



Digital Inclusion: An Analysis of Social Disadvantage and the Information Society

Executive Summary



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The findings and recommendations in this report are those of the authors and do not necessarily represent the views of the Department for Communities and Local Government.

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Executive summary: Research findings and policy recommendations

Technological change permeates most areas of society and many different aspects of our lives. The increasing utilisation of information and communication technologies (ICTs), such as the Internet, across all sectors of society has led many to conceive of Britain and other advanced industrial economies as Information Societies. While it is difficult to imagine that anyone in a modern leading economy like Britain is not affected by new ICTs, not everyone is equally well served. Many individuals and households, for example, do not use the Internet. Does this matter? What difference does it make?

This study explores the social implications of exclusion from the information society by examining the best empirical data available for the UK in 2008. The findings indicate that technological forms of exclusion are a reality for significant segments of the population, and that, for some people, they reinforce and deepen existing disadvantages. Technology is so tightly woven into the fabric of society today that ICT deprivation can rightly be considered alongside, and strongly linked to, more traditional twentieth century social deprivations, such as low income, unemployment, poor education, ill health and social isolation. To consider ICT deprivation as somehow less important underestimates the pace, depth and scale of technological change, and overlooks the way that different disadvantages can combine to deepen exclusion.

Study approach

This study explored the relationship between digital and social disadvantage in the UK. It brought together three major datasets, based on multiple independent surveys conducted by the Oxford Internet Institute (OII), the UK Office for National Statistics (ONS), and the Office of Communications (Ofcom), enabling a replication of indices and analyses to validate the central findings. For each set of data, the team developed a set of indices of social and digital disadvantage, and then explored the strength and nature of the relationship between them.

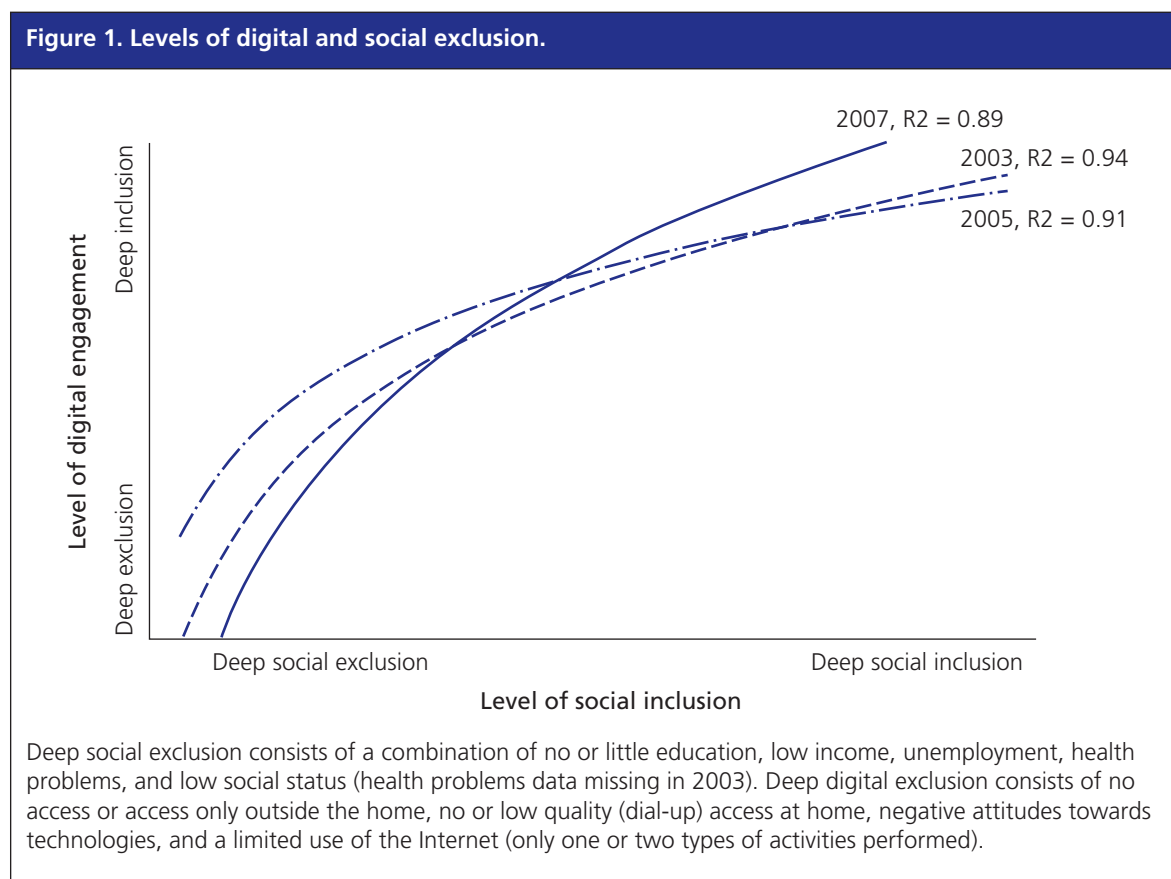
Digital disadvantage was measured based on an index constructed from an individual's location of access, such as at home or elsewhere; quality of access, as measured by access to broadband; attitudes towards ICTs (predominantly the Internet), and the different types of activities undertaken using the Internet. Similarly, social disadvantage was measured based on an index constructed from health, employment, income, education and other social status measures. Various statistical techniques from simple correlation and association analysis to multivariate and principle component analysis have been conducted. The sections that follow provide a summary of the results and interpretation, and full supporting data and analyses.

Linking digital and social disadvantage

Across all three datasets, there was a strong, statistically significant association between the social disadvantages an individual faces and their inability to access and use digital services. **Those who are most deprived socially are also least likely to have access to digital resources such as online services.** For example:

- One in 10 of the adult population (9%), amounting to four million people, suffer 'deep' social exclusion, a severe combination of social disadvantages, and have no meaningful engagement with Internet-based services.
- three out of four of those who suffer 'deep' social exclusion, have only limited engagement with Internet-based services. This extrapolates to about 13 per cent of the UK's population, or about six million adults.

Figure 1 illustrates how digital and social disadvantage are related on the two indices developed for this study.



Those who suffer deep social disadvantage are up to seven times more likely to be disengaged from the Internet than are those who are socially advantaged. An analysis over time indicates that this dual exclusion is not improving, although neither does it appear to be significantly deteriorating.

Overcoming digital inequalities

Across the three independent surveys (Oll, Ofcom and ONS) there are clear exceptions to the general pattern, such as people who, despite their social backgrounds, were either unexpectedly engaged with or disengaged from the Internet.

(i) The unexpectedly engaged

Those who were socially disadvantaged and yet engaged with the Internet tended to be younger, single, were somewhat more likely to have a higher level of educational attainment, have children, and were not retired, separated or widowed. Furthermore, disadvantaged people from certain ethnic groups, particularly of Afro-Caribbean origins, tended to be more highly engaged with the Internet than expected purely on the basis of their social disadvantages. These results indicate that some individuals within socially disadvantaged groups are capable of overcoming barriers to digital engagement.

(ii) The unexpectedly disengaged

Analyses of the backgrounds of those who are more disengaged from the Internet than expected on the basis of their social advantages, show that these individuals tend to live in rural rather than urban areas, be older, unemployed and less likely to live in a household with children. Table 1 provides a summary of these groups.

Table 1	
Unexpectedly Engaged	Unexpectedly Disengaged
<p>Those who are generally socially disadvantaged but unexpectedly digitally engaged tend to:</p> <ul style="list-style-type: none"> • be younger • be single • have higher educational outcomes • have children • not be retired, separated or widowed • be from certain ethnic groups eg Afro-Caribbean 	<p>Those who are generally socially advantaged and unexpectedly digitally disengaged tend to:</p> <ul style="list-style-type: none"> • live in rural areas • be older • be unemployed • be less likely to live in a household with children

Improving some factors, such as educational achievement, employment and rural access can appear to influence whether a person is unexpectedly engaged or disengaged. This indicates that policies to support social inclusion can therefore support digital engagement.

However, an element of this is also down to people clearly making an informed 'digital choice' – this is particularly true of the unexpectedly engaged who, in contrast to their peers with similar social backgrounds, have chosen to use the Internet. Similarly, some who are unexpectedly disengaged may have made a conscious 'digital choice' not to use the Internet. There is evidence that digital choices are driven by cultural factors and the social context of individuals,¹ which influence the

¹ Dutton, W.H., Shepherd, A. and di Gennaro, C. (2007) 'Digital Divides and Choices Reconfiguring Access: National and Cross-National Patterns of Internet Diffusion and Use'. In B.Anderson, M.Brynin, J.Gershuny and Y.Raban (Eds) *Information and Communications Technologies in Society* (Routledge: London), pp. 31–45.

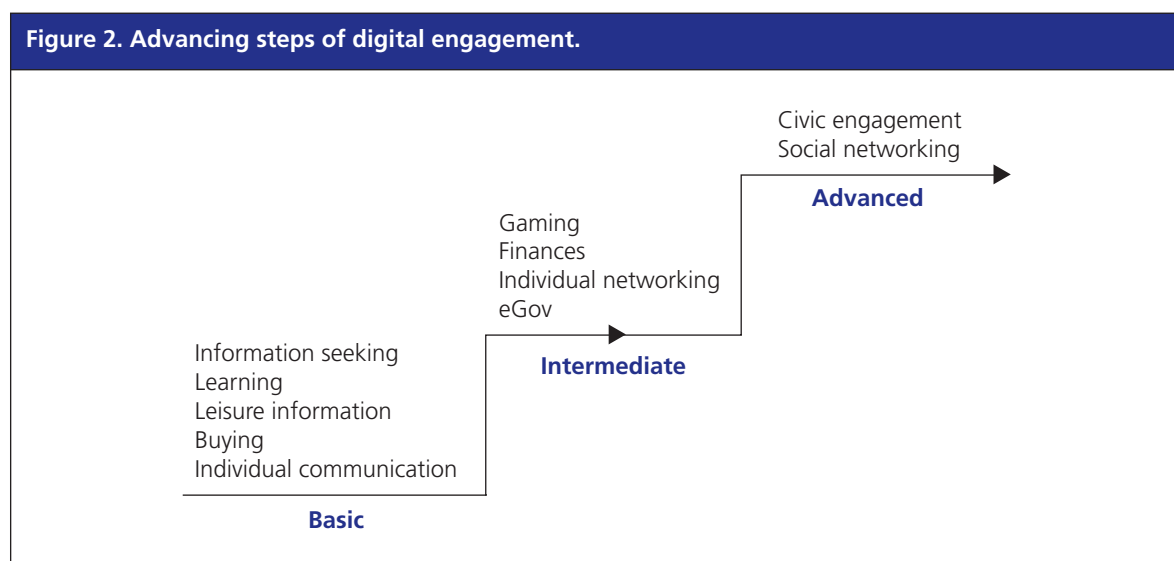
development of positive or negative attitudes towards technologies. Influencing digital choices is therefore not straightforward, and requires innovative and creative approaches to tackling attitudinal and cultural barriers.

Steps toward fuller digital engagement

Across the surveys a clear ladder of sophistication in the use of the Internet emerged from the analyses. As the number of Internet activities a person engages with increases, so does the likelihood of them undertaking more intermediate and advanced activities. Activities that once would have been thought of as advanced, such as online purchasing, are now thought of as basic and commonplace. Furthermore, more advanced activities are associated with home and broadband access rather than access in the community. Multivariate descriptive and factor analyses identified the following clusters of basic, intermediate and advanced activities:

- Basic or Practical uses of the Internet are conducted by 15% of the population (22% of Internet users) and include information seeking, person to person communication, and shopping.
- Intermediate users who, as well as basic activities, use the Internet for participatory activities. Including government services, online financial services and individual networking applications like mailing lists and discussion boards, which allow individuals to interact within existing networks. 45% of the population (67% of Internet users) can be considered to be intermediate users.
- Advanced or Networking uses of the Internet are conducted by 8% of the population (11% of Internet users) and include active civic participation such as signing petitions, and social networking applications like Facebook, which allow individuals to interact with people beyond their immediate networks.

Figure 2 shows these steps:



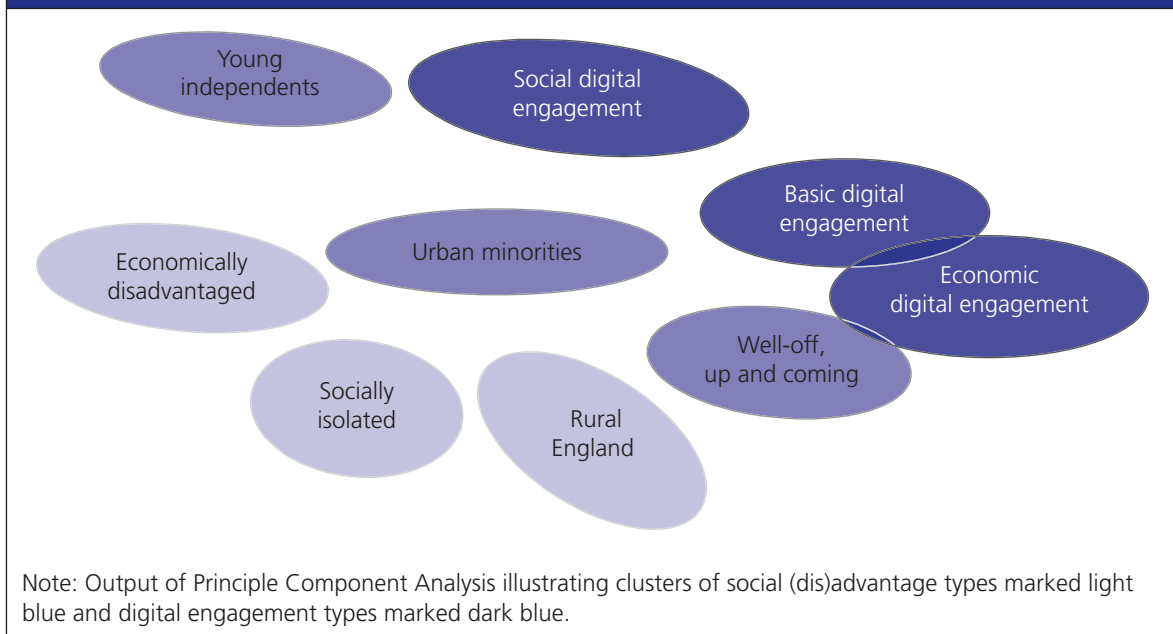
Barriers to fuller digital engagement

Analysis of social exclusion across the surveys indicated two important dimensions of social exclusion: social isolation and economic disadvantage. Both of these dimensions tend to be associated with a lack of basic/practical use of the Internet. However, these two dimensions are in addition linked to different forms of digital disadvantage:

- The socially isolated emerge as being particularly excluded from the advanced/networking resources of the Internet which have the potential to help them become less isolated.
- The economically disadvantaged are particularly excluded from intermediate/participation resources of the Internet, including government services, and financial resources, which provide enhanced access to the services they need.

Figure 3 illustrates the findings based on a principal components analysis which mapped different types of digital engagement and different types of social inclusion and exclusion in a two dimensional space.

Figure 3. Map of links between social exclusion and digital engagement types.



Additional analyses reinforce the finding that those **who suffer specific social disadvantages are least likely to benefit from the very applications of technology that could help them tackle their disadvantage:**

- A poor education is a barrier to accessing education and learning resources on the Internet.
- Being elderly (and more likely to be isolated, with constrained social networks) reduces the likelihood of benefiting from social applications of the Internet.

- Having a disability (and potentially being less mobile) reduces the likelihood of accessing the Internet in general (which reduces the need for mobility).
- Being unemployed (and therefore more likely to be financially constrained) reduces the likelihood of benefiting from online buying (which could save money).
- Being retired, unemployed and having fewer educational achievements (and potentially being more dependent on government services and support) reduces the choice and the likelihood of benefiting from electronic government services (which can be more convenient and responsive than traditional services).

A greater number of socio-economic factors influence people's use of more advanced applications such as social networking than those that influence basic applications such as information seeking. The barriers to digital engagement consequently increase as the application becomes more advanced.

ICT-poor environments

Social isolation and economic disadvantage also emerge as being linked to lack of engagement with other technologies. An analysis of ONS survey data which includes questions on electronic government found that:

- The socially isolated tend to have more limited access to more sophisticated technical devices and services. They are more likely to have simple, non-Internet enabled mobiles, non-interactive TV and, if they do have Internet access, are more likely to still use simple dial-up access. Usage and sophistication of use of the Internet is low. Furthermore, there is low use and low willingness to use government services online.
- The economically disadvantaged also have limited access to technology. The technology they are most likely to have is a TV or a DVD player. However, in contrast to the socially isolated they are more likely to try and seek out access to Internet-based services in libraries or places of education. They are also likely to make use of the limited resources that they do have. For example, there is evidence that the economically disadvantaged are likely to shop using their TV and even send email using digital TV. When asked, the economically disadvantaged do express some willingness to access government services electronically, for example using text messaging.
- Those suffering the deepest social disadvantage, where economic disadvantage and social isolation coincide, are likely to be limited to an analogue TV or have no technology at all. There is little use of the Internet and low willingness among this group to access government services online or via other electronic channels.

Conclusions and policy recommendations

The general implications of this study with special relevance to policy making and research practice are:

1. Policies to support social inclusion can make a difference to engagement with technology.

Tackling poor educational attainment can increase engagement with the Internet, as it is a strong differentiator among the socially disadvantaged but unexpectedly engaged. Improving other factors, such as employment and rural access may also help to influence the socially advantaged but digitally disengaged. The presence of children is a big differentiating factor motivating people to become engaged with the Internet. This indicates that well-targeted programmes that provide home access to technology for disadvantaged pupils could have a significant impact if the programmes also reach out to parents.

2. Online government initiatives are not reaching the most excluded.

This is not just about access. Government-related activities on the Internet such as to increase participation and electronic access to services are undertaken mostly by more sophisticated ICT users. Designers of government services need to understand that the socially and economically disadvantaged people who could benefit most by accessing their services will be the least likely to (be able to) use electronic means. This emphasises the need for multi-channel approaches that provide alternative ways of accessing services; mediated access to online services where there are no alternative non-electronic channels, and building people's confidence and ability so that they have the choice to use them independently in the future.

3. Consideration of other available digital channels is particularly important for service designers to engage some socially disadvantaged groups.

There seems to be some willingness to engage with other forms of technology among these groups, particularly via SMS and TV.

4. The potential for the Internet to address social isolation and economic disadvantage is largely untapped.

The Internet is clearly not yet being put to work effectively to tackle these elements of social exclusion. Two areas particularly stand out for further work:

- The role of social networking applications to tackle social isolation.
- Government services and online financial services to support the economically disadvantaged.

Initiatives that directly bridge the gaps that exist between social applications of the Internet and communities that could benefit most from these applications should be a priority. For example, innovative social networking applications for the isolated and vulnerable elderly, engaging educational services for those with poor educational achievement; or financial applications (eg access to online shopping and selling, second hand markets like Freecycle, debt advice and benefits) for those who are economically disadvantaged.

5. Access quality, locations of access and attitudes towards technologies remain important barriers and enablers that government and partners can influence.

There is a continued need to support people and communities in accessing technology and in acquiring the literacy skills required to consume and produce digital media both at home and in the workplace.

6. Government and its partners need to focus on tackling key barriers and enablers for the most disadvantaged.

Key barriers and enablers emerging from this analysis include:

- Extending home access – it is clear that more advanced activities are associated with home access rather than access in the community. So while access in the community is important – extending home access should be a priority.
- Access quality is also associated with more advanced applications – so improving access quality through next generation broadband policy can be an enabler to digital engagement.

7. Government and its partners need to address digital choices, as well as divides.

Well-designed initiatives can address negative attitudes toward technologies and the Internet. The problems of access are cultural as well as economic – even when basic access to the Internet is solved there will be other barriers for socially excluded groups accessing the digital resources from which they could benefit.

Concluding remarks

This study has predominantly focused on the Internet, although the model and analyses proposed in this report are applicable and can be extended across other platforms such as TV and mobile phones. It is clear from the analysis that a multi-platform approach to digital engagement will be more effective than a pure focus on the Internet. However, **simply providing access to these platforms is not enough – digital disengagement is a complex compound problem involving cultural, social and attitudinal factors and in some cases informed ‘digital choice’**. For service delivery, the mode of delivery ultimately matters less than the quality and cost-effectiveness. However, technology is playing a key role in improving the effectiveness and efficiency of services, and those who are able to access these services through electronic channels have a greater choice and a greater range of benefits available to them.

This study has shown that digital disengagement is persistent and related to social disadvantage. The implications of these findings indicate that digital disengagement is not simply an academic issue of little relevance to social policy – technology and social disadvantages are inextricably linked. This means that social policy goals will be increasingly difficult to realise as mainstream society continues to embrace the changes in our information society while those on the margins are left further behind – disengaged digitally, economically, and socially.

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