individual needs. Sue Webb presented the aims and achievements of Women Connect, a national organisation which works with women's groups to support, encourage and enable Internet use, to an all female audience, before opening the debate to include wider discussion of the influence of gender upon society, technology, work –and vice v ersa. The experience of Women Connect holds valuable lessons for all community technology projects. Most importantly, Webb emphasised the need for a focus upon the needs of the individual group and, within this, the individual user, incorporating local delivery of training, mentoring and long-term support, both technical, organisational and psychological, each essential if these groups are to be able to share information, resources, to communicate and, ultimately, to be empowered through being online.

Kevin Carey, from HumanITy, an organisation established to tackle issues of Internet-related social exclusion, presented a critique of the concept of the online community, discussing the potential exclusivity of this 'community'. Carey initially took the example of visual impairment to illustrate the inaccessibility of computer-based information and the homogeneous characteristics of the online population. With as many as 50 per cent of the population being excluded from the Internet because of accessibility issues, the concept of community online was rejected, on the basis that community requires and must incorporate difference –a suggesti on and definition of community that was debated following the presentation, in the panel-based discussion that followed and, of course, over lunch and during coffee breaks! Helen Thomson, of the Countryside Agency, considered Internet-related social exclusion in rural areas, including issues of affordability, training and the physical provision of telecomms infrastructure. However, she also considered the potential for ICT to act as a facilitator of inclusion. Whilst social exclusion in the countryside is similar to that experienced in urban areas, it is exacerbated by constraints on physical accessibility, inherent in more isolated areas. The Internet, Thomson suggested, could help to overcome mobility-related exclusion and living space constraints, allowing rural residents to participate in local democracy, to communicate with people with similar interests and with friends and family outside of the locality, despite geographical separation, the latter particularly important for newcomers and for school children, whose school friends are often spread over a wider geographical area than is common for those in urban and suburban areas.

The conference reconvened for a panel discussion, enabling participants to raise questions about the day's debates. As could be expected, questions were centred upon the nature of community; the nature and possibility of online community; and the benefits and disbenefits of the online world. Finally, Vicki Nash, of the Institute for

Public Policy Research, provided a brief review of the conference, selecting three key messages from the day's discussions.

Firstly, that further understanding of whether and how computer-mediated communication (CMC) can add value to social interactions is essential if ICTs are to be used to the benefit of community and society. Secondly, that we should seek to observe the extent to which CMC is shaping, or will shape, new patterns of social networks, overcoming geographical ties to, for example, influence where we live and work, to ensure that the impact of these new patterns of social networks in possibly creating exclusion is understood. Nash's final remark centred upon the positive use of CMC to build relations across communities and social groups, creating new communities of understanding and allowing social mobility between disparate groups.

The aim of the review thus far has been to present an impartial overview, rather than a critique, of the conference and the presentations. However, I feel it appropriate to offer some comment to this effect in this concluding paragraph. Overall, the conference was enjoyable, providing valuable networking opportunities and the author was pleased to find evidence-based studies included in the programme. However, the ideological nature of the 'online community?' debate came to the fore in a number of presentations. This division along ideological lines, between utopians and dystopians, has the potential to damage the credibility of existing and future research in this area, if it is allowed to shape the direction of research and research findings. Without impartial, evidence-based study, the cyber sociological community will struggle to influence government policy towards the appropriate use of ICT within society. With the government debating, for example, the extension of online learning, e-government and virtual access to 'mobility', each in a bid to overcome exclusion from participation, sensible discussion is essential to ensure that the information society is inclusive for all.

Internet Ethics

Book review by Carol Bond

Langford D (2000)
Internet Ethics
Macmillan Press, Basingstoke
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Duncan Langford edits this book which takes a broad view of Internet ethics, covering many of the social, legal and moral issues that users of the Internet should consider. It has 8 chapters by contributing authors, chosen to provide a mix of backgrounds, experience and nationalities. A short introduction to each of the authors is given, although surprisingly the editor isn't included in this, only receiving two lines on the back cover telling us that he is a Computing Fellow at the University of Kent, and an acknowledged international expert in the field.

The book is very easy to read. Each author introduces their chapter, setting out clearly what is being discussed in it. An overview of the contents of each chapter is given below. As little technical language is used as possible and, where it is necessary, it is explained in terms that non-technical readers should be able to understand. The book touches on quite a few principles and theories in the area of ethics and morals, and again enough detail is given to ensure that people who are not familiar with these concepts can understand the arguments being made.

Given the global nature of the Internet Langford has tried to ensure that the contributing authors cover a variety of both backgrounds and nationalities. To ensure that a wide variety of national viewpoints are considered Langford has interestingly also used the services of commenting authors from 10 countries. In this novel approach their comments on each chapter are included at its end. These range from a couple of sentences, pointing out where the experience on a single point or issue are different, to a 1800 word 'essay' where there are significant national or cultural differences on a whole chapter.

The Internet is still developing rapidly, both in terms of the technology and what can be done, but as importantly, in terms of the culture that is developing amongst users. In the preface we are told that this is a book for people concerned with values, and is aimed at everyone using the Internet, be it for professional or personal use. It actually goes further than that, introducing non-technical readers to a little of the

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underlying technology, and the technical ones to some of the more philosophical aspects of the Internet. It should make all readers very aware of the potential power of the Internet in the global information age.

This book does not answer all the questions, indeed it never sets out to, but it is very successful in making the reader think about the issues connected with being an Internet user, and the impact that the Internet is having on the creation of a global community.

It would be nice to think that all Internet users would be interested in reading this book, as it raises many interesting and pertinent issues. I think in reality that is unlikely, however anyone who uses the Internet professionally in any of the human services should put this book high on their list of reading materials. It is essential reading for anyone who manages a web site or any other Internet based service to support their professional work with service users.

Duncan Langford provides the introduction and overview in chapter one, which sets out the background to the book, the issues that it will be covering and how it is organised.

David Beckett addresses the issues of Internet Technology in chapter two. He gives an interesting and concise summary of the development of the Internet. Starting from the early days of the Advanced Projects Agency (ARPA) in the USA setting out in 1966 to find technical solutions to people working together, leading to the creation of ARPANET in 1968. We are taken through the early days of the Internet, the development of email and mailing lists, the creation of Usenet, and the development of the Internet culture of openness and sharing. The impact of the World Wide Web, search engines and commercialisation appropriately precedes a discussion on security and privacy, and the chapter is finished by considering the current advanced web technologies in use and how these may develop in the future.

The question, 'What is new or unique about Internet activities?"is asked by John Weckert in chapter three. By way of introduction we are reminded that what is now being done on the Internet have always been done, the only difference is the medium used. People have always communicated, only before it was by letter, or telephone rather than through email or chat groups. The substance of the chapter however is a discussion of the new issues introduced by the Internet, those of its global nature, the scope for anonymity, the possibilities for interactivity and its uncontrollable nature.

A logical sequence is followed, with Herman Tavani addressing Privacy and Security in the next chapter. Tavani starts by considering some of the definitions and theories of privacy. He then explores the question of why privacy is important in relation to the Internet. The global differences in the concept of privacy are also explored. How the Internet can threaten people's privacy is discussed, including an overview of data-gathering, data-exchanging and data-mining activities on the Internet. The chapter concludes by discussing some of the proposals that have been made regarding Internet privacy and security policies.

In chapter five John Mawhood and Daniel Tysver talk about Law and the Internet, giving a disclaimer that the chapter is not legal advice, and should not be relied on as a substitute for legal advice. The advice given is general, and based on US and European legal principles. They start by stating that the legal principles governing the Internet are still in flux, and go on to give an overview of key areas of legislation. The chapter is mainly aimed at people creating web pages, covering copyright, patents, trademarks, defamation, and linkages to other sites.

In chapter six, The Internet and Varieties of Moral Wrongdoing, Jeroen Van Den Hoven explores various aspects of moral behaviour and ethics and applies them to users of the Internet. In the introduction he states that the Internet provides an outlet for the darker side of human nature, and that the full spectrum of immorality will soon be covered online. He identifies four problems, those of jurisdiction, application,

individuation and moral ignorance, and concludes with some suggestions for moral rules on the Internet.

A change of focus is taken in chapter seven, when Richard Spinello discusses the importance and challenges of maintaining information integrity. The importance of maintaining confidentiality of individuals' information is quite rightly stressed, however interestingly the amount of potentially commercially valuable information that some businesses choose to make public on their web sites is also discussed. The well publicised threat from viruses and from hackers is considered, along with the activities of 'cybersnoops', and a good range of security countermeasures are explored.

Deborah Johnson discusses Democratic Values and the Internet in chapter eight, arguing that contrary to popular thinking the Internet is not inherently democratic, but that it is a tool with the ability to facilitate democracy. The way that the Internet enhances, or threatens, democratic values is discussed, and the chapter concludes by touching on the amount of democracy involved in the governance of the Internet itself.

The final contributed chapter looks at the responsibilities of computer professionals, and sets out a professional's code of ethics. The title may be somewhat misleading, as whilst it is aimed at people who are developing programes and services the information is as essential for people who are using them. Indeed towards the end of the chapter the authors asks, and answers, the question, why should non-professionals pay attention to a professional code?

In his concluding chapter Langford discusses how the internets' move from a closed network used by academics and technical people to one used by a much wider variety of people, with different views, interests and understanding is changing the nature of the medium. He argues that the interests of people involved in its early development have led to the debate until recently being on the technical development of the Internet. The widening of the user base has lead to a shift in focus to the human issues involved in its use.

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