Social inclusion and communications: a review of the literature

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Ofcom
OFFICE OF COMMUNICATIONS

The Consumer Panel was established under the Communications Act 2003 as the independent research and policy advisory body on consumer interests in telecommunications, broadcasting and spectrum markets (with the exception of content issues).

Working from a firm evidence base, we advise Ofcom, the communications regulator, and others on how to achieve a communications marketplace in which all consumers can confidently choose and use products and services that suit their needs.

The Consumer Panel sets its own agenda but works constructively with the Ofcom Board. This enables us to give strategic advice on policies early on in their development – before they are consulted on – so as to build consumer interests into Ofcom's decision-making from the outset.

The Consumer Panel is made up of part-time members with a balance of expertise in consumer issues in the electronic communications sector. There are members representing the interests of consumers in Scotland, Wales, Northern Ireland and England.

Consumer Panel Members are appointed by Ofcom, subject to approval by the Secretaries of State for Trade and Industry and for Culture, Media and Sport. They are appointed in accordance with Nolan principles for two or three year terms and are eligible for re-appointment. The Consumer Panel is assisted by a small support team.

Foreword

The Ofcom Consumer Panel takes the digital divide in our society seriously and while much of the debate around this divide is distinct from discussions about social inclusion, there is a strong link between the two. This is due to the significant role the communications sector now plays in how people engage in society – more so than in the past.

To explore the interconnection between social and digital inclusion, we commissioned a literature review of social inclusion and communications. It sets out the common themes that run through the publicly available research, and identifies gaps where further research is needed.

This review has helped inform our digital inclusion workstream, in which we are working with key stakeholders to devise policy solutions that help close the divide. This workstream has included research publications on Connecting older people[1] and Children and the internet[2]. These were launched at workshops with policy-makers and representatives of industry and the third sector, where policy recommendations were formulated. Shortly we will publish qualitative research that reveals the experiences of vulnerable people as they switch to digital television.

A broad national and international policy context also exists for digital inclusion. In the UK, the Government will be reviewing its Digital Strategy in 2008 to update it and take it forward. At the European level, the UK Government and other Member States adopted the EU Riga Declaration on e-Inclusion in June 2006. The declaration set targets for Member States to increase rural internet access, and to increase both access to, and use of, the internet among excluded social groups by 2010. Importantly, in 2008, an EU review of the Universal Service Obligations is expected.

We believe that this literature review on Social Inclusion and Communications makes an important contribution to the wider debate on social and digital inclusion and how we, as a society, can ensure that new technologies do not compound the social exclusion of the most vulnerable groups but help to include them in society.

Colette Bowe
Chairman, Ofcom Consumer Panel
November 2007

[1] www.ofcomconsumerpanel.org.uk/information/research-policy.htm#Older
[2] www.ofcomconsumerpanel.org.uk/information/research-policy.htm#Children

SOCIAL INCLUSION AND COMMUNICATIONS: A REVIEW OF THE LITERATURE

FINAL REPORT

Stephen Sinclair, Glen Bramley,
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This project provides an overview of recent UK research into the relationship between communications technologies and social inclusion. The research identified 177 published UK sources covering the period 2001 - 06, and analysed the key recurring themes and the findings from this literature to identify lessons for policy and further research requirements.

Main Findings

- Social inclusion means participating as a full member of society and the capacity to realise the conditions of social citizenship.
- Information and communications technologies (ICT) and literacy are increasingly necessary to engage in everyday social activities - to access public information, communicate with social networks and secure employment.
- There is considerable policy and research interest in the 'digital divide' and the potential social inclusion implications for those without access to ICT. However, definitions of the digital divide are often simplistic and do not consider the different forms of ICT which exist nor the different levels of access, use and engagement with these which are possible.
- Using simple measures of ICT access, there is considerable evidence of a persistent digital divide in the UK, with low income households, older people, disabled people, some minority ethnic groups, households without children, and deprived communities having lower ICT access.
- Low income and the cost of ICT are important contributors to this divide, but other issues are also significant. These include a lack of interest in, or perceived relevance of, ICT; lack of skill and confidence in using ICT; and concerns about the suitability of public ICT provision and training.
- Policy responses which concentrate on improving the public availability of ICT are only partially effective in reducing the digital divide. More targeted

measures are required to tackle the particular barriers which different excluded groups face.

- Further research is required to understand the following aspects:
    - the development of ICT engagement over time
    - the impact of ICT use on education
    - the experience of disadvantaged consumers in the ICT market
    - the communications preferences of excluded groups once they have had the opportunity to develop an informed opinion, and
    - likely future trends in ICT and service provision

Executive Summary

Introduction

This analysis was undertaken to contribute to the understanding of the relationship between information and communications technology (ICT) and social inclusion.

The objectives of the project were to review research into social inclusion and communications carried out in the UK over the last 5 years, highlight the key findings in this literature, summarise conclusions from policy analyses, and identify relevant research priorities for the Ofcom Consumer Panel.

The project involved a systematic search for relevant material using the main social science bibliographic databases and search engines. 177 UK sources were identified, and the most important and representative examples of these were analysed.

The review was carried out by Glen Bramley, Director of the Centre for Research into Socially Inclusive Services (CRSIS) at Heriot-Watt University, and Stephen Sinclair, Louise Dobbie and Morag Gillespie at the Scottish Poverty Information Unit (SPIU), Glasgow Caledonian University.

Social Inclusion and Communications

Social inclusion means possessing the resources necessary for effective participation in social and economic life. Access to, and the capacity to make effective use of, ICT have potentially important implications for social inclusion.

ICT are increasingly important to access public information, purchase services, access entertainment, and maintain relationships through communication. ICT literacy is also essential for most current jobs.

Defining and Measuring the 'Digital Divide'

Unequal access to ICT has become known as the digital divide. This is often thought of in terms of access to personal computers (PCs) or the internet, and that the divide exists between those who have such access and those who do not. However, this simple binary division overlooks the many different types of ICT which exist and the various levels of communications engagement which are possible. Analysis of ICT and social inclusion must recognise that different groups may have different degrees of engagement with different technologies.

The Distribution of ICT Access

There is a considerable and consistent body of evidence confirming that particular groups do not have access to, nor make equal use of, a range of ICT. Research and evidence is more readily available about access to PCs and the internet than other ICT.

Office of National Statistics survey data from 2005 shows that over 60% of UK households have a home computer, approximately 56% have internet access at home, and 30% a home broadband connection. Access to such facilities is strongly correlated with income and age, with lower income and older people less likely to have these technologies. Other factors associated with lower access to these ICT are: not being in employment, illness/disability, households without children, and living in a deprived area.

ICT Access and Communications Inclusion among Particular Groups

The degree of access to and engagement with ICT among children and young people is associated with household income levels. Despite considerable government investment in expanding ICT provision in schools, several studies identify a widening divide in ICT engagement and skill between children in higher and lower income households due to the greater out-of-school access which the former have. There is no evidence that girls and boys have significantly different levels of access to, or competence in, ICT.

Older people are less likely than other groups to show interest in ICT and have less opportunity to develop ICT skills through employment or education. These factors, rather than income, are the main reasons for their lower digital engagement.

Some disabled people encounter particular problems with the usability of ICT equipment and access to public provision. Carers face barriers in making effective use of ICT, including lack of access to equipment, costs, limitations of time, lack of interest and lower ICT skills.

Access to, and use of, ICT is lower among some minority ethnic groups than the white UK population. This is partly due to socio-economic factors, but some minority

ethnic communities whose first language is not English encounter literacy problems using some ICT.

The gender division in ICT access and use is no longer apparent from general surveys. However, there may continue to be differences between men and women in terms of the time they spend on the internet and activities undertaken online.

There is strong evidence of a correspondence between the digital divide and other forms of social exclusion, both in terms of the groups involved and some of the main causes of inequality. The economic and social forces which drive the development of the communications market are unlikely to benefit groups who possess little effective demand. Although certain forms of ICT may become more widely available over time, it appears likely that a divide will persist in others (e.g. broadband) which will limit the potential communications engagement of disadvantaged groups.

Policy Recommendations

The literature on communications exclusion offers several proposals to enhance digital inclusion:

- Stimulate interest in the opportunities which digital communications offer excluded groups

- Provide ICT training which is suitable to the interests and requirements of different groups, e.g. basic introductions for older people and include childcare provision for those who need it.

- Provide accurate information on the real costs of ICT equipment and internet access

- Build local ICT access and training provision upon existing popular and successful community facilities

- Involve local people in the development of ICT provision, and tailor local community and public ICT services to the particular needs of different groups and communities

- Use local mentors and trusted intermediaries to attract excluded groups to public ICT facilities

- Provide sustained and flexible funding to allow community projects to respond to local requirements

Further Research Requirements

Although much is known about the scale and causes of communications exclusion, there are still several knowledge gaps and outstanding research requirements:

- Improve monitoring and evaluation of initiatives, including analyses of the contribution of ICT and digital inclusion policies to wider social inclusion objectives and outcomes

- Identify the relative importance of income, age, ethnicity, and other factors in explaining access to and attitudes towards ICT through quantitative analysis of existing survey data

- Analyse the digital engagement 'careers' of excluded individuals and groups by tracking the development of their access and use over time

- Assess the independent effect of ICT access and engagement on children's educational attainment through quantitative analyses of survey and qualifications data

- Explore why some young people are low users of ICT, and how parents might be encouraged to increase children's interest and uptake of ICT

- Explore how disadvantaged consumers experience the ICT market and the treatment they receive from service providers

- Undertake deliberative qualitative research which allows excluded groups to test ICT and develop informed opinions about different options

- Explore with service providers what the future holds in terms of ICT development and services, and any social inclusion implications of this

CHAPTER ONE: PROJECT BACKGROUND

Overview

This chapter describes:

- the context and purpose of this Report
- the objectives and key questions the study addressed
- the methods used to gather information
- the organisation of the Report

BACKGROUND

1.01 Access to, and the capacity to make effective use of, information and communications technology (ICT) have potentially important implications for social inclusion. The ability to use ICT has been described as 'the indispensable grammar of modern life' and a fundamental aspect of citizenship in the information age'[1]. For example, it is estimated that between three quarters and four fifths of jobs in the UK now require ICT skills[2], and ICT ability has been described by the Department for Education and Science (DfES) as the third basic life skill, after literacy and numeracy[3].

1.02 It has been known for some time that a significant proportion of contemporary British society does not have access to communications technologies such as the internet[4]. Such disparity in communications access and use may widen the gap between the information rich and the information poor, with potentially damaging consequences for employment opportunities and other forms of social participation. The recent UK government digital strategy - *Connecting The UK* - emphasised the risk of widening social divisions and exacerbating exclusion associated with developments in communications technology:

> **'Information and communication technology has become all pervasive in our working lives and increasingly in our homes as well. How we adopt and use this technology will be crucial for our future prosperity. But there is evidence of a digital divide with some groups largely excluded from benefiting from access to the internet'**[5].

1.03 This gap in ICT access and use has become known as the 'digital divide' or digital exclusion, and been the subject of considerable public attention and research. The Ofcom Consumer Panel[6] are interested in what value communications might add to peoples' lives, and how it might act to enhance social inclusion in this area. Consequently, the Scottish Poverty Information Unit (SPIU) and Centre for Research into Socially Inclusive Services (CRSIS) were commissioned in December 2006 to undertake a review of published research into communications and social inclusion in the UK.

PROJECT AIMS AND OBJECTIVES

1.04 The overall aim of the project was to provide an overview of the current state of thinking about and UK research into the relationship between communications and social inclusion, and provide a balanced assessment to inform the Consumer Panel's future research priorities.

1.05 Communications in the context of this review refers to the Consumer Panel's three priority interests:

- Telephony - both landline and mobile
- Broadcasting (TV and radio) - in particular digital TV (DTV)
- Internet - in particular broadband access and use

1.06 The objectives of the project were to:

- identify and review relevant research into social inclusion and communications carried out in the UK over the last 5 years
- highlight the key themes and findings in this literature
- summarise conclusions from analyses of policy initiatives and interventions and other practical lessons for policy
- inform the Ofcom Consumer Panel on what further research is required

1.07 Key questions which the review was required to address were:

#1: What is the definition and meaning of 'social inclusion' and what aspects should future research in this area cover?

#2: How are vulnerable groups commonly identified and described under this umbrella:
- those deprived through lack of access (blackspots)?
- those deprived because of socio-demographic factors?
- other factors?

#3: What is currently known about the role of communications in people's lives and the social inclusion agenda?

#4: What are the communication market issues and experiences among those who experience multiple and compound detriment?

1.08 Secondary questions to address were:

#5: What are the access and usage barriers to obtaining communications services?

#6: What services and equipment do people want?

#7: What is the impact of not having access to communications services?

#8: What coping techniques are used by people who do not have ICT access?

#9: What ideas for solutions to access problems do excluded communities have?

ADDRESSING THE OBJECTIVES

1.09 The volume of existing research material available to answer these questions varies:

#1: *Definition of concepts:* there is a considerable body of conceptual and theoretical work in the social policy literature which may be drawn upon to inform the analysis of social and communications inclusion (see chapter 2)

#2: *Vulnerable groups*: a substantial volume of survey evidence from a range of sources provides a consistent and reliable picture of the patterns of ICT access and use in the UK (chapters 4 and 5)

#3: *The role of communications*: this issue is less well covered in the current literature, although some UK government digital and social inclusion policy is informed by the ICT experiences and uses of particular groups. Often this data is based on qualitative case study analyses, which does not undermine is reliability but does limit its generalisability (chapter 2)

#4: *Communications market experiences of the multiply deprived*: the principal source of information on this issue is Ofcom and the Consumer Panel's own research[7] (chapter 3), however further research is required into certain aspects of this experience (chapter 7)

#5: *Access and usage barriers*: a significant amount of survey data is available indicating what the main barriers to ICT access are and how these vary for different groups (chapters 3 - 5)

#6: *Preferences for services and equipment*: this is a less developed area of research, although some survey and focus group studies enable inferences to be made and also provide some direct information on preferences for different options. However, this is another issue on which further research is recommended (chapter 7)

#7: *Impact of communications exclusion*: there are many assumptions and inferences about the negative effects of lack of ICT access and use. While many of these are reasonable and are likely to become more pressing as

ICTs become more prevalent and important in service delivery, nevertheless, there is a lack of actual evidence of the damaging consequences of communications exclusion and its detrimental impacts in other life chances (chapter 2)

#8: *Coping techniques*: little evidence was found on what digitally deprived people do in response to their position. Some studies indicate the importance of family, neighbour and social networks to facilitate ICT access, and there is some evidence related to uptake and use of community and public ICT facilities. However, many individuals and groups (particularly older people) who might be regarded as digitally excluded do not feel deprived by their lack of ICT access and therefore do not have a response strategy to this as such; rather they make do with what they have and are comfortable with this (chapter 4). This relates to the question of what constitutes 'exclusion' in relation to communications (chapter 2)

#9: *Excluded communities' solutions*: this also is a less researched area. Some information is available on the general conditions which encourage uptake of new communications technologies, and it is possible to identify communications media with which disadvantaged groups are more comfortable (chapter 4). However, ICT engagement is a complex technical area in which excluded groups, by their nature, may not possess the knowledge to specify preferences for provision. This is therefore a further area requiring more investigation (chapter 7)

Research Methods

1.10 Details of the search strategy and analyses conducted are provided in Annexes 1 - 3. It was agreed that the review would cover the five year time period, 2001-06. This reflects the pace of change in this area, which makes many older sources redundant. In practice, a small number of studies from earlier were identified as potentially relevant and included in the review. The review searched for material in or using the most important bibliographic social science databases and search engines, as well as following references and citations in the texts consulted. A full list of sources identified is provided in Annex 4. The review was restricted to UK produced or published studies; however, a flavour of the international material and summary comparison of the subject profile in relation to UK studies is included in Annex 2, and references for non-UK sources included in Annex 5.

Structure of the Report

1.11 The next chapter considers the meaning of social inclusion and related terms such as poverty and deprivation. The relationship between social inclusion and communications is also discussed, and challenges to conventional understandings of the 'digital divide' which inform analyses of this relationship are considered.

1.12 Chapter 3 examines research evidence of the scale and distribution of inequality in access to and use of ICTs, and the main factors and circumstances associated with these inequalities.

1.13 Chapter 4 discusses geographic inequalities in ICT access and uptake, focusing on deprived and rural areas, and the forces which contribute to these uneven distributions.

1.14 Chapter 5 examines evidence on the different groups vulnerable to communications exclusion (e.g. older people, disabled people and carers, some minority ethnic communities) and the main of the causes of this in each case.

1.15 Chapter 6 describes the main policy activities in this area and reviews findings from evaluations of ICT initiatives.

1.16 Chapter 7 summarises the principal policy recommendations from the literature and identifies outstanding gaps in knowledge and related research requirements.

CHAPTER TWO: SOCIAL INCLUSION AND COMMUNICATIONS

Overview

This chapter begins by outlining the main concepts in the field of communications exclusion and the relationships between these. The concepts discussed are:

- Social exclusion
- Deprivation
- Service exclusion
- Inequality, social justice and citizenship
- Communications inclusion

The second section of the chapter explores ideas of the 'digital divide' and how different forms of access and use of communications technologies relate to social inclusion and exclusion

THE NATURE OF SOCIAL INCLUSION AND COMMUNICATIONS

2.01 A battery of related concepts is used in discussions of social exclusion and communications. It is not easy to clarify the distinctions and relationships between these, but the following definitions provide a simple overview of the main features of the central ideas.

- ***Absolute poverty***: a level of income insufficient for subsistence and maintaining physical health
- ***Relative poverty***: a level of income insufficient to ensure participation in the normal standards of life in society
- ***Deprivation***: 'unmet need caused by a lack of resources of all kinds, not just financial'[8]
- ***Social exclusion***: 'the dynamic process of being shut out, fully or partially, from any of the social, economic, political and cultural systems which determine the social integration of a person in society'[9]
- ***Social inclusion***: a situation where 'individuals or areas do not suffer from the negative effects of unemployment, poor skills, low income, poor housing, crime, bad health, family problems, limited access to services'[10]
- ***Social justice***: 'how the good and bad things in life should be distributed among the members of a human society'[11]
- ***Citizenship***: the civil, political and social entitlements and obligations associated with full membership of society

Social Exclusion

2.02 Over the past 10 - 15 years the related concepts of social exclusion and social inclusion have emerged to the fore of social policies and analyses in the UK and other developed countries, particularly within the European Union. Although comparatively recent additions to the vocabulary of UK social policy, these concepts overlap with more familiar terms with a longer history. There has been some confusion between such terms as 'social exclusion', 'deprivation' and 'poverty', and they have often been used interchangeably. However, it has become accepted that while 'poverty' refers to insufficient financial resources to meet needs, 'deprivation' means a broader lack of resources and necessities, and 'social exclusion' describes a dynamic, inter-related set of circumstances which restricts effective participation in social and economic life[12]. The Social Exclusion Unit (SEU) definition of social exclusion highlights the broader scope of this concept:

> **'Social exclusion is about more than income poverty. It is a short–hand term for what can happen when people or areas have a combination of linked problems, such as unemployment, discrimination, poor skills, low incomes, poor housing, high crime and family breakdown. These problems are linked and mutually reinforcing. Social exclusion is an extreme consequence of what happens when people don't get a fair deal throughout their lives, often because of disadvantage they face at birth, and this disadvantaged can be transmitted from one generation to the next.'**[13]

Deprivation and Exclusion

2.03 It is not possible to draw a complete distinction between ideas of deprivation and social exclusion. Many discussions of these issues start from Townsend's definition of relative deprivation:

> **'People can be said to be deprived if they lack the types of diet, clothing, housing, household facilities and fuel and environmental, educational, working and social conditions, activities and facilities which are customary, or at least widely encouraged and approved, in the societies to which they belong'**[14].

2.04 This comes close to contemporary ideas of social exclusion, which also refers to multiple forms of deprivation. Some of these multiple dimensions include:

- Impoverishment: exclusion from adequate income and resources
- Labour market exclusion: unemployment and involuntary economic inactivity
- Service exclusion: lack of access to necessary facilities
- Exclusion from social relations: social isolation and involuntary lack of participation in what are widely accepted to be socially necessary activities[15]

2.05 Social inclusion has recently become a more favoured term than exclusion, particularly in government. Both express the same interest in the resources and conditions required for full and effective social participation. For example, The Centre for Analysis of Social Exclusion definition of social exclusion emphasises the centrality of enforced non-participation in this condition:

> **'An individual is socially excluded if (a) he or she is geographically resident in a society, (b) he or she cannot participate in the normal activities of citizens in that society, and (c) he or she would like to so participate, but is prevented from doing so by factors beyond his or her control'**[16].

2.06 Both social inclusion and exclusion also emphasise how conditions or problems may be multiple and linked, so that experience of one form of exclusion (e.g. low educational attainment) is related to a greater likelihood of suffering another (e.g. low employment/occupational attainment). Social exclusion therefore consists of a number of inter-related deprivations which restrict the opportunities of individuals, families and sometimes whole communities or neighbourhoods to participate in mainstream social life. As the then Secretary of State for Social Security noted, social exclusion does not apply only to individuals or households, it can also 'mean whole communities deprived of proper access to transport, to healthcare, and to financial services and other services essential for full and effective participation in society'[17].

2.07 In addition to being multi-dimension, social exclusion also refers to a dynamic condition which is relative to the norms of a particular society. This has implications for the analysis of social inclusion and communications. Firstly, individuals, groups and communities may move in or out of exclusion over time; at the individual level this is often associated with life-stage changes and associated impacts on earnings and needs, e.g. family breakdown, the birth of children, etc. This dynamic aspect assists in 'unpicking' the processes of poverty, and 'helps to suggest points in the plot at which policy interventions may be appropriate'[18]. Secondly, changes in consumption, expectations and what counts as 'normal' social activity (e.g. through the diffusion of new technological developments) mean that the requirements for inclusion are not static.

Service Exclusion

2.08 The dimension of social exclusion most directly relevant to communications would appear to be service exclusion and lack of access to necessary facilities. A number of different barriers may contribute to exclusion from services:

- Access exclusion: denial of services to certain types of applicant
- Condition exclusion: setting terms which might deter particular consumers
- Price exclusion: unaffordable costs or charges
- Marketing exclusion: promotion, image or delivery which deters certain potential users

- Self-exclusion: low uptake and use through lack of awareness, confidence, skill, etc.[19]

2.09 A potentially important implication of these different forms of exclusion is that barriers of access and cost are only two possible causes of exclusion. It is necessary to consider the extent to which any exclusion from communications may be attributable to other factors, such as lack of awareness or knowledge of options, low skill levels and 'communications literacy', or issues of design and usability.

Inequality, Social Justice and Citizenship

2.10 Inequality in resources, access or use of some facility is not necessarily the same as social exclusion. There are inequalities of access to resources and unequal outcomes across a wide range of dimensions. This raises the question of when an inequality becomes an injustice. It is not possible to go into this debate here[20]. Ultimately distinctions between acceptable inequalities and unjust exclusions involve value judgements based on ideas of social justice and conceptions of entitlement.

2.11 The position taken in this review is that inequalities might be considered unjust and a form of social exclusion if they lead to a significant compromise or denial of the rights of citizenship. According to Marshall, citizenship includes not only civil and political rights, but social rights, which he defined as 'the right to share to the full in the social heritage and to live the life of a civilised being according to the standards prevailing in the society'[21]. By this definition, those who are unable through inadequate resources to participate fully in normal social life experience a condition of 'partial citizenship'[22].

2.12 What should be included among the 'standards prevailing in society' at any particular time is also a matter of judgement which cannot be defined objectively. This entails a judgement on what is important and necessary for effective participation in everyday social life, and these opinions reflect the outlook of the viewer and the social conventions of the period. The *Poverty And Social Exclusion* surveys provide an insight into what a representative sample of the British population regards as those items and activities which no one should have to go without[23]. The most recent such survey was conducted in 1999, and at that time 71% of respondents regarded a telephone as a necessity, and 56% television as such. However only very small minorities accepted other forms of ICT as necessities: only 11% believed that a home computer was necessary, 7% a mobile phone, 6% access to the internet, and 5% satellite television. It is likely that opinions have changed in the last eight years, and more of these communications technologies have become accepted as standard by mainstream society, but this data indicates that the British public has not traditionally had a generous idea of deprivation and exclusion[24].

2.13 It is interesting to note that of the most recent indices of multiple deprivations in the UK, only that in Wales includes an indicator of access to ICT[25]. This largely reflects limitations in the availability of suitable data, but it could be

taken to imply that communications capacity is not officially accepted as a core feature of deprivation. This may be an increasingly untenable position as different communications media become essential to effective social participation.

2.14 Some commentators are sceptical both about the existence of a digital divide and arguments that any such inequalities constitute a form of social exclusion[26]. If people can access information or achieve the same ends by means than other than through ICTs without extra expenditure or any loss of quality, and do so in a way that they are more comfortable with, they could not be described as excluded through lack of ICT access. Of course any such preference must be based on a genuinely informed choice (see para 5.28 below).

Communications Inclusion

2.15 To argue the case for digital exclusion it is necessary to demonstrate that lack of access to or use of ICTs leads to negative consequences additional to those already experienced by deprived groups or communities. Foley *et al* argue that 'The presumption that adoption of ICT is beneficial, without any real attempt to understand the relationship between users and ICT, is an inherent feature of much literature'[27]. However, there is evidence that lack of access to ICT can reinforce disadvantage in a number of ways[28]. These may be direct (relating to access to services and opportunities) or indirect (relating to improved local relationships and social capital)[29]. The most direct and obvious negative impact is that lack of ICT access means an inability to acquire certain services or forms of information provided primarily or exclusively through particular means, such as direct access to information on NHS Direct. Similarly, the increase of computer technology in banking systems and changing customer preferences is affecting the provision of banking services and the number of local banks, with implications for reduced access, greater inconvenience and potentially increased costs for some users[30]. For children, not having ready access to computers or the internet at home puts them at a disadvantaged in developing their digital literacy and general learning[31]. The potential employment implications of this are obvious[32].

2.16 Conversely, the inclusive benefits of ICT access and uptake are evident. For example, representatives of socially excluded groups who had been using the internet for four years or more estimated they saved on average £268 per year[33]. It is not possible from the information provided to independently assess this calculation, but there are certainly potential savings through purchasing some goods and services through ICT, and online shopping has particular advantages for blind and partially sighted people[34].

2.17 A survey of local government IT professionals found that 47% believed that ICT could assist them address social exclusion problems and improve service delivery[35]. ICTs can facilitate service access and engagement among disadvantaged groups. For example, offering mobile ICT has been found to contribute to the greater social inclusion of homeless people, who can use

voicemail and email facilities as a 'virtual mailbox' to enable them to communicate with friends, family and helpers[36]. As one homeless respondent to a SEU study of communications inclusion explained: 'I use it for incoming calls, for jobs, hostel places, you don't want to be in the wrong place at the wrong time and miss out on a place'[37]. Mobile technology is also especially beneficial for travelling communities who face particular difficulties accessing public services[38]. Mobile phones can be also used to ensure that vulnerable people remain contactable, so that they their safety is increased and older people use mobile phones to stay in touch with their children[39].

2.18 Some disadvantaged groups have found e-mail to be a cheap method of keeping in touch both with personal contacts and public services[40]. For example, asylum seekers and immigrants use PCs and the internet to keep informed about events in their home country and access in their own language information about service and issues in the UK (e.g. immigration law). Disabled people and those leaving institutions are able to access information about public services and medical provision through the internet[41]. Disabled people also use PCs and the internet to keep in touch and maintain relationships; as one such user explained: 'You get brain dead at home with your own company, you feel isolated, you forget how to converse, the internet can give you freedom'[42]. Carers have reported that they have found the internet a quicker, more convenient and more flexible means of accessing information and services compared with other methods, such as the phone, personal visits or libraries. The internet was also the main source of information about the diagnosis of the person for whom they were caring[43].

2.19 Online forums and public e-consultations have been used to increase general civic engagement and participative policy-making[44]. Both the SEU and Digital Inclusion Panel claim that political engagement is enhanced by access to and use of new communications media[45]. Further consideration of the relationship between communications inclusion and social networks is included in chapter 4 below.

2.20 The Digital Inclusion Panel summarise the individual benefits of digital engagement under three headings:

1) Financial savings - price reduction of charged-for services, reduced costs of transmitting information, reduced travel costs
2) Time savings - reduced need for multiple submissions of data for different services, reduced travel time
3) Value-based benefits - improved information, reliability, choice and convenience, and greater access to services

2.21 Evidence of the negative consequences and positive benefits of ICT engagement presents a strong case for regarding the capacity for effective communications as an important feature of social inclusion. Given Ofcom's duty to promote the development and availability of accessible consumer communications equipment[46], it is reasonable to conclude that part of the activity required to fulfil this responsibility involves identifying the obstacles to ICT engagement and the solutions to tackle the deprivations which result[47].

THEORETICAL STUDIES AND CONCEPTUALISATIONS OF COMMUNICATIONS INCLUSION

2.22 Theoretical and conceptual studies of communications exclusion are necessary to clarify the nature of the relationship between ICT and social outcomes, such as participation and inclusion. A number of studies usefully articulate which forms of access, use and engagement with ICT are necessary to enable equality of involvement and status.

2.23 A recurring theme in this literature is criticism of the 'limited and rudimentary' nature of many analyses of the digital divide, and the simplistic notion of an opposition between those who 'have' ICT access (often equated with the internet) and those who don't which underpins much of it[48]. Selwyn raises four questions which challenge such ideas of the digital divide:

i. What is meant by 'ICT'?
ii. What is meant by 'access'?
iii. What is the relationship between 'access to ICT' and 'use of ICT'?
iv. How can we best consider the consequences of engagement with ICTs?[49]

Forms of ICT and Access

2.24 There are many different types of ICTs, channels, and media in relation to telephony (e.g. landline, mobile), broadcasting (e.g. digital TV), and the internet (e.g. broadband). These formats may be contrasted across a number of dimensions, e.g. function, cost, social pervasiveness, usability, capacity, functionality and quality of connection, among other features. Much of the debate over the digital divide focuses on PCs and internet access, which may be justified in certain regards, but could confuse an interest between means (technology) and ends (communication).

2.25 Similarly, many discussions of ICT access are simplistic and fail to consider that access need not equate with use nor meaningful engagement. A distinction has been drawn between the first digital divide (physical access to ICTs) and the second digital divide (actual effective use of these)[50]. A more refined classification of access involves the '5 C's' of digital inclusion: connectivity (access), capability, content, confidence and continuity[51]. This corresponds to Foley's discussion of the progression of ICT adoption, in which successive steps are taken along the path of (a) awareness, (b) access, (c) skills and training, (d) use, (e) impact[52].

2.26 As Selwyn observes: 'In theory... any notion of a "digital divide" must run separately (and even differently) through all these technologies and applications.'[53] It may even be that different factors are significant in shaping relative access and use of different types of ICT among different social groups and consumers. Simplistic notions of access fail to consider the possibility of such differences.

Forms of 'Digital Divide'

2.27 Measures of the digital divide based on ICT access or ownership are therefore inadequate to depict the complex patterns of engagement with the variety of technologies now available. Crang and Stephen for example, suggest that although some residents of relatively deprived areas may not have direct access to the internet, they may have neighbours, family or friends who provide such access and support[54]. They argue that ICT use is often more collective and collaborative beyond the household level, and that caution is therefore required over widely used official estimates of ICT access which assume individualistic measures.

2.28 Longley *et al* argue that the simple binary digital divide between ICT 'haves' and 'have-nots' has fractured into a more complex pattern of digital differentiation; they suggest that there are a range of attitudes towards ICT and eight levels of engagement:

- E-unengaged - groups with no access to electronic communications or technologies; often living in poorer areas; too old, poor or poorly educated to access ICTs
- E-marginalised - not averse to ICTs but lacking disposable income to buy or learn how to use them; often unskilled younger workers in areas of high unemployment
- Becoming engaged - junior white-collar workers who acquire their ICT competence through employment
- E for entertainment and shopping - moderately well paid blue-collar workers who use ICT as a resource for entertainment and obtaining information
- E-independents - who only use ICTS where there are obvious benefits
- Instrumental e-users - light users of ICT who use the internet to undertake transactions and manage their personal finances rather than to explore
- E-business users - those who work in a technology related business
- E-experts - very confident in their abilities to make online transactions and full use of electronic technologies; prefer online to inter-personal sources of information and are heavy users of e-mail[55]

2.29 As noted earlier, information is sparse about how people cope with their lack of ICT access. One study of disabled people asked the how they carried out their activities before they had access to the internet. This found that 60% used conventional alternatives such as the telephone and letters for keeping in touch, and a range of other sources, including TV, radio, magazines and books, to find information. Approximately one quarter used additional sources of information, principally the local library. Finally, just over 10% relied entirely or mainly on others for information and communications, usually relatives or friends[56].

Summary

2.30 This chapter described and discussed some of the key issues involved in the analysis of social inclusion and communications, i.e.:

- the principal concepts used in discussions of communications exclusion and the relationships between them
- the different forms of service exclusion which may operate
- how lack of access and use of ICTs relates to ideas of social justice and citizenship
- some of the uses of ICTs and the role which communications already or potentially played in the lives of deprived groups
- the meaning of the idea of a 'digital divide'
- some of the different degrees and forms of communications engagement which exist
- how disabled people have adapted to their lack of ICT access

CHAPTER THREE: ICT ACCESS AND TAKE-UP

Overview

This chapter provides an overview of recent UK survey data on levels of access to and use of different types of ICT, and trends in this over time. Data is provided on access to home PCs, telephone, television, and the internet; the main factors associated with variations in access to these are considered - income, age, and household composition.

INTRODUCTION

3.01 There is a conspicuous mode bias in the literature on the digital divide and communications exclusion. The bulk of the published analysis and commentary focuses on internet access; relatively little literature was identified for this review which looked specifically at digital TV or other technologies[57].

3.02 Bearing this in mind, and the limited conceptions of the digital divide upon which they rest, several studies provide aggregate information on the numbers of people with and without access to various forms of ICT. These are reported in a selective way here, highlighting key trends and patterns. Large scale household surveys carried out by government and other public agencies provide a picture of the trend of take-up of communications technologies over time, of the social profile of users and non-users, and some general indications of the geographic profile, based on categories of area. More sophisticated statistical analyses, beyond the scope of this review, can begin to separate out and identify the effects of particular factors (e.g. income, location), while taking account of other factors.

3.03 As part of this review analysis of data from the *Family Expenditure Survey* and *Expenditure and Food Survey* (FES/EFS), the *Scottish Household Survey*, and the Ipsos/MORI *Digital Tracker* commissioned by the Ofcom Consumer Panel was undertaken. This provides independent confirmation of the recurrent findings from those studies identified in the review which included survey evidence on ownership, access and use of various forms of ICT[58].

DATA AND TRENDS ON ICT TAKE-UP

PC Access

3.04 Figures 3.1 to 3.3 provide a picture of some key trends for Great Britain based on data from the FES and EFS, while Table 3.1 provides some of the most recent data from the *Tracker Survey* commissioned by the Ofcom

Consumer Panel. Further profile data for Scotland in 2005 based on the *Scottish Household Survey* is shown in Table 3.2. Figure 3.1 shows that home computers were available to just over a quarter of households in the mid-1990s and that this had risen to just over three-fifths by 2004/05. Table 3.1 suggests a further rise to two-thirds by 2006. This is important because PCs remain the main, almost universal mode of access to the internet (although this may be on the verge of changing). The role of home computer availability in placing a ceiling on home internet access is clearly illustrated by Figure 3.1; this is the likely explanation of the apparent slowdown in internet connectivity after 2001. Rather more than half of households had internet access by 2004/05 (Figure 3.1), rising to three-fifths (61%) by 2006 (Table 3.1).

Telephone Access

3.05 Mobile phone access provides an interesting comparator, having risen much more rapidly than home computer access and is now hovering around 80% of adults (Figure 3.1 and Table 3.1). Although not shown in Figure 3.1, landline telephone access has risen until recently and was approaching saturation (except in some of the poorest areas), as shown in Table 3.1 (90% of all adults have fixed phone). There is some evidence of a slight fall recently, probably through the shift towards use of mobiles, which are particularly popular with some deprived and socially excluded groups, partly due to the greater ability they have to control costs[59].

3.06 It could be argued on the basis of this data that, if we are looking for a universal medium of communication, for example in the context of commerce or public service delivery, the telephone, including the mobile, may have advantages[60]. However, restrictions on capacity and ease of use for some groups also restrict the potential of mobile phones as a means to tackle communications exclusion.

3.07 The availability of TV is not shown in these Figures, having been at saturation level for a long time. Of more relevance is the digital switchover, which was rising by 7% points per year and had reached 57% of households by mid-2005 (32% via satellite, 19% by terrestrial, 6% by cable). Table 3.1 shows that in 2006 74% of adults had some form of multi-channel TV suggesting that there has been an acceleration in digital switchover61. Ofcom's data shows that the recent rise in ownership of DTV has occurred across all demographic groups, but that the largest increases have been among those aged 45-64, C2 socio-economic groups, those with an annual household income of between £17,000 - £29.900, and disabled consumers62.

3.08 The groups identified as most resistant to adopting DTV in the future include people aged over 55, and disabled people, particularly those with hearing impairments or special needs[63]. People without stable or conventional accommodation (such as homeless people, and gypsies and travellers) are often unable to access DTV. Awareness of the possibility of accessing internet or e-mail via DTV is generally low among disadvantaged groups[64].

3.09 It is anticipated that some groups will face particular difficulties coping with the digital switchover. The Consumer Expert Group on digital switchover has argued that the mainstream market is not meeting the needs of more vulnerable users in terms of assistance, manuals, equipment, subtitles and audio description, and accessing the internet through DTV[65]. In response, a number of strategies have been developed to provide tailored support for those such as older people, disabled people, minority ethnic groups, people with limited literacy in English and socially isolated people, to ensure they are not involuntarily deprived of access to television after switchover.

Internet Access

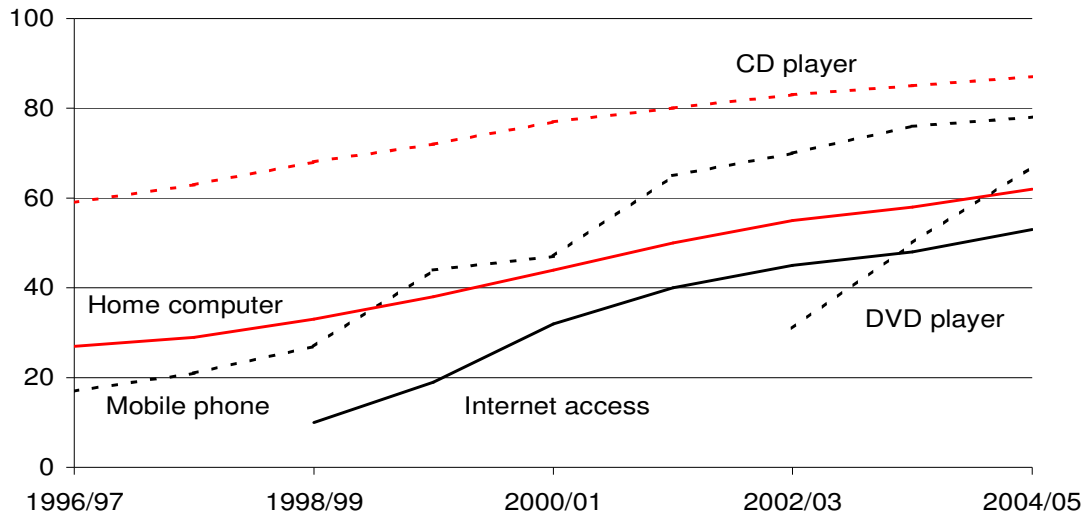
3.10 Figure 3.2 confirms the relatively slow recent increase in internet access. A more significant development in the last three years is the shift to broadband, which overtook narrowband (dial-up) in spring 2005, and by 2006 accounted for nearly three-quarters of home internet connections (Table 3.1). The picture is one of the already connected segment of the population increasing the power and quality of their service, rather than of the unconnected becoming connected[66]. The net result is therefore a widening digital divide in this regard. Once more, other sources confirm this pattern[67].

Figure 3.1

Households with selected durable goods[1]

United Kingdom

Percentages



1 Based on weighted data. Data for 1998/99 onwards include children's expenditure.

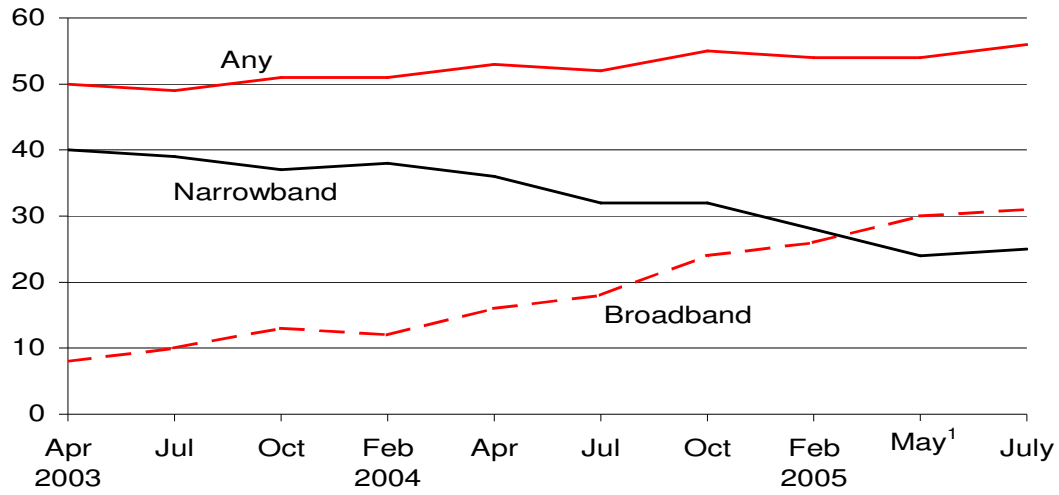
Source: Family Expenditure Survey and Expenditure and Food Survey, Office for National Statistics *Social Trends* 2006, Fig 13.1

Figure 3.2

Household Internet connection: by type

Great Britain

Percentages



1 From 2005 Internet access data was collected in May instead of April.

Source: Omnibus Survey, Office for National Statistics

Social Trends 2006, Figure 13.3

Table 3.1: Penetration of Communication Modes, UK 2006
(percent of adults in each group)

Mode	All	Age *65+*	Disability	Income *<£11.5k*
Fixed line telephone	90	98	91	78
Mobile phone (personal use)	80	48	63	66
Multi-channel TV	74	56	67	61
Personal Computer	68	35	47	35
Internet	61	29	40	26
Broadband	45	15	26	17

Source: Ipsos/MORI *Tracker Survey* for Ofcom Consumer Panel.

Income and Internet Access

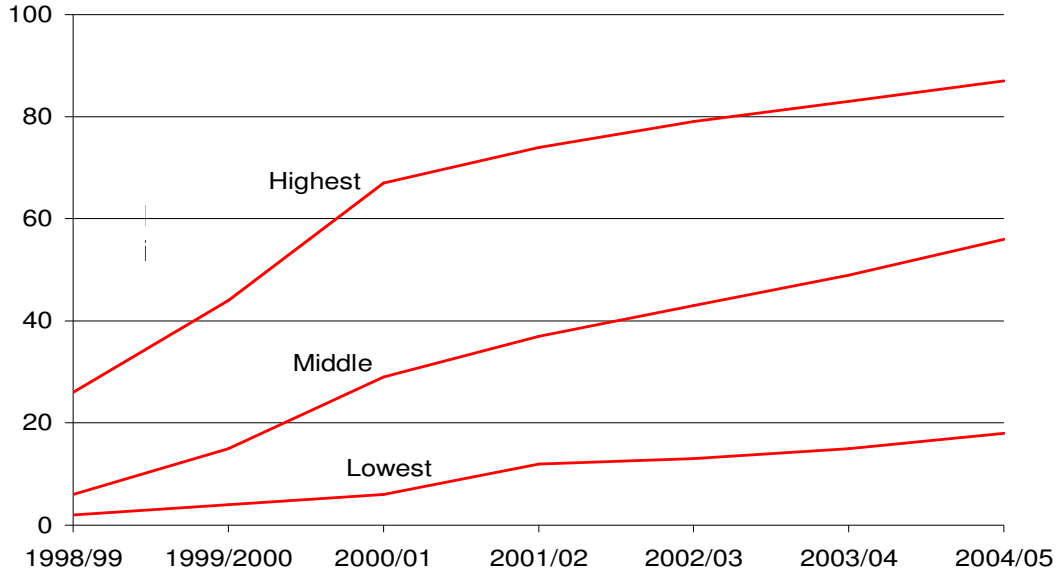
3.11 Figure 3.3 confirms the strong relationship of internet access with household income which has emerged from several studies[68].

Figure 3.3

Home internet connection: by household income quintile group

United Kingdom

Percentages



Source: Family Expenditure Survey and Expenditure and Food Survey, Office for National Statistics; *Social Trends* 2006, Fig 13.5

3.12 It is clear from the final column of Table 3.1 that low income is associated with markedly lower internet access (less than half the average rate). This closely matches and probably reflects the low level of home computer availability for low income households. Although low income households also have lower access to other communication modes, the discrepancy is much less marked for telephone and TV modes.

3.13 Table 3.2 below further confirms that income is one of the key determinants of internet access (this time using 2005 data from Scotland). The very lowest income group in this table has slightly higher internet access; this is probably due to the presence of students in this group. Of households in the second-lowest income group, only 19% have any internet access and only 10% have broadband; by contrast, among households with incomes over £40,000, 91% have internet and 62% have broadband[69].

3.14 For the fifth of households with the highest incomes, internet connectivity rose most rapidly up to 2000, and it is now a large majority (85%) of this group who have it (Figure 3.3). For middle income households, take-up was initially slower but there has been some catching up since 2001, so that a majority are now connected. For the lowest income group, take-up has never

increased at anything like this rate and remains low (less than 20% in 2004/5)[70].

Table 3.2: Access to Internet by Selected Characteristics, Scotland, 2005

	Internet		**Internet**	**Broadband**
	% adults		% households	%adults
Gender		***Income***		
Male	55	<£6000	22	14
Female	48	£6-10000	19	10
Age		£10-15000	30	14
Age 16-24	74	£15-20000	50	24
Age 25-34	71	£20-25000	62	33
Age 35-44	71	£25-30000	75	38
Age 45-59	54	£30-40000	84	46
Age 60-74	23	£40000 +	91	62
Age 75+	6	All incomes	49	28
		Urban / rural classification	**Internet**	**Broadband**
Disability	25	Large Urban	46	30
LT Illness	28	Other Urban	48	30
Both	19	Accessible Small town	49	28
		Remote Small town	43	24
Household Type		Accessible Rural	56	26
Small family	73	Remote Rural	57	15
Large family	70			
Small adult	63			
Large adult	60	***Area Deprivation***	**Internet**	**Broadband**
Single adult	54	Most deprived	31	21
Single parent	51	2nd quintile	41	25
Older smaller	23	3rd quintile	49	25
Single pensioner	9	4th quintile	56	30
		Least deprived	67	40
All adults	51	All areas	48	28

Source: *Scottish Household Survey 2005*, Chapter 5.

3.15 ICT access cannot be assumed mainly to be attributable to income: analysis of data from the *British Household Panel Survey* shows that people on low

incomes account for 29% of the digitally excluded population, while the remaining 71% are above the poverty line[71].

Other Factors Associated with Internet Access

3.16 Based on SHS data, the other key determinant than income and expense appears to be age, with only 23% of 60-74 year olds, 6% of over 75s, and 9% of single pensioners having internet access. Illness and disability also appear to have a significant relationship, although these may overlap with age effects[72]. These findings are clearly confirmed by the 2006 *Tracker Survey* data for UK in Figure 3.1, which show the still relatively low proportion of over-65s (29%) with internet access. For adults with a disability, many of whom may be over 65, 40% had internet access. For those with all three potential deprivation characteristics (i.e. income under £11,500, aged over 65, with a disability), only 10% had internet access.

3.17 Age is also a significant factor in the use of mobile phones. Only just under half of over-65s (48%) had a mobile in 2006 (Table 3.1). However, landline access is almost universal for this group and this finding may reflect the lower propensity of older people to spend a lot of time outside the home.

3.18 A number of studies have identified the presence of children in a household as a significant factor increasing digital uptake[73]. While most families now have internet access (e.g. see Table 3.2) there are dangers in assuming that 'most' means 'all'; for example, home internet access is lower among single parent households[74]. Therefore, teachers should not assume that all pupils can access the internet to undertake homework or coursework assignments. This issue is currently being addressed by the Home Access Taskforce initiative.

3.19 Projections from the Future Foundation for trends in internet access forecast 23 million people remaining at risk of digital exclusion in Britain in 2025, although they predict that the composition of this group will change with older adults constituting a larger proportion of the digitally excluded due to general population ageing[75]. In the light of recent take-up data these forecasts may be somewhat pessimistic, and as the higher-ICT-using younger groups of today age, they are more likely to continue to use these technologies. The 2006 *Tracker Survey* data indicate that a quarter of current non-internet connected adults (10% of all) expect to become connected in the next 12 months. While some non-users may not wish to use the internet, 38% cite involuntary reasons for not being connected.

3.20 In summary, while access to a range of ICTs in the UK has been increasing, there remain a number of well document 'socio-demographic fault lines' and recognised factors associated with the digital divide, including household income and closely related factors, such as employment status, educational attainment, age, disability, and household composition[76]. Access to ICT also appears to be spatially differentiated towards more economically prosperous regions[77]. This last point is explored more fully in the next chapter.

Summary

3.21 This chapter described and analysed UK data on access to some of the main forms of ICT and evidence of differences between social groups in such access. This evidence shows the following:

- access to home PCs has risen steadily
- access to landline telephones has been near saturation point for some time, but uptake of mobile phones has increased rapidly and is favoured by some of the most excluded social groups
- analogue television access has been near saturation levels for some time; uptake of digital TV is increasing but is lower among deprived groups
- home internet access is increasing but a 'digital divide' between more and less deprived households persists and remains evident in relation to broadband access
- older people and household without children are less likely to have access to or make use of the internet at home

CHAPTER FOUR: SOCIO-GEOGRAPHIC ANALYSES

Overview

This chapter describes the main geographic differences in access to and uptake of ICTs in the UK. The bulk of the data relates to internet access and use, and the principal analyses in the literature compare 'deprived' and more affluent areas, and rural with urban areas. The relationship between ICT and social networks and isolation is also discussed.

INTRODUCTION

4.01 There is a small body of comparative literature which tries to account for differences between countries in ICT take-up and access[78]. However, such analyses raise issues of differences in policy, regulation, institutions and culture, and go beyond the scope of this study. The bulk of the data on geographic differences in ICT access focuses once more on PCs and internet access, and therefore does not provide a complete understanding of the spatial distribution of communications inclusion.

THE GEOGRAPHIC DIGITAL DIVIDE

Internet Access and Area Deprivation

4.02 The last quadrant of Table 3.2 above showed internet and broadband access by area deprivation (small areas called data zones, ranked according to the *Scottish Index of Multiple Deprivation*, 2004)[79]. It is clearly and unsurprisingly the case that fewer households in deprived areas have internet or broadband access. Less than one third of households in the most deprived fifth of neighbourhoods have any internet access, and not much more than a fifth have broadband. While that is a cause for concern, comparison with the analyses by household income suggests that such disparities, or worse, are only to be expected when the extent of disparity between low and high income households remains so great. In other words, it is doubtful whether there is an additional negative 'area effect' from deprivation, on top of the overwhelming influence of individual household income.

Urban - Rural Differences in Internet Access

4.03 The idea of deprived areas is often bracketed with 'urban', and aspects of the way such areas are defined (through deprivation indices) reinforce this linkage. However, it is important to note that rural areas may contain both deprived individuals / households and also relatively deprived areas / communities. It is noteworthy that some of the most deprived communities in Britain in recent years have been in areas which, according to some official definitions, are 'rural', although they may not accord with traditional rural

images - particularly former mining areas. Such areas feature in some of local case studies of digital exclusion[80].

4.04 Accessible and remote rural areas in Scotland have somewhat above-average incidence of 'any' internet access[81]. This could reflect the fact that these areas (especially the accessible rural) are more affluent than the more urban areas; it may also reflect a greater reliance upon the internet to access services which are not available locally, or to engage in the kinds of self-employment and small business activity which are more characteristic of rural areas. However, the lack of broadband access in remote rural areas (until very recently) is also clearly reflected in these figures, with only 15% having access in 2005. Whereas in larger urban areas two-thirds of internet users have broadband, in remote rural ones this was not much above a quarter in 2005.

Geography and ICT Infrastructure

4.05 It is clear that there has been, at least in the recent past, a physical limitation on the infrastructure available in many more rural locations, particularly in respect of broadband[82]. Mobile telephone coverage has also been patchy. More optimistic accounts see this being overcome imminently[83], but the data analysis above show there is still a legacy of low broadband take-up in rural Scotland. Despite this supply constraint, it can be argued that the need for ICT - 'virtual mobility' - may be greater in rural areas where physical mobility and face-to-face interaction is more difficult[84].

4.06 The future prospects for rural areas may depend in part upon the speed and direction of technical change; for example, some see the development of WI-MAX as critical[85]. However, it can also be argued that the future prospects for rural economy and development depend more on the evolution of planning and environmental policies.

4.07 It is obvious and well-known that rural areas might present physical obstacles to the universal availability of high quality ICT infrastructure. But the problem facing these areas is, in a sense, similar to that facing deprived areas: whether through higher costs or lower potential demand, these areas are not seen as profitable and hence not a priority for investment by market-oriented telecoms providers. Historical precedent suggests that the expansion of telecommunications infrastructure is driven initially by the development of the most lucrative markets, thereby excluding people and places that are least profitable[86]. This is the underlying reason why availability of the basic physical infrastructure is absent, tardy, or of lower quality in such areas[87]. This economic logic is similar to that found in relation to other private and semi-private sector services, such as banks, supermarkets, garages and post offices. Marginal areas already face the threat of losing many of these services, and may look to ICT as a way of recovering access and righting the balance. However, the economic logic suggests this will not happen without more proactive intervention[88].

4.08 A relevant finding from studies of service exclusion in other areas (e.g. financial exclusion) is that standard, 'off the peg' services aimed at mainstream markets tends not to serve nor deliver well to those who do not fit this model or who have additional needs[89]. This is further reflected in the finding that the terminology used in and about the communications sector inhibits many consumers other than the young[90], and that older people perceive emerging ICTs as not reflecting their needs nor interests[91].

4.09 The provision of local online information is perceived as being poor in many areas[92]. One report from a survey of local government websites concluded that quality was poorer in regions where household internet access was lower[93]. Another study found customer service was perceived to be poorer from centralised call centres which were not locally based[94].

4.10 Although seeing a need for public planning at regional scale to counter the inadequacies of market provision, Richardson argued that 'information asymmetry' between public agencies and telecoms providers made this difficult[95]. Local authorities and other local public services could in principle encourage and leverage a greater take-up of ICT by using their own service provision and IT systems to support users and extend the reach of commercial services[96]. However, this may be expensive and not all local authorities may have the competence to do this effectively[97].

4.11 As the findings from analyses of other aspects of the digital divide and communications exclusion confirm, many of the key issues of communications exclusion are not particularly related to geographical location, although they might be reinforced by local cultures in deprived areas. Perhaps the strongest conclusion from the literature on socio-geographic patterns in ICT access is the familiar finding that physical accessibility is not enough to achieve a socially inclusive profile of ICT usage. Deprived groups face multiple barriers to using ICTs, including issues of motivation and confidence; literacy and learning; and need for social and institutional support[98]. Talbot argues that there is a strong overlap between ICT uptake and what are often termed 'life skills'[99]. Gunter stresses that use of interactive DTV is as much a matter of psychology as of demographics[100]. These barriers are particularly important in relation to internet usage, and are overlaid on the issue of the cost of getting connected (including the cost of PCs and software as well as line rentals) reflected in the strong relationship with income. These barriers are also doubtless particularly significant for many older people, who will have had little or no ICT experience either through education or employment[101].

Social Networks and Social Isolation

4.12 Research has identified the importance of personal contacts and social capital within communities in diffusing and sustaining new communications technology. Murdock *et al* identified the importance of the ability to call upon friends, relatives or neighbours as local sources of technological expertise in encouraging uptake and engagement with ICT[102]. Empirical analyses suggest that such contacts and social capital is lower in areas of poverty[103], although

Boyes and McCormick found no evidence of such 'network poverty'[104]. Nevertheless, many socially excluded and isolated people, particularly the elderly, do not have access to a wide range of contacts or other support to overcome computing problems: one in three people over 65 said they had no sources of advice on communications services and technology[105].

4.13 The Digital Inclusion Panel claims that 'It is now clear that the internet can be a powerful catalyst to encourage people who live in the same local community to meet and begin communicating offline in their local community'[106]. However, there is little evidence available on the contribution of ICTs to social relations and the development of social capital among disadvantaged groups or communities, and this is an issue where further analysis could be useful.

Summary

4.14 This chapter discussed evidence on geographic variations in ICT access, focusing mainly on differences in internet availability between more and less deprived areas, and between urban and rural areas. The evidence on these issues shows that:

- there is a correlation between area deprivation and the level of home internet access within communities
- based on data for Scotland, internet uptake is higher in rural areas but access to broadband is lower
- limitations in ICT infrastructure and service persist in some rural areas
- there is no evidence of any independent 'area effect' adding to the socio-economic factors which cause the digital divide
- networks of social support appear influential in disseminating and assisting ICT uptake, but there is a limited body of evidence on this issue

CHAPTER FIVE: SOCIO-DEMOGRAPHIC ANALYSES

Overview

This chapter describes the types of households and groups with limited engagement with ICT (focusing mainly on internet access), and the factors associated with their lower access and uptake. The different experiences and issues relating to communications inclusion of the following groups are discussed: children and young people, older people, disabled people and carers, homeless people, minority ethnic communities, and gender differences.

COMMUNICATIONS ACCESS AND ISSUES AMONG DIFFERENT GROUPS

Children and Young People

5.01 Achieving universal access for young people, to the 'new capital' of information via ICTs has become a central goal of government education reform[107]. Grouped under the umbrella of the National Grid for Learning (which ended in June 2006), this goal is underpinned by unprecedented investment in hardware, software and teacher training in British schools[108]. However, despite this commitment, the limitations in the policy of universal access through schools have been highlighted in a number of studies. For example, Valentine *et al* argue that despite considerable investment there are wide variations in access to ICT between schools in the UK[109]. They argue that this uneven pattern reflects the attitudes and priorities of different Local Education Authorities as well as the teachers and governors of particular schools.

5.02 A recurring finding in the research is that young people's confidence and expertise in using ICTs is linked to a number of factors beyond access to ICT hardware in school. Informal access to ICTs emerges as a key influence on the skills necessary to use communications technology. This highlights the importance of the inter-relationship between home and school, as well as the resources available within school, which provide ready opportunities for flexible, unstructured access to ICTs[110]. Furlong *et al* argue that the policy of expanding ICT provision in schools could be counter-productive and increase rather than reduce social divisions, as to achieve the latter, greater equality of access is required both at home and school, and their research found that home access is 'currently anything but egalitarian'[111].

5.03 Findings from the *UK Children Go Online* project suggest that children and young people are becoming divided in terms of their take-up of online opportunities[112]. Becker also found qualitative divides in ICT use, with children from higher income backgrounds using home computers for a much wider range of activities than those from lower income families[113]. Reflecting this, children from higher social class households are more confident in their ICT skills and make greater use of a wider range of ICT facilities[114]. The only

exception to this is ownership of 'entertainment' technologies such as Playstations, Nintendos and Game Boys, which are inversely related to ownership of home computers, with children from low income families significantly more likely to report ownership of these technologies[115].

5.04 Facer and Furlong explore family cultures regarding 'information inequality' among young people[116]. They argue that the domestic environment is particularly problematic for young people because competition within the household often leads some children having more access to computer time than others. Facer and Furlong note that studies of other technologies, such as the TV and video, emphasise the extent to which collective household access to ICTs does not mean equal access for all members within a household.

5.05 A number of studies have examined the significance of gender in relation to ICT access and use among young people. A recurrent finding from recent research is that there are few apparent gender differences in terms of access or competence in using computers for a range of tasks. However, several studies have found gender differences in the activities children engaged in using PCs and the internet. For example, boys reported greater interest in skill and strategy games than girls[117]. Findings from studies of domestic ICT use show that it is often more or less equal between boys and girls, and that there are few differences in motivation for internet use[118]. Livingstone and Bovill found few gender differences in the amount and type of internet use in their sample of 30 children; however they did find small gender differences in content interests[119]. They concluded that children's use of the internet is influenced by the social context and family values and therefore patterned in traditional ways, perpetuating existing social divisions within society. Facer *et al* argue that dominant ideas about new technologies may be reproducing inequalities along traditional gender lines, and reflecting this, young women may be constructing 'ICT expertise' as a marginal element of their everyday lives[120].

5.06 The greater likelihood of households with children to own PCs and have internet access was noted above. Facer and Furlong found that decisions to purchase a home computer are bound up with the family cultures they explored. Decisions are informed by the perception of the potential value of computer ownership to the family and its members, a perception that is shaped by parental occupations and experiences of technologies. Boyes and McCormick's study of perceptions of ICT in deprived neighbourhoods found that, while the majority of participants in their research were keen to encourage their children to develop IT skills, concerns about the perceived dangers of the internet and ICTs for children outweighed the benefits in the minds of the most marginalised participants[121]. To the extent that parental support is necessary to encourage the development of childrens' ICT skills, there may be potential obstacles to this among the least ICT literate and engaged households.

Older People

5.07 In contrast to the popular view of young people as confidently inhabiting a technologically saturated society[122], older people are widely considered to be at the greatest risk of communications exclusion. A consistent finding throughout the literature is that the key barriers to communications inclusion - cost, interest and skills - are particularly prominent among older people's experience of ICT[123]. Older people tend not only to be poorer on average; they are also less likely to have internet access at a workplace or educational centre. A DfEE study into ICT access and use found that those aged 55 and over are much less likely to own or use a computer than those aged 54 and under[124]. Furthermore, Ofcom Consumer Panel tracker research demonstrates a dramatic drop in people's connectivity after the age of 65, and the number of people keeping themselves informed of communications technologies also drops by 20%[125]. This has been described as a 'communications cliff'[126].

5.08 The reasons why people don't have a computer or internet access differ with age[127]. While younger age groups indicate high costs and the availability of opportunities elsewhere (e.g. school and work) as significant reasons not to have home internet access, older age groups refer to a lack of interest and skills. In addition, they are less likely to have the incentive of gaining technology skills to enhance labour market participation. Some older users can be inhibited by particular aspects of technology design; for example, arthritis sufferers can find it difficult to use standard keyboards[128].

5.09 The most distinctive issue to emerge from research into older peoples' attitudes towards ICT is that they are significantly less likely to find it attractive, interesting or useful. The clearest reason for non-use of computers and the internet among older people is the perceived irrelevance of ICT to their lives[129]. Ofcom Consumer Panel data shows that age remains one of the most significant factors influencing whether of not people engage with the communications markets: 56% of people aged 65 and older 'voluntarily' excluded themselves from ICTs compared to the national average of 22%[130].

5.10 Age has an impact not only on current ICT use, but also on aspirations to use it: approximately three quarters of non-users of ICT aged 55 and older said that there were no incentives for them to use computers or the internet[131]. Ofcom Consumer Panel research classified the population into five groups in relation to attitudes towards ICTs: Enthusiasts, Functionalists, Economisers, Abstainers and Resistors. The majority of the 65 and over age group were classified as either Abstainers or Resistors[132].

5.11 In contrast to new ICTs, 'old' media such as television (including teletext) and landline telephones are routinely embedded into the daily lives of all older people[133]. There is therefore no evidence of hostility towards ICT as such among older people, nor an indifference to information and communications, merely a reluctance to embrace particular ICTs in their current form.

5.12 Younger and more highly educated people are the most likely to say they used the internet for several purposes, including email, banking, shopping or downloading music; older and less qualified people are most likely to name just one or two uses. Even among internet users there is a divide in their degree of internet sophistication, and this is more strongly related to age than income[134].

5.13 There has grown up a popular idea of 'silver surfers', portraying an apparently burgeoning group of confident and competent older ICT users[135]. It has been stated that once they get online, some older people become enthusiasts and use it for keeping in contact with friends and family (as noted in chapter 2 above)[136]. Overall, however, there is little evidence to support the idea of a widespread generation of silver surfers. What this argument perhaps indicates is that older people are not a homogenous group, and that their ICT connectivity reflects social and economic as well as demographic factors. For example, new technologies may increase divisions among older people and contribute to the further social exclusion of the poorest and most vulnerable among them[137]. Burrows *et al* argue that, like traditional forms of welfare, online public services may advantage a middle class who are better able to understand and engage with new technologies and have the 'time, reflexivity, inclination and resources to exploit it, and in so doing gain systematic advantage'[138].

Disabled People & Carers

5.14 Some disabled people could potentially benefit greatly from the increased communications capacity and 'virtual mobility' which certain forms and uses of ICT offer. However, those with particular communications impairments may face difficulties in using ICTs to their full potential. There is evidence that the disabled adult population in the UK are at a high risk of digital exclusion: while one in 20 UK adults generally experience difficulties using a PC, this rises to one in six of those with a disability (and one in ten of those aged 65 and over). Disabled people under 65 also report twice the level of difficulty (26%) in using mobile phones compared to the UK average[139]. The Disability Rights Commission found that 81% of the websites they studied failed to satisfy the most basic web accessibility conditions, denying some disabled people equal access to a medium which could be tolerant of impairment[140].

5.15 There is a degree of overlap between older and disabled people, so that some of the same issues of ICT access and engagement apply, such as lower income, inaccessibility through marketing and design, and issues of confidence and skill. Physical access to ICT facilities and usability of equipment are also particular issues for the mobility impaired. In this regard it is significant that only 79% of UK online centres provided wheelchair access in 2004[141]. Some disabled people also have additional costs for assistive and adaptive technology to access certain ICTs.

5.16 Pilling *et al* conclude that disabled people are generally not lacking motivation to get online; but rather, that practical encouragement, ease of access and

appropriate individualised training are required to remove the barriers they encounter[142].

5.17 A number of research projects have explored the various uses carers make of computers and other ICTs, particularly in relation to the delivery of health-related information and services[143]. Data from the *Carers Speak Out* survey reported that 35% of respondents had access to the internet at home or work, with a further 8% having access through other means[144]. Blackburn *et al* report that having previously used the internet and frequency of internet use were both significantly associated with carers' age, socio-economic background and hours spent caring when other potential confounding factors were controlled[145].

5.18 Data drawn from the *Carers Online Survey* indicates that carers are vulnerable to digital exclusion[146]. This group faces major barriers, including lack of access to equipment, difficulties in using equipment, cost, limitations of time, lack of interest and low skill levels. Based on their analysis of this data, Read and Blackburn conclude that while direct internet access has benefits for some carers, it should be only one of a range of ways of meeting their information needs. To avoid worsening this group's experience and risk of social exclusion, it is necessary to continue to develop other services and information systems for those without internet access (see para 7.19 below).

Homeless People

5.19 Housing status is not recorded in many analyses of digital inclusion, so there is limited evidence on the extent of communications exclusion among homeless people. However, homelessness is associated with multiple forms of social exclusion, and the particular circumstances and difficulties it entails is likely to reduce ownership of and access to a range of ICTs.

5.20 One small qualitative study of homeless people's uptake of ICTs concluded that digital inclusion, in the sense of access to ICTs, does not necessarily lead to the social integration of homeless people into mainstream society, as they used the ICTs they had access to 'in ways that reinforce the patterns and practices of their subculture'. Mobile phones and email allow homeless people to be contacted regardless of their physical location, and are commonly used maintain to social networks among individuals with transient or nomadic lifestyles[147].

Minority Ethnic Communities

5.21 There are relatively few UK studies which focus specifically on the experience of black and minority ethnic (BME) groups in relation to communications and the digital divide[148]. Information from general surveys suggest that, overall, ethnic minority groups' access and use of ICT is lower than white groups[149]; although those from 'Chinese and other' communities and from 'mixed' groups are more likely to have home PC and internet access than the 'white' population[150]. Internet access and experience is lower among people from a South Asian background, although they are more likely to own a digital TV.

White respondents to a DfEE survey reported a wider range of uses of their home PC than other ethnic groups, including accessing public services[151]

5.22 Lower internet access and use among minority ethnic groups is in part accounted for by socio-demographic factors other than ethnicity, such as low income and affordability[152]. In addition, however, certain BME groups encounter particular problems in using ICTs; for example, literacy is an additional problem for groups whose first language is not English[153]. Most keyboards are in English and do not include characters required in some other languages; furthermore, many computer programs tend to provide instructions only in English, and the bulk of the information on the Internet is also in English[154]. Women from South Asian communities are reported to be disadvantaged in ICT uptake (particularly use of public facilities) due to cultural practices[155].

5.23 Jackson and Peters explore issues of heath information provision for minority ethnic communities[156]. They report on one project which aimed to improve access to health information for ethnic minority groups by providing this in their own language in an audio and visual format through a touchscreen computer. The study highlighted the benefits of involving local people throughout the development of the project, although this required more planning and preparation time. The analysis concluded that carefully designed ICT was a feasible method for making available health information for ethnic minority groups, even those who are unable to read their mother tongue[157].

5.24 MacPherson and Wilkinson argue that multiculturalism is too limited a concept to inform ICT policies targeted at minority ethnic populations, and results in tokenism and failure to reduce inequalities[158]. They argue that health information which is useful and meaningful for minority ethnic population must consider cultural influences and be placed in social and community contexts in which assessments of users' different information 'capability' is recognized, including their information awareness and the ability to exploit information once it has been acquired. They describe this approach as 'transculturalism'.

Gender Differences

5.25 Foley *et al* argue that gender is no longer a strong independent indicator for access to technology, and that men and women have similar levels of access to new media and internet connections[159]. However, Liff disputes the suggestion that the gender divide is 'old hat', arguing that there is still a gender difference in both the amount of time spent on the internet and in content preferences. Furthermore, she claims that gender differences exist in relation to relative broadband access, home internet access, self-perceived skills, and concerns about the content of unpleasant emails[160].

THE UK DIGITAL DIVIDE: AN OVERVIEW

5.26 There is a lack of data on expenditure on ICTs between different groups. However, what evidence exists regarding access and use of ICTs clearly shows persistent and substantial inequalities associated with income, age and disability. As Golding notes 'The "digital divide", though becoming a cliché, nonetheless describes a real schism in the experience and opportunities facing different groups in the population'[161]. These studies also demonstrate that divisions reflect existing patterns of inequality and exclusion rather than attributes of the technologies themselves. As Sue Webb of Women Connect put it:

> 'it is not a digital divide, it is a social divide - I don't like the term digital divide because the technology doesn't divide us, it's the access, and disadvantaged groups may not have the money or the resources of the skills or the time. It's not the equipment'[162].

5.27 Bridging this divide involves more than simply improving public access to ICTs, which in a formal sense has been accomplished. The social barriers to ICT access must be tackled. After cost, the most common barrier preventing uptake of ICT opportunities is the perceived irrelevance of what is on offer, and some commentators agree with those who are 'self-excluding' that there is little content on the web that appears relevant, let alone essential, to the interests and needs of excluded groups[163]. Government studies of communications exclusion have recognised this problem[164].

5.28 Data from the *Oxford Internet Survey* showed that 18% of the digitally excluded were indifferent to the internet; 7% felt negatively towards it, and 7% were excluded by economic or geographic constraints[165]. Those who express no interests in the internet or other ICTs may feel that they are not deprived by this; as one participant in the Boyes and McCormick study (2003: 24) stated 'if I want to know something I will find out from somewhere else'. Nevertheless, although some digitally excluded people may feel that they are not deprived by the lack of some facility, this is not necessarily the final word on the matter. Deprivation depends in part on perceptions and comparisons with others[166], but these judgements require sufficient information, and it may be questioned whether those who are currently indifferent or hostile to ICTs and ostensibly choosing not to make use of them are making a genuinely informed choice. John Fisher of Citizens Online has argued that 'I don't see it as a matter of choice, of people opting out. Yes, there will always be a rump of Luddites but for the vast majority they just haven't been given the choice'[167]. Those who lack the confidence, skill and support required to cultivate an interest in ICTs have not really been able to exercise a genuine choice, as many have never had the chance to assess their potential value. For example, approximately 7 million adults in Britain lack functional literacy and numeracy skills[168]; there are two million more who cannot read Times New Roman script - often the default on a computer screen[169]. It is unsurprising that many of these people are not attracted by complex and inaccessible media, and express no interest in ICTs nor the internet as these currently operate.

5.29 Analyses of service exclusion in other areas recognise that universal access entails 'Availability and continuous accessibility and affordability of goods and services at a specified minimum quality for all consumers'[170]. To be genuinely accessible to all, services must be provided in a way and to a standard which attracts and satisfies the reasonable expectations of users, including the particular or additional needs of disadvantaged groups. Simply providing a public access terminal does not meet these criteria.

Summary

5.30 This chapter described the main factors associated with communications exclusion and lower uptake of ICTs among particular groups. The principal findings are

- there is evidence of a divide in ICT engagement and competence among school-age children reflecting socio-economic divisions
- there is little evidence of significant gender differences in internet access, but cultures within households and traditional perceptions of gender roles influence the uses of and interest the internet
- older people are prominent among digitally excluded groups and are most likely to express a lack of interest, confidence and skill in using ICTs
- differential uptake and use of ICTs among older people could potentially widen existing gaps in access to services
- disabled people may have a particular interest in communications inclusion, but face some of the same problems as older people in terms of access and usability. In addition, some disabled people are excluded by inaccessible facilities and disadvantaged by the additional costs of adaptive communications technology
- lower uptake of ICTs among some black and minority ethnic groups in the UK is partly accounted for by socio-economic factors. However, particular communities and sub-populations face additional obstacles in terms of ICT literacy and usability.

CHAPTER SIX: POLICY ANALYSES AND EVALUATIONS

Overview

This chapter describes some of the policy responses to communications exclusion and the digital divide in the UK, and lessons from analyses of these interventions. The bulk of the literature focuses on two types of initiative: provision of public internet access, and community ICT access and training provision.

FORMS OF ICT INCLUSION POLICY

6.01 An international study of policies to tackle communications exclusion found that the 'majority of initiatives adopted a traditional approach focusing on raising *awareness* of ICT, providing *access* to ICT or developing ICT *skills*'[171]. Few initiatives were designed specifically to assist hard to reach socially excluded groups, such as homeless people. This finding corresponds with recent UK practice, where, since the government's commitment in March 2000 to achieve universal internet access, the main focus of activity has been providing public subsidised ICT facilities and training[172]. The government achieved its target to provide 6,000 public centres in autumn 2002[173].

PUBLIC INTERNET ACCESS PROVISION

6.02 The UK *Digital Strategy* priorities investment in communal internet access points to redress digital exclusion[174]. Several studies suggest that public internet access points (PIAPs) and online centres play an important role in assisting socially excluded groups to get online and maintain contact with family and friends[175]. However, not all analyses of PIAPs and community ICT facilities are favourable. Firstly, public awareness of access points has remained fairly low[176]. Secondly, some studies concluded that general public access points were not reaching the poorest and most excluded groups who had not used the internet, but used by those who were already online[177]. Other critics have argued that further consideration is required of the 'institutional and perceptual barriers' that prevent some from using a library or adult education institute, and that such inhibitions are unlikely to disappear merely because a free ICT access site has been installed[178].

6.03 Effective access is limited in some public facilities by restricted opening times, lack of appropriate child care, inadequate security, and a lack of necessary facilities for disabled people and the elderly[179]. An audit of PIAPs in Social Inclusion Partnership[180] areas in Scotland found that only 3% were open at weekends; 83% of centres provided disabled access to their facility but only 47% provided specialist kit for ICTs access; 68% had no childcare provision; 23% had no formal technical support, and that provision of and support for creative ICT uses (e.g. web design) was extremely low[181].

COMMUNITY ICT INITIATIVES

6.04 A national mapping exercise of community broadband internet projects in the UK identified 550 initiatives operated by 260 different organisations, and concluded that there is a great deal more community-based broadband activity than many people realise or expect[182].

6.05 The Wired Up Communities (WuC) programme was launched by the DfES in March 2000. This initiative consisted of a number of local partnerships in deprived areas which provided outreach to encourage local people to recognise the value of ICTs, provide training and IT support, establish or maintain local information and websites, and provide home access to PCs. An evaluation of the programme found that despite delays in implementation, WuC had some success in encouraging participants to get and/or to stay on line. For example, 59% of participants had used the internet at home for the first time through WuC compared with 9% of residents in matched comparator areas. 85% of those using the technology to access the internet reported that their use had increased since receiving the technology.

6.06 Nevertheless, the programme was not a complete success; despite considerable marketing and promotion, several projects did not reach their expected level of 'penetration'. Furthermore, despite being provided with the home access, one quarter of participants had not used this facility to access the internet[183].

Summary

6.07 This chapter described two examples of the main form of policy initiatives implemented in the UK to increase internet access among disadvantaged groups and communities. Evaluations of these respective initiatives reached the following conclusions:

- public internet access points (PIAPs) have increased general opportunities for access to the internet, but their impact on uptake and engagement among the most excluded groups is questionable
- the limited impact of PIAPs upon such groups is attributable to the nature of the facilities available in some areas, and perceptual barriers among some digitally excluded groups which restrict their interest in ICT
- community ICT projects are widespread throughout the UK, but the largest community ICT initiative introduced in England so far encountered familiar problem of lack of enthusiasm, confidence and ICT literacy among excluded groups which inhibited their engagement with this initiative

CHAPTER SEVEN: POLICY IMPLICATIONS AND RESEARCH REQUIREMENTS

Overview

This chapter discusses some implications of the research and analysis of communications exclusion. The first section considers some of the contrasting views about likely future developments in relation to the digital divide. The second section summarises the main policy recommendations proposed in the literature relating to the most appropriate technology to promote communications inclusion, and how to tackle obstacles to ICT engagement among reluctant non-users. The final section outlines a number of issues where further information and research would be useful to increase understanding of communications exclusion.

INTRODUCTION

Rethinking the 'Digital Divide'

7.01 An important implication of this analysis of communications exclusion is that a more sophisticated understanding of the digital divide is required; one which does not equate this simply with access to a PC or the internet. As Warschauer points out, the notion of a binary split in relation to ICT encourages a narrow preoccupation with access to hardware at the expense of 'the human and social systems that must also change for technology to make a difference'[184]. Selwyn argues that 'the political and rhetorical appeal of the simplistic "digital divide" lies in its neat packaging of complex social issues in a form of social exclusion that governments can be seen to do something about'[185]. This corresponds to a tendency observed over 30 years ago that social policy makers are inclined to convert complex multi-dimensional issues into discrete, technical and apolitical policy responses, as this is convenient and corresponds with how organisations operate and divide their responsibilities[186]. However, if there are different forms of communications exclusion based on the mode of ICT (e.g. PC, DTV), the level of engagement (e.g. access, creative application), the causes of non-involvement (e.g. affordability, interest, literacy), and the group or community excluded (e.g. older people, minority ethnic communities), then a range of different policy initiatives is required to tackle these separate exclusions[187].

Cyberbole or Hyper-pessimism?

7.02 Overall, ICT could be seen as (i) helping to counter or compensate for other disadvantages, (ii) exacerbating differences and widening the gulf between the excluded and the rest of society, or (iii) reflecting existing divides. Given the limitations of many definitions and measures of the digital divide, it is difficult to say with any certainty which outcome is most likely. This debate is characterised by 'cyberbole' and 'hyper-pessimism', or digital optimists and

pessimists[188]. The former argue that there is an inevitable 'trickle down' effect in ICT diffusion and uptake which means that existing inequalities are merely temporary. Among the reasons offered for this optimism are that the costs of much equipment is falling, technology is becoming more user-friendly and will require fewer specialist skills, that age and lack of interest in ICT will cease to be factors as the oldest and most reluctant cohort is succeeded by a more technologically engaged generation[189], and the mass uptake of digital TV 'will act as a Trojan horse to deliver internet access to those who don't want to own a PC'[190].

7.03 The more pessimistic outlook argues that while certain divisions may be closing, new ones will emerge as disadvantaged groups will be unable to access and use more advanced technologies which come on the market[191]. The diffusion of broadband internet services so far follows this pattern and is highly sensitive to household and income and the relative affluence of areas[192]. There is no evidence yet to support the disputed hypothesis that lower ICT uptake among older people will fade away with a succeeding cohort. The impact of DTV will depend on the format in which this is taken up; for example, there are limited opportunities for Freeview as a medium to access wider communications.

7.04 The precedent of past ICT developments suggests that those who adopt them early enjoy considerable social and economic benefits. For example, broadband not only improves internet access, but changes how it is used: currently, blogging is a minority activity, but it may become an important form of expression and involvement in public debate; and podcasts are increasingly widespread and mainstream sources of information and entertainment[193]. New divisions of this kind may be appearing between those who are merely passive consumers of ICTs, and those who have the capacity (both technological and personal) to use them creatively[194].

7.05 One factor which might lend weight to the more pessimistic scenario is that the profile of those who are hostile or indifferent to ICT is different from 'aspirant' users who would like to be more engaged but face obstacles to this. As the former Minister for Enterprise in the Scottish Executive said, the division 'is less and less about the "haves" v "have nots" and becomes a divide between the "wants" v "want nots" [195]'.

POLICY PROPOSALS AND RECOMMENDATIONS

7.06 The Prime Minister declared that the 'digital transformation cannot be restricted to the few; our success depends on extending it to the many'[196]. The literature on communications exclusion offers several proposals to pursue this objective. The most frequent which appear consistent with the evidence reviewed above are summarised here.

Which Mode of ICT and Access?

7.07 There are several possible means of accessing the internet and other communications opportunities, and policy must consider the most suitable and effective mode to optimise uptake of these opportunities. It may be that telephone (including mobile) is the best mode for enhancing communications inclusion as its penetration and take-up is greater than that of PCs and the rapidity of take-up of mobile use is striking. Telephones also pose fewer of the barriers of literacy, numeracy and wider IT awareness associated with the internet, and greater consistency with an oral culture[197]. However, mobile phone are not suitable for all excluded groups, in particular they are less appropriate people with hearing and/or visual impairments, and those with low levels of literacy or English language skills. The majority of low income mobile phone users also only have access to cheap 'quite basic handsets' of limited capacity and functionality[198].

7.08 As digital TV becomes pervasive in the run up to switchover, it may prove more effective to integrate the internet into DTV systems in connecting poorer households, although as noted above, this depends on the format in which people access digital TV[199]. Neither mobile phones nor DTV are currently popular options with digitally marginalised communities, although in the case of DTV this in part reflected a lack of knowledge about how this operates in practice[200].

Education and Marketing

7.09 One implication from the research is that an initial task in tackling communications exclusion is the continued need for further publicity and education about the benefits of ICTs and internet access. Digital and communications technologies are currently marketed and promoted towards more affluent, younger and relatively informed consumers, and not designed to appeal to the most excluded groups. ICTs are not in themselves intuitively attractive to many people; they are, at best, a useful means to other ends, and at worst an unavoidable evil of the modern world. Without compelling reasons to engage with them, the 'unconnected' will have no inclination to cultivate an interest in communications technology[201]. What is required to attract those currently indifferent or apprehensive about ICTs what the Digital Inclusion Panel describes as a 'compelling proposition'[202]; i.e. the kind of 'killer application' which led to the initial mass diffusion of ICTs in the 1980s - functions which are so beneficial that people will make the effort to learn how to use ICT[203]. These benefits must be demonstrated by focusing on the interests of potential new users and providing an initial 'hook' which attracts them, such as easier contact with remote family and friends[204]. Several studies recommend 'taster' courses or 'Try IT' events targeted at different excluded groups to promote curiosity and overcome their initial trepidation[205].

7.10 Although affordability is a barrier to ICT take-up, this may be less of an impediment for some than they realise. Many of those who do not have internet access at home over-estimate the actual costs involved[206]. Part of any

publicity campaign to extol the value of ICTs should be information clarifying the real cost of ICT equipment and internet access[207].

Designing Policy around Needs

7.11 A recurring message from the literature is the importance of understanding ICT access and provision from the perspective of excluded groups in order to become aware of their interests, perceptions and preferences[208]. This has been recognised by the SEU: 'If ICT is to address the needs of socially excluded groups, it is vital that policies to advance the role of ICT in service delivery are attuned to the specific needs, attitudes, aspirations, and concerns of these groups'[209].

7.12 Targeted programmes relevant to the distinctive obstacles and interests of different groups are needed rather than mass standardised provision. For example, to attract older people to training provision or public access ICT facilities the environment must be specifically tailored towards their needs and preferences, e.g. designed for genuine beginners, suitable mentoring for or run by older people and, if possible free[210].

7.13 There are a 'bewildering array' of ICT and internet training and skills development courses available; however, these do not necessarily cater for the particular requirements of different groups[211]. For example, learning in mixed groups in an open and highly visible environment may be off-putting for those lacking in confidence. As one non-user explained 'I'd be embarrassed ... because I am too old, you see these kids using them [PCs] and if I ask they might make me feel stupid'[212]. Many of those who are reluctant to take up opportunities to learn new ICT skills have previous negative experiences of education and will not be attracted to training where this appears likely to recur[213].

7.14 A range of training provision and access opportunities is therefore required. Many ICT skills and training initiatives are offered as a method of improving employability and go beyond the basic introduction and initial promotional functions some new users require[214]. Flexible provision and short-term training and support is necessary for those who are already employed or have other commitments which prevent them from attending courses regularly over a sustained period. Childcare provision, attention to security and personal safety concerns, opportunities for social interaction, or women-only groups may be required to encourage greater numbers of women to participate in ICT training[215].

7.15 While there are examples of effective local initiatives and good practice which should be learned from, any roll out or transferable lessons from these must consider the importance of their relevance to their local contexts in their success, and adapt practice accordingly[216]. Straightforward copying and transplanting effective local projects is unlikely to succeed, as it fails to understand the reasons for their success.

7.16 Several studies recognise that groups currently deterred from using ICT may be encouraged and facilitated to do so through building 'cybercafes' and 'telecottages' within existing trusted and popular community facilities[217]. These should be geared to providing both the technical wherewithal and, crucially, human support in helping people to use equipment and systems[218]. Many of the most successful and innovative community ICT projects let local people develop content for themselves[219]. A relevant lesson from the wider literature on social inclusion (in particular that on neighbourhood regeneration) is that the involvement of target populations and local people in projects is important[220]. The example of service users providing effective health information to minority ethnic groups was noted above[221]. In order to ensure that services are relevant to different groups' respective needs and effectively 'proofed' for accessibility, they must be informed by the perspective of these groups themselves[222].

7.17 The research also indicates that trusted intermediaries, mentors and brokers are helpful in local initiatives which introduce ICT to excluded groups and communities[223]. This was a key recommendation of the SEU Policy Action Team 15 report[224]. Foley argues that advantage should be taken of the enthusiasm of those who have recently become digitally engaged themselves, who are often keen to volunteer and assist others acquire the skills they have learned[225]. These potential volunteers are likely to be well placed to recognise the concerns and needs of non-users[226]. However, volunteers may require further training, support and supervision before assuming this responsibility.

Funding Stability

7.18 A recurring issue for all community projects tackling social exclusion - not just in relation to ICT - is the need for both greater stability and flexibility of funding[227]. Several studies highlight the lack of co-ordinated funding faced by local initiatives intended to increase internet usage and digital inclusion[228]. Not only do such projects encounter insecurity and associated problems with forward planning and development, they may be restricted by the conditions of grant allocations to devote resources to particular outputs (e.g. purchase of hardware, staff costs) rather than what is required by local circumstances (e.g. local publicity campaign, adaptations for wheelchair or pram access)[229]. The allocation of resources to communications inclusion initiatives should recognise the range of obstacles to ICT engagement, and create funding structures that allow flexible and appropriate responses to these[230].

Multiple Communications Channels

7.19 A final theme in the digital divide research literature is the need to ensure that public services themselves do not contribute to exclusion by ensuring that a range of outlets and service delivery channels remains in place. As some groups are likely to remain unreachable by new media and technology, it is essential that a multitude of means of access to public information and provision remains available[231]. Disadvantaged groups are among the most regular users of public services, and any measures to provide these through

particular means should first be exclusion-proofed to ensure their continued accessibility[232]. The government has itself recognised this requirement[233].

Summary

7.20 In summary, the evidence suggests that among the principal activities required to tackle communications exclusion are the following:

- considering the most appropriate mode of access through which to promote digital inclusion suitable to the preferences and needs of disadvantaged groups
- publicising the value of ICT and communications engagement to excluded groups in ways which highlight the benefits for activities which they value
- designing ICT access and training provision based on an understanding of the preferences of and obstacles faced by non-users and 'self-excluding' groups
- allowing successful local initiatives the freedom and financial security to respond to local needs
- ensuring that public information and services remain accessible through a range of media

KNOWLEDGE GAPS AND FURTHER RESEARCH REQUIREMENTS

7.21 The existing research literature suggests that further analysis is required in a number of areas:

- the effects of existing policy initiatives
- the most important determinants of ICT access and use
- how ICT engagement develops over time
- what excluded groups themselves want from ICT
- what the future holds in terms of ICT development and service provision, and the implications for social inclusion

Evaluating Impacts

7.22 It is argued in the literature that the monitoring and evaluation of ICT initiatives has been poor[234]. The SEU noted that 'there is little evidence of serious evaluation, roll out, or awareness of successful trials', and that 'innovations to tackle social exclusion are seldom evaluated, often marginalised, and have low visibility'[235]. This compromises both the ability to assess and compare the costs and benefits of different measures, and also to learn lessons for effective practice. Just as important as assessing the outcomes from initiatives themselves is the need for evaluations of how far and in what ways digital inclusion initiatives contribute to enhanced social inclusion more generally. Such studies would evaluate impact over time, and examine whether the benefits of, for example, acquisition of ICT skills or improved digital literacy leads to sustained benefits.

Analysing the Significance of Different Factors

7.23 The relative importance of income, education and age as determinants of digital disengagement remains disputed[236]. To resolve this question, further statistical analysis could be undertaken to assess the independent significance of different variables associated with ICT access and engagement. This would involve secondary analysis of existing survey data (potentially relevant sources include the MORI *Technology Tracker* survey, the *British Social Attitudes Survey, Oxford Internet Survey*, the Lancaster 'Icon' survey[237], the *Family Expenditure Survey* and various ONS sources[238]). This is not a definite list, and the first stage in any such project would be to review potential data sources. Analysis could identify the size of the groups with multiple vulnerabilities, i.e. both older and disabled, low income and low educational qualifications, etc. Regression and odds ratio analyses could improve understanding of the relative impact of different factors on ICT inclusion.

7.24 Quantitative data analysis may be able to assess the independent or additional effect (if any) of ICT access and use on children's educational attainment, controlling for other factors associated with this, such as household income, ethnicity, area deprivation, school league table position, etc. The possibility of combining information on educational attainment with survey or administrative data and modelling the additional significance of ICT access could be explored. Any such analysis would need to acknowledge issues concerning the distribution of access and use of ICTs within households raised by some of the studies referred to above[239].

Analysing the Dynamics of Communications Engagement

7.25 There are repeated calls in the literature for longitudinal qualitative research to track the digital engagement 'careers' of different groups[240]. Such research could help identify the key processes and steps involved in the development of digital engagement among different groups, including any barriers they faced (and how these were overcome) or examples of effective assistance they received to progress their communications inclusion. Selwyn advocates research to understand the circumstances under which digital engagement and disengagement arises, i.e. what factors contribute to people becoming or remaining 'core' users of ICT while others revert to 'peripheral' users or even 'excluded' non-users?[241] A necessary first step in this would be the development of an operational (i.e. researchable) definition and measurement of ICT use and engagement.

7.26 While the development over time in access to, interest in and use of ICT between different groups certainly remains an area where further information would be helpful, longitudinal qualitative research is expensive and may take several years to produce robust results. A more practical alternative would involve examining the experiences of those who have progressed from a situation of non or peripheral ICT use to fuller engagement. This would involve interviews with those who have made use of effective digital services or undergone training through successful digital inclusion projects (such as

those positively reviewed by Foley and Alonso[242]). The research process would explore these peoples' reflections on their experiences and opinions. This proposal raises methodological issues of selection and reliability and lacks the rigour of a full qualitative longitudinal panel study. Nevertheless, it has the advantage of producing potentially timely and useable insights into these issues.

7.27 While the impact of cost and marketing as forms of service exclusion is evident, there is relatively little research specifically exploring how vulnerable and multiply excluded groups experience the communications market; i.e. 'conditions exclusion' and the market treatment of disadvantaged consumers. There may be benefits from studies which follow excluded consumer's experiences of efforts to purchase new ICTs or get on-line; e.g. to identify the barriers they face in acquiring product information, access to technical support, etc. Such studies have been conducted in other areas of social and service exclusion (such as financial exclusion) and have helped identify market and service delivery practices which disadvantage particular consumers[243].

7.28 There is a lack of research examining why some young people are low or ambivalent users of the internet and non-entertainment ICTs; in particular why children from lower income households make less use of the internet, and how parents might be encouraged to increase children's interest in greater and wider use. Little research to date has examined how ownership or use of entertainment technologies such as Playstations, Nintendos and Game Boys, rather than PCs, impacts on young people's subsequent access and use of ICTs.

7.29 Golding argues that research is required to answer the question of how different ICT goods and services become accepted as necessities over time[244]. This question could be explored at two levels:

(i) Societal - when does survey evidence show majority support for the right to certain forms of communications technologies, and what factors are associated with this acceptance, e.g. how widely diffused must ICTs be before they become recognised as part of everyday social activity? Data from the *British Social Attitudes Survey* and *Poverty and Social Exclusion Survey* could be explored initially to see whether there are differences in opinion between different types of respondent over the question of the right to different types of ICT

(ii) Household / individual - under what circumstances do people become 'won over' to their own need for ICT, what uses are especially valued in the development of such communications engagement?

Exploring Non-users' Preferences

7.30 Most proposals for measures to improve ICT interest, awareness, access and use are inferred from authors' research findings. There are relatively few studies which explore directly the preferences or proposals regarding digital inclusion of excluded communities themselves[245]. Those studies which do

exist are limited by gathering the views of groups who are, by definition, relatively uninformed about or uninterested in ICT. To redress this, qualitative, deliberative studies are required which provide information and options to the digitally unengaged which allow them to develop more informed choices. This could be done by allowing excluded groups to 'road test' different ICT formats and develop opinions which have become practically informed by experience and experimentation[246].

The Future of ICT Services and Provision

7.31 Further research is required with ICT and other service providers on their expectations about future developments in communications, examining their expectations and predictions regarding trends in demand and provision, and analysing the potential social inclusion implications of these scenarios; e.g. whether service providers anticipate a shift to greater service and information provision through ICTs, or the persistence and expansion of current provision (such as phone help lines, etc)?

Knowledge Transfer

7.32 Finally, as with much social research, improvements are required in knowledge transfer and exchange to ensure that findings are disseminated and used. There are many practical steps which can be taken to enhance research utilisation, but what is required above all is effective dialogue between policy makers and researchers to improve understanding and cultivate relationships of mutual benefit[247].

Summary

7.33 Issues and subjects where further research and analysis are required include:

- evaluations of the outcomes of initiatives and their effects on social inclusion
- multi-variate analysis of survey data to identify the main factors associated with communications exclusion
- exploring the factors influencing ICT uptake over time
- understanding the informed preferences of communications excluded groups regarding ICT provision and policy
- research with service providers on the future development of ICTs

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SOCIAL INCLUSION AND COMMUNICATIONS: A REVIEW OF THE LITERATURE

ANNEX 1: SEARCH STRATEGY AND ANALYSIS

RESEARCH DESIGN

A1.01 Due to both the general nature of the research interest and the time constraints under which this review was undertaken, it was not possible to conduct either a formal systematic review (SR) nor a rapid evidence appraisal (REA) for this project. Nevertheless, the review was informed by certain SR and REA principles, including the following:

- Careful articulation of the key search terms and scope of the review, establishing explicit inclusion criteria for identifying relevant sources
- Developing a systematic search strategy using both electronic and print sources
- Appraising the quality of evidence in studies in accordance with transparent criteria
- Collating descriptive and analytical outlines of the selected evidence in a systematic and standardised format
- Providing an accessible narrative of the search and analysis processes and how conclusions were derived from these

A1.02 The research on which this evaluation was based comprised the following four stages:

i. Conceptual clarification: defining the relevant search criteria and parameters which guided the literature review and evidence gathering processes
ii. Data search and gathering: undertaking a transparent and systematic search for relevant studies
iii. Data analysis: evaluating of the quality of research identified, and analysing the key recurrent themes and issues
iv. Reporting

Specifying the Search Terms

A1.03 The first stage in any review of research literature is to specify the issues of interest and consider the various ways these might be described and conceptualised. The research brief did not specify a particular hypothesis to be examined, but an interest in the relationship between two general areas of social life: social inclusion and communications using modern technologies. This is potentially a large area. However, a search for literature must optimise the trade-off between capturing relevant information, and establishing practical boundaries which limit material to the core focus of interest. After

reflection and initial preliminary searches, the following terms were included in searches

- Social inclusion dimension: social inclusion, social exclusion, deprivation/deprived, poverty/poor, marginalisation/ marginality, social isolation, social integration, disadvantage, social class, inequality
- Communication dimension: information technology, communications technology, broadcasting, television, media, technological innovations, mobile technology, mobile telephony, mobile communications, digital television/TV, digital switchover, digital divide, digital inclusion, digital exclusion

A1.04 A preliminary search found a range of other possible term initially considered for inclusion widened the literature too broadly and produced much irrelevant material. These terms were: interaction, relationships, social capital.

A1.05 Searches for the terms “inclusion” and/or “exclusion” generally led to material relevant to the particular interests of this review. However, the term “digital divide” led to very high numbers of wide-ranging results, indicating that this is an issue which has had a strong resonance across a range of disciplines in recent years, e.g. in such areas as Education, Media Studies, IT studies, Psychology, Geography, etc. For example, a search for “digital divide” in the Social Sciences Citation Index (2001-2006) produced over 300 articles, although this included some multiple entries; additionally, many of these results were non-UK sources and were not been included in this review. The term “communication” is somewhat more ambiguous than the other terms used in the literature searches, and a high proportion of referenced generated by it were concerned with ordinary (i.e. non-electronic) human communication in such areas as Education, Social Work, Psychology, etc.

Bibliographic Sources

A1.06 The research team undertook a succession of literature searches of the most important social science bibliographic databases, resource guides and search engines. The following bibliographic resources were searched or used to access references:

- Applied Social Sciences Index and Abstracts (ASSIA)
- International Bibliography of the Social Sciences (IBSS)
- Social Science Citation Index (SSCI)
- Cambridge Scientific Abstracts (CSA)
- IDOX
- Google Scholar
- Directory of Open Access Journals
- Intute: Social Sciences
- Social Policy Digest
- Regard (ESRC projects database)
- BUBL Information Service
- Research Resources for the Social Sciences

Searches Undertaken

A1.07 The parameters of these searches, in terms of the particular terms used, Boolean operators applied and time periods covered varied in relation to the specific features of each resource, as summarised below.

A1.08 The first sources examined for suitable references were the indices and bibliographies of recent relevant government reports; e.g. SEU (2005). *Inclusion Through Innovation Tackling Social Exclusion Through New Technologies*. London: ODPM. Following this, the following bibliographic databases searches were undertaken.

(a). International Bibliography of the Social Sciences, 2001 to December 2006:

- (television or broadcasting OR digital OR digital divide)
- (digital inclusion OR media)
- (information technology OR communications technology)
- “technological innovations”
- (social inclusion OR social exclusion)
- (marginality OR disadvantaged or poverty)
- (“United kingdom” OR England OR Scotland OR Wales)

(b). Social Science Citation Index (Web of Knowledge):

- "internet access" OR "broadband access" OR "broadband internet" OR "broadband" OR "internet") AND ("social inclusion" OR "social exclusion" OR "deprivation" OR "deprived" OR "poor" OR "poverty")) AND (England OR Scotland OR Wales), 2003-2007
- “mobile technology" OR "mobile telephony" OR "mobile communications") AND (England OR Scotland OR Wales), 2003-2007
- “digital television" AND (England OR Scotland OR Wales), 2003-2007
- "digital TV", 2001-2007
- "digital switchover", 2005-2007
- “digital divide” AND UK, 2001-2005
- "digital inclusion" OR "digital exclusion", 2001-2007
- “social inclusion" AND communications, 2001-2007

(c). CSA (multiple databases), 2001 - 2006:

- "social integration" OR "social exclusion" AND ("broadcasting" OR "radio" OR "television") OR ("information technology)) OR ("telecommunications))

(d). CSA (ASSIA), 2001 - 2006: "digital divide"

(e). CSA (Sociological Abstracts) 2001 - 2006:

- ("digital divide") AND (Social Class or social inequality) AND (United Kingdom OR England OR Wales OR Scotland OR UK)

(f). SSCI/Web of Knowledge, 2001-2006. The search excluded the Arts & Humanities CI and Science CI:

- "Social Exclusion" AND Communication
- "Social Inclusion" AND Communication
- "Digital Inclusion" OR "Digital Exclusion"
- "Digital Divide" (articles only).

(g). Directory Of Open Access Journals - all DOAJ journals in the 'computer science' and 'technology - general', 'media and communications', 'library and information science' categories:

- "social inclusion" + communication
- communication + inclusion
- communication + exclusion
- "social inclusion"
- "social exclusion"

(h). Research Resources for the Social Sciences, 'General Resources Guide':

- Social Sciences Virtual Library
- Questia.com for "digital inclusion"
- Findarticles.com for "social inclusion", communication, "digital inclusion"
- Social Science Research Network for "social inclusion","digital inclusion","digital divide"

(i). IDOX, 2001-06:

- communication AND "social inclusion"
- "social exclusion" AND communication

(j). Google Scholar, all years: "digital divide"

(k). Regard, all years: "digital divide", "digital inclusion"

(k). Social Policy Digest, all years: "digital divide", "digital inclusion"[3]

A1.09 In addition, the following specific journals were searched for "social inclusion","social exclusion","social isolation","poverty","deprivation":

- *Information Research* (all years)
- *Information Technology and Disabilities* (2000-05)
- *Journal Of Community Informatics* (all years)
- *Journal Of Educational Technology & Society* (all years)

[3]. As Regard and Social Policy Digest are indices of UK social science and social policy research and evidence with a strong social inclusion focus, it was not necessary to include this term itself within the searches.

- *Journal of eLiteracy* (2004-05)
- *Journal Of Internet Banking And Commerce* (2001-06)
- *Journal of Literacy and Technology* (all years)
- *SCRIPT-ed* (2004-06)
- *Systems, Signs And Actions* (2005-06)
- *Webology* (2004-06)

A1.10 The most significant databases were ASSIA, IBSS, SSCI and IDOX, supplemented by pursuing references cited in bibliographies and indices of recent key texts. The other databases and search engines did not generate a significant amount of additional original material.

A1.11 There was inevitably a considerable amount of overlap in the results produced from each of these searches. This suggests that the searches successfully identified the key sources in the literature.

Analysis of Results

A1.12 To ensure consistency in analysis and the application of agreed quality standards, sources judged to be particularly important or representative of a subject area were summarised in relation to a standardised template which recorded the following information (see Annex 3 for an example of this template):

- Nature of the study, article or report: e.g. original quantitative, qualitative or mixed-method research; policy commentary; theoretical analysis; research summary, etc.
- Specific subject/topic; aims and objectives of the study
- Relevance to and implications for communications and social inclusion
- Research method and sources (where relevant)
- Key findings
- Further sources of information or reading identified

A1.13 The evaluation of the quality of research studies and validity of evidence was informed by recent statements of professional standards in assessing the quality of social research. For example, the Social Policy Association recently published a framework to assess research studies, included the following appraisal criteria (Becker *et al*. 2006):

- Validity: correspondence between data and conceptualisation; fitness for purpose of the research method
- Reliability: robustness of research instruments and consistency of observations
- Replicability: explicitness and transparency of method, likelihood of generating similar results
- Generaliseability: application of findings to wider cases or population

A1.14 Similarly, the UK Cabinet Office and National Centre for Social Research have also developed appraisal criteria applicable to qualitative research

studies (Spencer e*t al*., 2003). This framework includes five domains each containing several quality indicators:

- Findings: credibility; transparency of method; contribution to knowledge awareness of methodological limitations; validity and relevance to stated aims; representativeness / generaliseability
- Design: fitness for purpose (rationale, logic); sampling (missing coverage, non-response/non-participation)
- Data collection: reliability; rigour of fieldwork methods; contextualisation of results
- Analysis: accuracy of portrayal of data (awareness of negative cases); conveying the richness of data; link between data and conclusions; awareness of any effect of researcher's own interpretations
- Reporting: clarity and coherence; influence of researcher's values, theories and assumptions

A1.15 The aim of the analysis was to identify recurring issues and findings from the literature, and report these in light of assessments of the robustness of the evidence on which they are based. It is not possible to quantify findings from the literature, but the analysis and commentary on this, the conclusions reached and recommendations proposed, reflect the balance of the literature, i.e. the frequency of particular outcomes or associations, and the methodological and analytic quality of the respective studies from which these points emerge.

A1.16 It was not possible to read and analyse all of the UK material identified as relevant for the project. Therefore, only a sample of the most relevant and prominent sources identified was analysed in full. The focus of analysis was on those studies which satisfied either of the following two criteria:

(i) they appeared to be the most important, prominent or authoritative sources; e.g. those cited repeatedly in the literature; important policy measures or reviews, etc.
(ii) they were representative or exemplary of a particular topic area, theme or approach

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ANNEX 2: SEARCH RESULTS

OVERVIEW OF RESULTS

A2.01 The literature searches described in Annex 1 identified a total of 177 relevant UK references within the period 2001 - 06. A further 129 non-UK sources were also identified; these are not included in this review. A full list of the UK references is provided in Annex 4; the complete list of non-UK sources is provided in Annex 5.

A2.02 The breakdown of the UK source in terms of sector or provenance is as follows:

- Government and official sources: 21
- Non-government sources: 11
- Academic sources: 144

A2.03 These texts breakdown by subject and thematic area into the following categories:

Table A2.1: UK Social Inclusion and Communications Literature, 2001 – 07, by Subject

Principle subject area	***No' of texts***
Theoretical studies / general commentaries	35
General empirical studies	34
Existing literature and evidence reviews	2
Studies of particular UK nations or regions	6
Socio-geographic analyses e.g. studies of rural areas, deprived areas, etc.	18
Socio-demographic analyses e.g. studies of children/young people, older people, disabled people or carers, minority ethnic communities, gender differences, etc.	43
Studies of digital technology access or use and particular outcomes - health infomatics, etc.	15
Policy analyses and evaluations e.g. digital exclusion / divide policy initiatives	13

Policy proposals, frameworks and thinkpieces - both government and independent	4
Studies of e-government / public service reform policies	7

A2.04 There are, of course, possible overlaps between these categories, and they do not reflect any existing classification which appears in the literature itself. Therefore, these counts should be regarded as indicative. Nevertheless, this classification provides an overview of the principal themes within this field and an indication the balance of interest and activity within it.

NON- UK SOURCES

A2.05 The non-UK literature may be broken down by geographic scope or country of analysis:

Table A2.2: Non-UK Social Inclusion and Communications Literature, 2001 - 07, by Geography

Geographic scope	***No' of texts***
USA	70
European Union / European comparative studies	8
Comparative analysis / general studies	26
Other countries and regions	25

A2.06 American studies dominate the non-UK literature, although this in part reflects the nature of the searches undertaken and bibliographic databases analysed (e.g. English language publications only). Comparative analyses are also a significant element in the literature; many of these are quasi-experimental analyses of particular theories or hypotheses on the causes of the digital divide; others include comparisons of different policy responses, principally government or other public sector agencies. Among the countries included in the fourth category above are Canada, Sweden, the Netherlands, Spain, and Australia. Studies of the trends or conditions in the 'developing world' more generally are also included in this category, but are not a particularly large element in the literature.

A2.07 In relation to the subject areas and themes in Table A2.1, non-UK sources show the following break-down:

Table A2.3: Non-UK Social Inclusion and Communications Literature, 2001 - 07, by Subject

Principle subject area	***No' of texts***
Theoretical studies / general commentaries	32
General empirical studies	41
Socio-geographic analyses	3
Socio-demographic analyses	35
Policy analyses and evaluations / Policy proposals / thinkpieces	9
Studies of e-government / public service reform policies	1
Health	8

A2.08 As the non-UK literature was not included in the review, it is not possible to provide a comparison between findings from these sources and the UK literature. However, a summary impression of the profile of publications may be offered. The 3 geographic studies comprised one study of rural areas and two analyses of deprived area. Studies of children and young people (including analyses of educational measures and outcomes) were by far the largest category within the socio-demographic analysis, amounting to almost half of the 35 identified. Other groups included in this category included older people (2 studies); disabled people (3); women (3); and other groups: one study of homeless people and one of welfare claimants. There were 4 studies of communications and inclusion in relation to minority ethnic groups in this category, all of which were drawn from American sources. The only apparent possible difference between non-UK studies and the UK literature would appear to be a greater proportion of studies which focus on health and ICT, and in particular a recurring interests on HIV-AIDS information and treatment.

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ANNEX 3: ANALYTIC TEMPLATE

Author(s) . (Year). *Document Title*. Location: Publisher. [pp. if journal or book chapter]

Nature / Type and Purpose of Study

- Article / report:

Original quantitative research	
Original qualitative research	
Original mixed-method research	
Research summary (e.g. systematic review, meta-analysis)	
Policy commentary / thinkpiece	
Theoretical analysis	
Other (specify)	

- Stated aims / objectives:

- Principal subject / theme. e.g. study of particular area, topic, demographic group, policy, outcome, etc.

Theoretical studies / general commentary	
General empirical study	
Literature / evidence review	
Study of particular UK nation or region	
Socio-geographic analysis: • Rural area • Deprived area • Other area (specify)	
Socio-demographic analysis: • Children / young people • Older people • Disabled people and carers • BME communities • Gender differences • Other group (specify)	
Studies of digital technology access / use and particular outcomes; specify issue: educational attainment, employment, etc.	
Policy analysis / evaluation	
Policy proposal / thinkpiece	
Studies of e-government / public service reform policies	

- Geographic scope:

UK Nation	
UK	
Europe	
English-speaking	
World	
Other (specify)	

- Other distinctive features

Research Method / Sources

- Principal method / information source (where applicable): e.g. survey, focus group, secondary data analysis, etc.

- Assessment of quality:-

➢ Validity:
(a) correspondence between data and conceptualisation?
(b) fitness for purpose of research method - rationale, logic and relevance to stated aims?

➢ Reliability:
(a) robustness of research instruments?
(b) rigour of fieldwork?
(c) consistency of observations?

➢ Replicability:
(a) explicitness / transparency of methods?
(b) awareness of methodological limitations?
(c) likelihood of generating similar results?

➢ Generaliseability:
(a) representativeness / applicability of findings to wider cases or population?
(b) sampling - nature of sample, response rate, non-participation?
(c) contextualisation of results?

➢ Analysis and Reporting:
(a) accuracy of portrayal of data; e.g. acknowledgment of negative cases?
(b) link between data and conclusions?
(c) clarity and coherence of analysis / argument?
(d) conveying the richness of data?
(e) researcher effect - influence of researcher's interpretations, values, theories, assumptions; researcher's own awareness of these issues?

Key Findings / Arguments

- Key finding #1
- Key finding #2
- Key finding #3, etc.

Relevance / Implications for Social Inclusion and Communications

- Point #1: e.g. policy recommendations
- Point #2; e.g. knowledge gaps / further research required
- Point #3
- Point #4. etc.
- Assessment of value:
  (a) distinctive contribution to knowledge
  (b) comment on substantive importance

Further Reading / Information Sources

Author(s),. (Year). *Document Title*. Location: Publisher. [pp. for journal or chapter]

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ANNEX 4: SOCIAL INCLUSION AND COMMUNICATIONS, UK SOURCES

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Anderson, B. 2004, “Passing By And Passing Through: The Social Dynamics Of IT Adoption” Ofcom Consumer Panel. *Communications Regulation And Low Income Consumers - Research And Policy Seminar*. London. http://www.ofcomconsumerpanel.org.uk/events/Seminar11.pdf

Anderson, B. 2005, "The Value Of Mixed-Method Longitudinal Panel Studies In ICT Research: Transitions In And Out Of 'ICT Poverty' As A Case In Point", *Information, Communication and Society,* vol. 8, no. 3.

Angus, L., Snyder, I. & Sutherland-Smith, W. 2003, "ICT and Educational (Dis)advantage: Families, Computers and Contemporary Social and Educational Inequalities", *British Journal Of Sociology Of Education,* vol. 25, no. 1, pp. 3-18.

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Brown, A. 2005, "Wired Up: Developing Information Technology", *European Information Service,* , no. 265, pp. 6-7.
Bullard, J.E. 2000, "Sustaining Technologies? Agenda 21 And UK Local Authorities' Use Of The World Wide Web", *Local Environment,* vol. 5, no. 3, pp. 329-342.
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ANNEX 5: SOCIAL INCLUSION AND COMMUNICATIONS, NON-UK SOURCES

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