

The Digital Divide in 2025

An independent study conducted for



December 2004

1. Executive Summary

- Given the objectives of this report and the need to forecast to 2025 we have defined digital exclusion as not having access to the internet at home. On this basis, 51% of the adult population of Britain is currently digitally excluded. This figure is consistent with the findings of the Cabinet Office's recent Digital Inclusion Project which found a similar proportion of the population to be "*digitally disengaged*".
- This 51%, or the 24 million adults excluded today, are currently not availing of potential opportunities for access to cheaper goods and services, information, convenience and time saving, social and cultural capital and further means of communication with friends, family, companies and government.
- Detailed analysis of the profile of the digitally excluded illustrates the existence of, broadly, two main obstacles to digital inclusion;
 - problems of access often associated with income and ability to pay for technology (home computing and internet access) but also issues such as disability and skills gaps.
 - problems of engagement whereby people do not see the need to engage with new technology and do not perceive the benefits of the online world.
- Our analysis of the digitally excluded population suggests that both elements are present today with, if anything, problems with engagement being more important than problems of access. Looking to the future, our expert interviews and literature review suggest that disengagement will increase in importance, although issues of access will remain for some groups in society.
- From an extensive review of existing literature on the digital divide and new research in the form of expert interviews, we categorised expert perspectives on the digital divide into two categories - digital optimists and digital pessimists. Digital optimists believe that convergence and the emergence of more user-friendly technology will diminish the impact of the digital divide going forward. Digital pessimists question many of these assumptions.

- There was a suggestion throughout many of our interviews that perhaps the problems related to the digital divide have not been given sufficiently serious consideration by many in Britain today. The intangible nature of the digital divide means the problem is perceived to be less concrete and therefore less real. Similarly, some sources suggested that issues around digital inclusion were being dismissed because next to many other issues, such as homelessness and famine, technology-related problems were perceived to be considerably less pressing
- Regardless of the differences in points of view regarding the likely outcome of these issues, consensus exists in terms of the actions which need to be taken in order to create a more digitally inclusive future. These steps include convergence of technology, user-friendly intuitive design developed in conjunction with the end user, technologies which do not require the acquisition of new skills, and design which does not exclude.
- Our forecasts, assuming no progress is made on this issue, highlight that 23 million people will remain at risk of digital exclusion in the Britain of 2025. The composition of this group will change over time because of the ageing population – older adults will constitute a larger proportion of the digitally excluded. If recent trends in income distribution continue, we expect lower income groups to form a smaller proportion of the digitally excluded by 2025. However, access, as opposed to engagement, will remain an issue for some in Britain in 2025, particularly because the numbers of people with disabilities who are at risk of digital exclusion is likely to increase.
- Therefore, while the overall numbers of people at risk of digital exclusion in 2025 will be slightly reduced, it will continue to represent a very significant problem with almost one third of all adults at risk. Furthermore, the consequences of being digitally excluded in 2025 are likely to be more severe as technology penetrates more and more aspects of our lives, and as society increasingly expects and functions around the expectation of access and engagement with new technologies.
- Our analysis suggests there is a role for all stakeholders – business, government, education, and special interest groups - in facilitating greater digital inclusion. To avoid the potentially damaging consequences of digital exclusion in the future, our research suggests the following actions to be taken by a range of stakeholders:
 - Greater resources must be devoted to understanding currently disengaged groups' needs and potential uses for online technologies. The current widespread assumption that non-users needs and online behaviours will be the same as current users is preventing due consideration of the diverse needs of the currently disengaged population.

- Efforts should be made to 'market' the internet and ICT skills – the disengaged need to be persuaded of their benefits.

- New technology needs to be designed with the involvement of disengaged groups – technology needs to understand the disengaged, not the other way round.

- Convergence should bring simplicity not complexity.

- Consumer interface with technology should be genuinely intuitive or invisible – requiring no special skills.

- Technology prices must become more affordable.

- Where access issues remain e.g. disability – social programmes must intervene.

2. Background

2.1 Introduction

As part of its commitment to corporate social responsibility and its ongoing work to tackle the digital divide, BT is concerned with the impact of technology on the lives of UK citizens; both the positive enabling aspects for those who have access to these technologies, but also the implications for those without access for whatever reason.

The digital divide, and digital exclusion overall, have already been explored in some detail. However, this does not necessarily mean that there is widespread understanding of these concepts or of the serious implications they have for members of our society (beyond what constitute mere luxuries today e.g. ordering shopping online). BT was interested in exploring the potential future impacts of the digital divide in 2025 and commissioned the Future Foundation to conduct this independent project using a range of forecasting methodologies.

2.2 Research objectives

BT was particularly interested in illuminating the potential impacts of the digital divide in 2025 should effective and wide-reaching solutions not be found to tackle these problems.

Key objectives for this project included:

- To draw together the most up to date evidence on the current impacts of the digital divide
- To use a range of forecasting techniques to extrapolate the impacts of these trends in 2025
- To illuminate the consequences of the digital divide in 2025 if not tackled.

2.3 A central assumption

The Future Foundation approach to this project was based on the assumption that future policies remain consistent with the policies of today. We posed the question, what will happen to digital exclusion and these specific groups most at risk without any fundamental change or policy intervention? This study sought to explore the impact on Britain in 20 years time if the digital divide and issues surrounding digital exclusion are not tackled.

2.4 Methodology

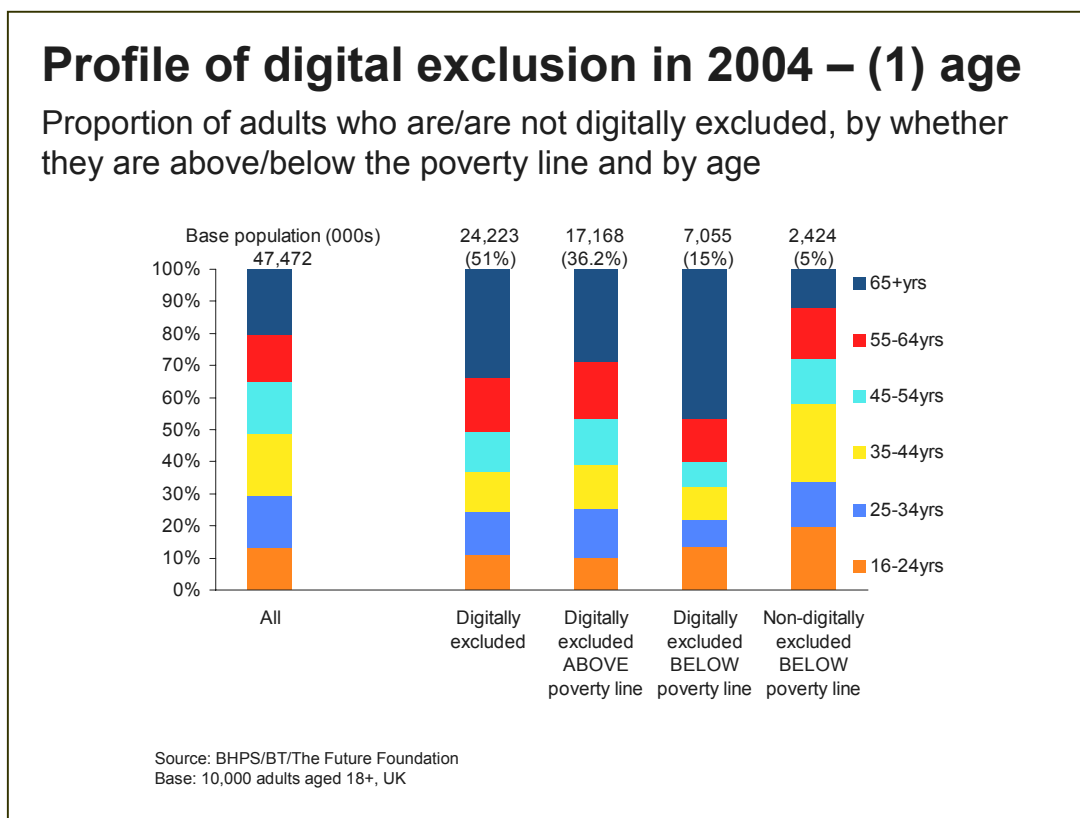
The methodology employed to investigate this question included three stages:

- a) **Expert interviews** – with a range of experts on the social impacts of technology and on the groups at high risk of digital exclusion. These qualitative discussions were designed to explore current thinking in this area and to collate and analyse expert opinion on the future of the digital divide (see appendix a for a list of interviewees).
- b) **Desk research** – an exhaustive review of existing literature on digital exclusion, including government, academic and commercial sources as well as new in-depth analysis of the British Household Panel Study (BHPS) to identify the current extent and profile of digital exclusion. The BHPS is widely regarded as one of the best longitudinal studies in the world. It has tracked the attitudes and behaviour of a representative sample of 5,000 UK, involving 10,000 individuals, on an annual basis since 1992 (see appendix b for further information on the BHPS and appendix c for a list of sources included in the desk research).
- c) **Forecasts** – utilising a range of forecasting methods to forecast the size of ‘at risk’ groups in 2025. Quantitative forecasts using ONS and BHPS data combined with qualitative and scenario planning methods.

3. The digital divide today

3.1 Profile of the digitally excluded population in 2004

Illuminating the future of the digital divide required initially establishing the profile and characteristics of digital inclusion and exclusion in 2004. Using the BHPS, widely regarded as one of the best longitudinal studies in the world, we were able to develop a detailed picture of access to home computing and the internet in the UK today.



Currently, 51% of the adult population of the UK, or 24.2 million are digitally excluded in the most basic sense – they do not have access to home computing and the internet¹. The overall profile of the digitally excluded population is proportionally older than the digitally included population, with a higher percentage occupying the 55+ age group than the UK average.

¹ These findings are consistent with the recently published results from the Digital Inclusion Panel led by the Cabinet Office. The DIP project, using the ONS dataset, suggested that 48% of the UK population are currently disengaged

The key findings in relation to the digitally excluded UK population are as follows:

- Adults who are digitally excluded and living below the poverty line (60% of median income) are also likely to be older (55+) than the rest of the digitally excluded and those who are digitally included
- 36.2% of the digitally excluded population, or 17.2 million adults, are currently digitally excluded and living above the poverty line. This raises important questions about the interaction between income and access to digital technologies, and highlights digital engagement, that is interest, motivation, skills, relevant content as a key consideration in the debate around the digital divide going forward. In other words, it is reasonable to assume that many of those living above the poverty line have the financial means to afford home computing and internet access and in that sense their exclusion appears more likely to be based on engagement rather than income/access.
- The column on the far right of the graph on the previous page illustrates the population living below the poverty line who are digitally included. This group contains higher proportions in the younger age groups (16 – 54) than the digitally excluded population. The presence of children in the household appears to be a significant factor for those in the family lifestages.

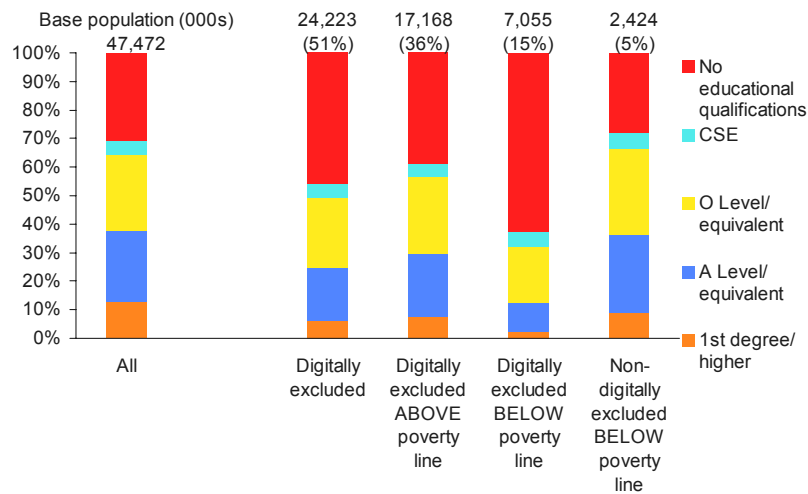
“Our projects - including EverybodyOnline sponsored by BT – work in some of the most disadvantaged communities in the country and where even a family on limited financial means establishes a need and when an item becomes a ‘must-have’, it will appear in the household. This is the case with Sky TV, widescreen televisions, washing machines etc. Digital technologies are clearly not the priority”. John Fisher, CitizensOnline².

Similarly, exploring the educational attainment levels of the digitally included and excluded populations highlights some important considerations.

² Interview with the Future Foundation, October 2004

Profile of digital inclusion in 2004 – (II) education

Proportion of adults who are/are not digitally excluded, by whether they are above/below the poverty line and by educational attainment



Source: BHPS/BT/The Future Foundation
Base: 10,000 adults aged 18+, UK

Key points to be considered include:

- The average UK adult is more than twice as likely as the digitally excluded population to have a first degree or higher (12.9% compared to 6.1%). The digitally excluded are more likely than average to have performed less well in the education system. This is particularly the case for the proportion of the digitally excluded population who are living below the poverty line – less than 2% of whom have a first degree or higher. The digitally included living below the poverty line are almost one third more likely to have a first degree than the digitally excluded population overall (8.9% compared to 6.1%).
- Similarly, digitally excluded adults are almost 50% more likely than the UK average to have no educational qualifications (45.8% compared to 30.7%). Of the total adult population living below the poverty line, the digitally excluded are twice as likely as the average UK adult to have no educational qualifications but the digitally included are less likely than the UK average to have no qualifications.

- Furthermore, the disabled adult population are at high risk of being digitally excluded. Of the 3.4 million adults who are registered disabled in 2004, 2.4m of them, or 7 in 10 are digitally excluded. This is particularly pertinent given the finding that not all UK online centres have facilities for disabled people. (A recent survey suggested 79% provide wheelchair access³).

In summary, the profile of the digitally excluded population in the UK highlights the complexity of the issues involved in the debates surrounding digital inclusion and the digital divide. Digitally excluded adults are more likely to be older and to have no educational qualifications. The presence of children in the household appears to have an impact in this area - increasing the likelihood that one will be digitally included.

These factors are likely to be heightened in the subset of this group who are living below the poverty line. Income certainly plays a role in digital exclusion for some in the UK population. Of the 9.5 million adults living on low incomes more than 7 million (or 74%) are digitally excluded. However, digital exclusion cannot be reduced to a mere causal link to income. People on low incomes account for 29% of the digitally excluded population, the remaining 71% being found above the poverty line.

A report on behalf of the Mayor of London in November 2003⁴ highlighted the existence of a significant group of people who were willing to say they had not used the internet because of 'lack of interest'. This study found that this group *"has remained almost constant at 9 million non-users since January 2001. This stability is more significant when one considers that the number of non-users decreased by 1.48 million during (the period) January 2001 to April 2002."*

³ Fisher, J. and Bradbrook, G. (2004) Digital equality

⁴ Connecting people: tackling exclusion? (2003) Greater London Authority

3.2 Digital engagement

These findings raise the importance of broadening the debate around the digital divide beyond income (and in the future beyond access). A frequently cited vision of the UK's technological future, both in the expert interviews and the desk research, is one in which actual access is less of an issue. This vision is based on a belief that through a variety of means e.g. digital TV, mobile phones and other pieces of hardware, through public access points and access at work, the majority of the UK population will have the opportunity to access interactive technologies. However, as was discussed briefly above, the key challenge will become one of engagement rather than access.

“It’s not about owning a computer, it’s about understanding the values and life advantages of being online, and until you as an individual understand what that means to you, the piece of kit/technology is irrelevant. For example, people buy dishwashers because they make life easier and you don’t have to wash the dishes.” John Fisher, CitizensOnline⁵

“We must try to understand the purposes for which people should be using this technology. It is not obvious that to go online is always a good thing, nor is it automatically better than the alternatives. We can only judge people’s possible disadvantage by understanding the possible purposes and uses. And so, if libraries with books and informed staff continue to be well supported then the internet is not necessarily essential. But if libraries are cut back and the internet becomes the sole route to avail of this information then some people risk being disadvantaged” Professor Sonia Livingstone, London School of Economics & Political Science⁶

Therefore, being digitally engaged involves not only having access but also having the motivation and interest in interactive technologies. It involves having the skills that permit one to make the most from the resources available on the internet and it requires that there is content tailored to an individual's needs.

⁵ Interview with the Future Foundation October 2004

⁶ Interview with the Future Foundation October 2004

The sizeable group of people willing to say they have not accessed the internet because of 'lack of interest' highlights the importance of taking the concept of engagement seriously. As a society, we cannot merely produce new technologies and expect citizens to automatically feel the need for them. Engaging the entirety of the UK population requires understanding people's needs, desires, experiences and alternative means of fulfilling these and not merely reducing non-user needs to be a replica of the needs of current users.

While the broad debate around digital inclusion will shift from access to engagement, issues with access will certainly remain for some in our society. This is particularly the case when we consider special interest groups.

“In the most basic sense access, will remain an issue for many. For example, special interest groups for the elderly and disabled say that getting in front of a computer or getting into a library remains an important issue”. Professor Sonia Livingstone, London School of Economics and Political Science

“There are somewhere between 60 and 300,000 people who use sign language (the disagreement on the number is significant), there are eight million with hearing problems. There are only half a million people who have such poor vision that they are qualified to register as ‘blind’ but there are two million more people who cannot read Times New Roman, often the default on a computer screen”⁷.

Similarly, issues with literacy mean that access could remain a difficult obstacle for some:

“Policy makers need to realise that the potential of ICTs to improve social inclusion may only be realised if more general functional illiteracy, occupational illiteracy, information illiteracy and adaptive illiteracy are also addressed”⁸.

Finally, for the debate to truly progress beyond access for many in society, it would require the development of one level of universal access. In our view, one level of universal access is a science fiction based on an inadequate knowledge of the technical and commercial forces shaping the market.

⁷ Carey, K. (2000) ICT, Social Exclusion, Content Creation and the Social Model

⁸ Loader, B. and Keeble, L. (2004) Challenging the digital divide?

What would the implications be for the likely replacement of un-metered access with download limits or charging per byte? Richer, data-heavy content would come with a price tag, which would invariably dissuade lower income users from downloading it. Then there are peripherals to consider e.g. digital camera, scanner, printer, webcam, microphone, large hard drive capacities all come with a cost and all enable particular uses of interactive technologies. Similarly, smaller, lighter portable technologies free the user from the constraints of usage tied to one physical location, but wi-fi and 3G also come with a price tag that may be prohibitive for many (especially occasional users).

Our analysis suggests that one universal level of access is highly unlikely in the immediate future. As long as there are different levels of access the digital debate must include considerations related to access. However, the focus for the debate must shift to issues of engagement with online technologies and their role in the lives of UK citizens.

3.3 Expert perspectives on the digital divide

Throughout our interviews with experts on the social impacts of technology and experts on the groups at high risk of digital exclusion and our reading of an exhaustive range of publications on this topic, we were struck by the wide range of views on this subject. There was evidence of a lack of consensus and strong disagreement on questions including: Does the digital divide exist? Is the digital divide a problem in the UK today? Will the digital divide be a problem in the UK in 2025?

According to some sources, serious questions over the existence of the digital divide remain. For these sources, issues related to technology reflect broader social and economic challenges facing the UK.

"My stance on this is that 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". Sue Webb, Women Connect⁹

"For all its totemic significance, technology is not the main determinant of inequality¹⁰".

⁹ Interview with the Future Foundation October 2004

¹⁰ ¹⁰ Jupp, B. and Perri 6 (2001) Divided by information

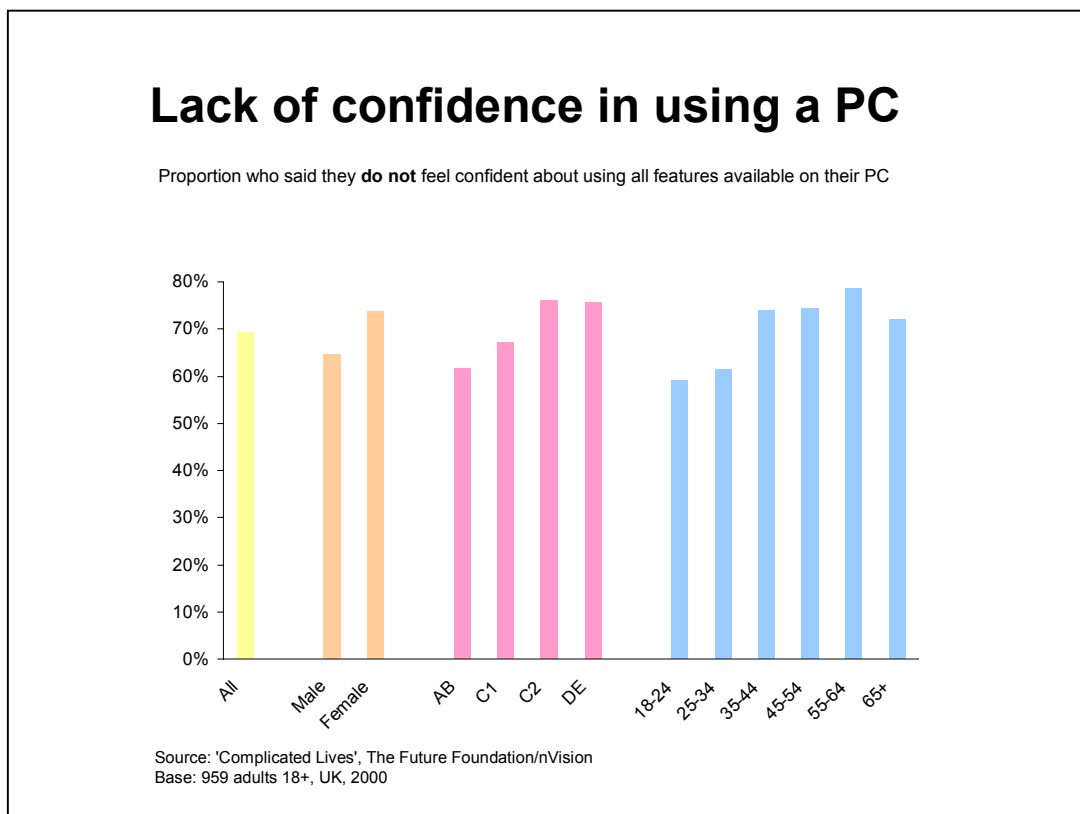
We have categorised the opinions espoused in the various sources into two categories - digital pessimists and digital optimists - regarding the future availability of online technologies, and the interaction between technology and social exclusion.

The digital pessimist vision of the future of the digital divide appears to take the assumption that an insufficient amount will be done between now and 2025 to combat the issues perceived to arise from the digital divide, and to focus on the dire consequences of being digitally excluded in twenty years time.

Other expert interviewees and other literature suggest that the digital divide will endure and/or deepen in future. This digital pessimist viewpoint is based on the following:

- That a large proportion of the 'young-old' age cohort (the 55+ age group), that will form the oldest age cohort in 2025, is technologically disengaged. The Future Foundation's own research supports this point of view. The charts on page 16 illustrate that 80% of 55-64 year olds are not confident in using all the functions on a PC. Seventy five per cent of 55-64 year olds are not confident in using all aspects of the internet. Whilst this lack of confidence does not amount to exclusion or disengagement in itself, it is striking how much less confident this age group is in using interactive technology than younger age groups. This suggests that age-related digital exclusion will remain an important aspect of this problem to 2025 and beyond.
- That the technological convergence and user-friendly design envisaged by the optimists will not actually materialise. In their view, new technologies have not proved user friendly to excluded groups to this point in time. As a result, they question the assumption that inclusive design will emerge in future.
- That commercial pressure will encourage technology providers to continue to offer the latest technology at premium prices to wealthy early-adopter consumers. This 'segmenting' of the market place, targeting the latest technology at those who can most afford it or who are most 'engaged' will help to maintain the digital divide.

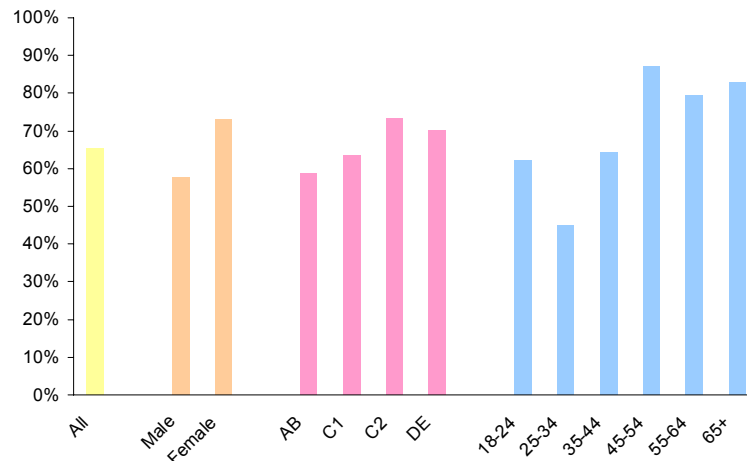
“(being digitally excluded) means you’ll be cut off... like electricity. The internet is already an important way in which lots of us communicate. We don’t just use it for shopping, and if you are not part of that you are missing out on a whole dimension of life. Having internet access is going to be like reading or, like I said, having electricity... there was a time when we used to think of a fridge as a luxury item, only rich families and posh people had fridges. Now not to have a fridge is a mark of deprivation of some kind... I think the internet is moving towards that kind of status – it will be one of those things that everyone will have to have and it will not be thought of as being a luxury item. It will become like a public utility.”
John Carr, NCH¹¹



¹¹ Interview with the Future Foundation, October 2004

Lack of confidence in using the internet

Proportion who said they **do not** feel confident about using all features available on the internet



Source: 'Complicated Lives', The Future Foundation/nVision
Base: 959 adults 18+, UK, 2000

The digital optimist point of view cited two main factors underpinning the belief that the future will be more digitally inclusive:

- As the oldest, most digitally disadvantaged cohort dies out, more technologically able and engaged age groups will replace it. Eventually, age – a key element of the digital divide today - will cease to be a factor.
- In future, interactive technology will be user-friendly and will not require the specialist skills (such as 'qwerty' keyboard skills) that make current technologies difficult to use for many disengaged groups.

“I expect that there will be a cohort who will have died out – the people who would perhaps have found these technologies the most challenging. Therefore, to some extent the problem might have been reduced by the cohort following them being able to manage these technologies more easily” Professor Mark Shucksmith, Arkleton Centre for Rural Development, University of Aberdeen¹²

¹² Interview with the Future Foundation October 2004

“I’m not sure it’s a problem in 20 years time because one assumes that the quality of the technology and the usability of it will improve. I suspect every house will have a huge amount of digital equipment in it and that it will work together. In a scenario like this the skills required to use the technology would probably not be as sophisticated as they are currently. Similarly, in 20 years time the generation who will be in the middle of their working life are the people who are currently at school and there is no doubt that the quality of access and teaching around this topic is very good now. But to dismiss that and say the problem is over misses out the route we need to take to get there in the period between now and then”.John Fisher, Citizens Online¹³

Through our analysis of technology usage, familiarity and confidence we believe it is worth questioning some of the assumptions underlying the more optimistic perspective. Perhaps it is true to say that the oldest cohort today is, in general, the least comfortable with a wide range of new technologies. However, there is no guarantee that the following cohorts will automatically be significantly more comfortable and confident with technology. Future Foundation research from 2000 suggests that the majority of people aged 35+ experienced a lack of confidence when using the internet. We believe it is worth questioning the assumption that the next 20 years will bring much improved levels of familiarity with an ever increasing range of technologies.

Similarly, we feel it is worth questioning the assumption that Britain in 2025 will be an environment of user-friendly, inclusive technological design, sharing one platform from which all citizens have the opportunity to benefit equally.

However, there is certainly some common ground between the optimistic and pessimistic points of view. Consensus was to be found in many of the important steps and interventions, which must be taken if the optimistic vision of a digitally inclusive society is to be achieved.

¹³ Interview with the Future Foundation October 2004

4. Forecasting the future of digital exclusion

4.1 Reconciling the views of ‘Digital Optimists’ and ‘Digital Pessimists’

As we saw in section 3.2, the expert interviews and literature review conducted in preparing this report revealed divergent opinions when it came to the future of the digital divide. There were broadly two groups:

- The optimists who believe that the problems associated with digital exclusion will diminish over time.
- The pessimists who believe that the problems of the digital divide will endure and/or worsen in future.

On the face of it, this sharp division of opinion presents something of a problem when forecasting the future of the digital divide. Which side are we to believe? Should our forecasts be optimistic or pessimistic?

However, this methodological dilemma is not so severe as it might appear. Both strands of opinion – the optimists and the pessimists – identified similar issues as being crucial to the future of the digital divide. Whilst the optimists believe that ‘converged’, standardised, affordable and user-friendly interactive technologies would emerge in future, the pessimists did not. The pessimists agree, however, that the issues of convergence, standardisation, price and user-friendliness, are key to eliminating the digital divide. The differences of opinion that do exist are more about the prospects for a positive outcome and not about the desired course of action to be taken.

4.2 Our forecasting approach

There is a large degree of consensus on what needs to be done to tackle the digital divide. In forecasting prospects for the digital divide we have accepted the consensus on the key actions and policy needs (convergence, standardisation, affordability and user-friendliness) and looked at the consequences should there be no progress on these issues. This allows us to produce a forecast of the numbers of people at risk of digital exclusion in 2025 should no action be taken and no further progress made.

Within this overall forecast, we have assumed that current levels of digital exclusion for each age cohort will be relevant going forward. That is, each age cohort will, to some degree, take its exclusion behaviours and profile with it into the future. For example, we have assumed that the 65-79 age cohort in 2025 will have a similar level of digital exclusion to today's 45-59 year olds (they are the same people after all). We certainly do not expect that the 65-79 year olds of 2025 will have the same digital exclusion rates as the same age group today.

In taking this approach, we are steering a middle path between the optimist and pessimist point of view on the impact of age going forward. From our own research at the Future Foundation and the views of experts on ageing, we believe that age will remain a feature of digital exclusion going forward even if the age divide is not so pronounced as today.

Finally, having identified the size of the 'at risk' population in 2025 we have provided more detailed forecasts by:

- Age
- Income
- Disability

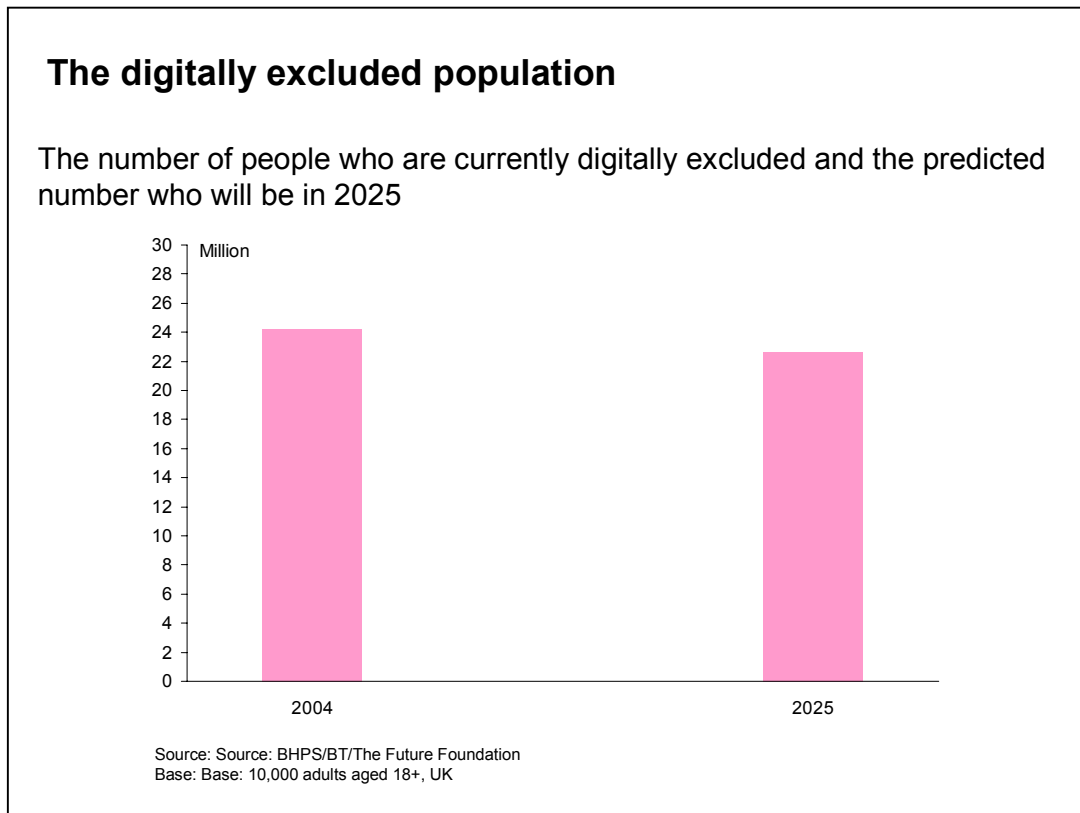
The detailed forecasts for digital exclusion are presented in the remainder of this section.

4.3 With no progress - 23 million people at risk of digital exclusion in 2025

Assuming there is no progress towards producing more standardised, affordable, user-friendly interactive technology our forecasts suggest that almost 23 million people will remain at risk of digital exclusion in 2025. This figure does represent a fall on the numbers of people we have defined as digitally disengaged today (in section 3.1 we saw that there are 24 million adults that are digitally disengaged today). However, this does suggest that over one third of the population will still be at risk of digital exclusion by 2025. The key drivers of this forecast are as follows:

- An overall increase in the UK population from its current level of 59 million people to 64 million people in 2025.

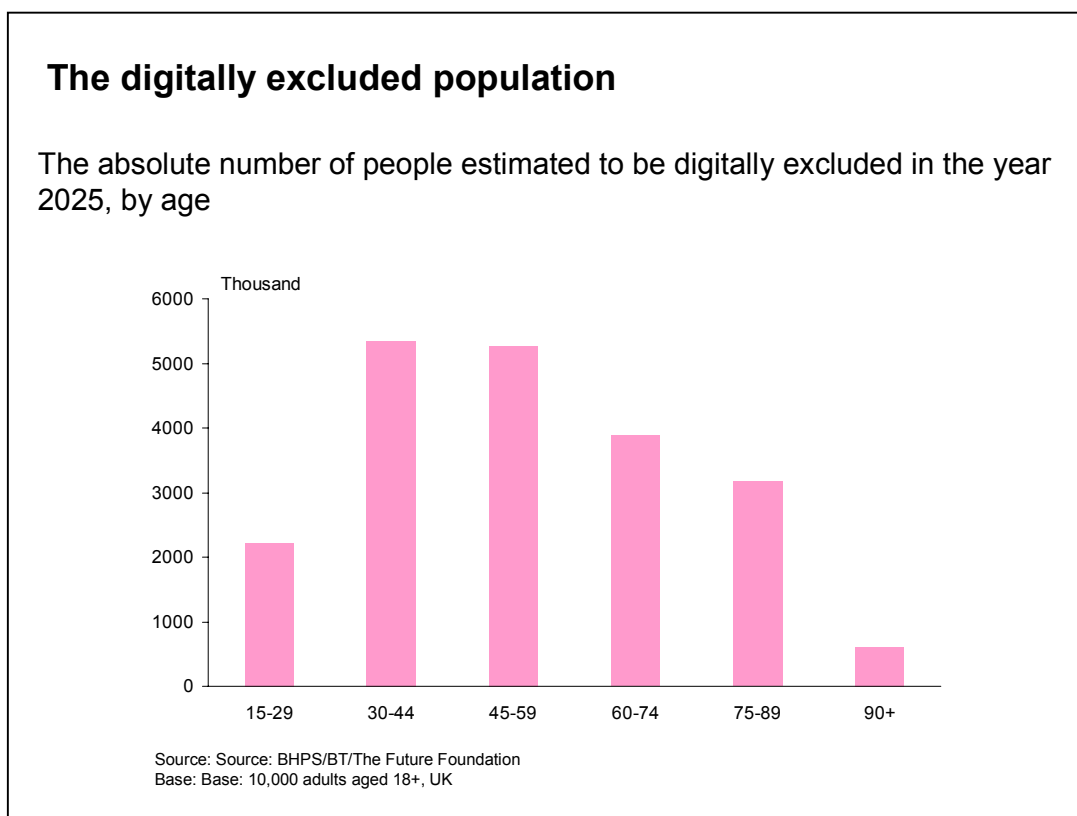
- An increase in the proportion of the population aged over 50 between 2004 and 2025 – these groups have higher rates of exclusion than younger age groups.
- An overall lowering of the average exclusion rate due to cohort effects. For example, the 60+ cohort in 2025 having a lower exclusion rate than the 60+ cohort in 2004.



In producing this forecast we have erred on the side of caution. A number of the assumptions we have made have been conservative. For example, we have assumed some additional reductions in exclusion rates over and above those produced by cohort effects. We are also assuming that the older cohorts, particularly those that have left the workplace, will not be left behind by further waves of technological innovation towards the end of our forecasting period. This is an assumption that pessimists on the digital divide would challenge. However, we felt it was important to produce forecasts that could not be dismissed as sensationalist. In light of this approach, it does mean that the balance of divergent risk in our forecast is in an upward direction.

4.4 The age profile of the digitally excluded in 2025

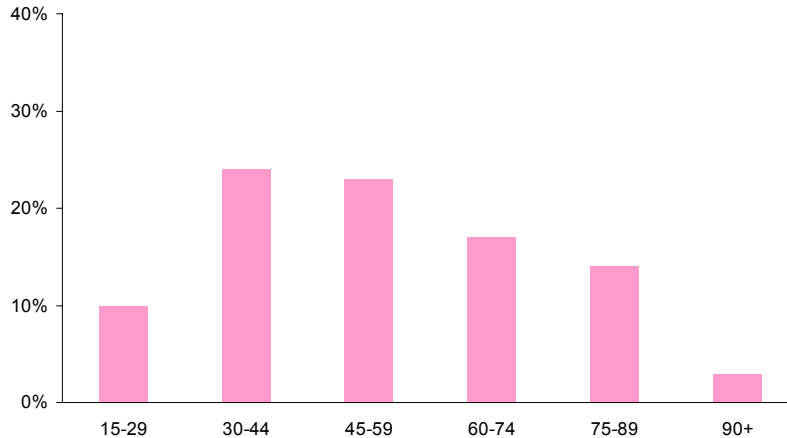
The chart below illustrates the age profile of the digitally excluded population in 2025. It suggests that in future digital exclusion will be more balanced – in terms of absolute numbers - between mid-aged adults (30-59 year olds) and older adults (those who are 60+). This represents a shift of emphasis compared to 2004 and suggests that more effort will have to focus on the engagement of the 60+ cohort. Much of this shift is caused by the well-documented ageing of the population and simply reflects the numerical weight of the groups within the population as a whole. By 2025 there will be 25 million 30-59 year olds in the population in total, with almost 10 million at risk of digital exclusion. By 2025 there will be 17 million adults aged 60 or more of these more than 11 million will be at risk of exclusion.



Young adults – those aged under 30 – will form a smaller proportion of those at risk of digital exclusion in 2025 than they do today. Our forecasts suggest that young adults will account for only 10% of the digitally excluded adult population in 2025. This reflects both their relative fall in numbers within the population as a whole and improving rates of digital inclusion.

The digitally excluded population

The proportion of people estimated to be digitally excluded in the year 2025, by age



Source: Source: BHPS/BT/The Future Foundation
Base: Base: 10,000 adults aged 18+, UK

4.5 Low income and the digital divide in 2025

In 2004, according to the British Household Panel Study, there are 9.5 million people living on low incomes (defined as 60% of median income). Of these, just over 7 million (74%) are digitally excluded. Currently, those on low incomes account for approximately one third of all people who are digitally excluded.

In recent years we have seen a trend towards falling numbers of people living in low income households. If these trends continue we estimate that 7.5 million people will live in low income households by 2025. If exclusion rates remain constant, this would mean that 5.6 million people in low income households would be digitally excluded in 2025. As a result, the proportion of the digitally excluded that are on low incomes would fall to 25%.

This supports the view that engagement, rather than access will be more important in future. If current trends continue it seems that technology is likely to become more affordable to low income groups. The bigger challenge may well be in persuading low income households of the benefits of digital technology. Of course, if technology companies increase prices ahead of income growth, this situation could change.

4.6 Disability and digital exclusion in 2025 – access to remain an issue?

Not all issues around access to digital technology are likely to see improvement to 2025. Disability is an important exception. In 2004 there were 3.4 million registered disabled adults in Britain. Of these, 2.4 million or 70% were digitally excluded.

By 2025, largely driven by the ageing population, the numbers of registered disabled adults is likely to reach 5 million. Assuming that exclusion rates remain constant, this would result in 3.6 million registered disabled adults who are digitally excluded. This implies that by 2025 the registered disabled will increase as a proportion of the total digitally excluded from 10% today to 16% in 2025.

Access is likely to remain an important element in the exclusion of these groups both in terms of the ease of use and functionality of technology and the lower incomes that tend to be associated with disability.

5. Implications and recommendations

The findings of all elements of our research – the literature review, the expert interviews and the forecasting process – provide compelling evidence of the need for action by all stakeholder groups if the worst impacts of the digital divide are to be avoided in future. Without action we forecast that 23 million people will be at risk of digital exclusion. Furthermore, though this figure represents a small fall on the numbers currently excluded, the consequences of digital exclusion are likely to be much more severe by 2025. By this time interactive technologies will have penetrated deeper and in to more areas of our lives – such as education, employment and health service provision. Society will increasingly expect and function on the assumption that people will be digitally engaged and involved.

The key recommendations and action points are as follows:

- There is a need across all stakeholder groups to ‘market’ the benefits of the internet, ICT and ICT skills, especially to those at greatest risk of digital exclusion. We believe that by 2025 digital exclusion will increasingly be caused by ‘digital disengagement’ rather than problems of access (though access will remain a key issue for some groups such as those with disabilities). Adults currently not using interactive technology need to be persuaded of the life-enhancing benefits of that technology.
- One of the assumptions underlying our forecast that engagement will become more important relative to access is that new technology becomes more affordable to low income groups. This will partly be driven by economic growth, income distribution and government welfare policy. However, it will also be affected by the pricing policies of those providing technology products and services. If prices rise ahead of the incomes of the low paid or those on benefits these improvements will not be seen. Furthermore, differential pricing for premium products and the latest technology are likely to remain as a force of differentiation in terms of levels of technology access.
- The design of new technology needs to become genuinely ‘inclusive’. There is a need to involve the consumer-citizen in the design of new technology to ensure that it meets genuine needs and is truly functional. Specifically, there is a need to include those groups most at risk of digital exclusion and disengagement. Put simply, there is as much a need for technology to understand the disengaged, as there is for the disengaged to understand technology.

- Related to this, there is a need to design consumer interfaces with technology that are genuinely intuitive or even invisible. Many of the optimists on this subject assume that technology based on touch screens or voice commands will be available by 2025. The key issue going forward is that technology should require no specialist skills on behalf of the end user. For example, even with current improvements in literacy and technology usage in schools it is likely that there will still be large numbers of people who are unable to use PC and 'qwerty' keyboard technology by 2025. They clearly remain at risk of exclusion without improvements in the technology-consumer interface.
- Many assumptions are currently being made about the prospects of technological convergence, with several new technology platforms (such as the Microsoft Media Centre) on the verge of release to the mass market. The optimists in our research programme assume that convergence will bring simplicity and a common platform to be used by all groups. If this happens, convergence could well help to alleviate problems of digital exclusion.
- Where access issues remain (for people with disabilities, those living in extreme poverty and so on), social and community programmes will still be required to ensure access.

6. Appendix

a) List of expert interviewees

Karen Banks, Women's Networking Support Programme, Association for Progressive Communications

Kevin Carey, humanITy

John Carr, NCH

David Darton, Equal Opportunities Commission

John Fisher, Citizens Online

James Goodman, Forum for the Future

Gretel Jones, Age Concern

Professor Sonia Livingstone, London School of Economics and Political Science

Professor Mark Shucksmith – Arkleton Centre for Rural Development, University of Aberdeen

Sue Webb, Women Connect

b) British Household Panel Survey

The Future Foundation has a joint venture with the Institute for Social and Economic Research (ISER) at Essex University, which allows us special access to the British Household Panel Survey (BHPS). The BHPS is widely regarded as one of the best longitudinal studies in the world. It has tracked the attitudes and behaviour of a representative sample of 5,000 households in the UK, involving 10,000 individuals, on an annual basis since 1992.

This survey provides information on many aspects of people's daily lives (including their income, health, employment details, living standards, their time use and leisure behaviour) as well as recording people's attitudes to their circumstances and a wide range of social issues. Because the BHPS is an ongoing panel study, we are able to track the degree to which individuals' circumstances and attitudes change over time and how they change in response to different events in people's lives.

The BHPS is household-based, interviewing every adult member of the sampled households. This means that we can explore the interactions between events in individuals' lives and wider changes in the household.

The large size of the Panel means that we are able to conduct meaningful analysis of certain sub-groups in the general population, such as the elderly or one-parent families, who are often difficult to reach in sufficient numbers in smaller surveys.

Continuing representativeness of the survey is ensured (and loss of panel members minimised) through:

- following panel members wherever they move in the UK;
- including in the panel the new members of households formed by original panel members;
- efficient fieldwork practices;
- regular contact with panel members through special reports and letters.

c) List of sources consulted in the desk research

Anderson B: 2003: E-Living –Welcome and Overview: E-Living Consortium: Life in a Digital Europe

Blumer J & Coleman S: March 2001: Realising Democracy Online: A Civic Commons in Cyberspace: IPPR/Citizens Online Research Publication no 2

Booz, Allen & Hamilton: March 2000: Achieving Universal Access: London

Bradbrook G & Fisher J: 2004: Digital Equality – Reviewing digital inclusion activity and mapping the way forwards:

Carey K: 2000: ICT, Social Exclusion, Content Creation and the Social Model

http://www.humanity.org.uk/articles/sp_amsterdam.shtml

Carey K: 23rd August 2004: WHY humanity NEEDS YOUR SUPPORT: HumanITy Document:

Crabtree J:2003: The digital divide is rubbish:
<http://www.newstatesman.co.uk/nma2003200105140018.htm>

Crabtree J and Roberts S: Oct 2003: Fat pipes, Connected People - Rethinking Broadband Britain: Isociety: London

Cullen R: 2001: Addressing the Digital Divide: Council and General Conference

Foley P, Alfonso X, Brown K and Fisher J: November 2003: Connecting people: tackling exclusion? An examination of the impact on the use of the internet by socially excluded groups in London: London

Foley P, Alfonso X and Ghani S: June 2002: The digital divide in a world city: Greater

London Authority: Freeman, R: 2004: Democracy in the Digital age: Demos: London

Haisken – DeNew J, Ling R & Anderson B: Chapter 4 – Social and Market Exclusion: The e-Living Consortium: Life in a Digital Europe

Haywood A: 2002: Designing for Elders (and our future selves): Chimera, University of Essex

Haywood A & DiDuca D: 2002: Designing for Youth – today and tomorrow: Chimera, University of Essex

HumanITy: 2004: Cultural norms in the age of cyberspace:

http://www.humanity.org.uk/articles/sp_designcouncil.shtml

HumanITy: 2004: Networking for Growth:

http://www.humanity.org.uk/articles/pub_networkingnew.full.shtml

Jupp B: 2001: Divided by Information? –The ‘digital divide’ and the implications of the new meritocracy: Demos: London

Lenhart A: 2003: The Ever-Shifting Internet Population – A new look at Internet access and the digital divide: The Pew Internet & American Life Project: Washington DC

Loader, Brian D. and Keeble, Leigh: 2004: Challenging the digital divide? A literature review of community informatics initiatives: Teesside University

Lownsborough H, Thomas G and Gillinson S: 2004: Survival Skills – Using life skills to tackle social exclusion: Demos: London

Mitchell M: 2002: Exploring the future of the digital divide through ethnographic futures research: First Monday

http://www.firstmonday.dk/issues/issue7_11/mitchell/

Partridge C: 2002: Consumer Futures: Chimera, University of Essex

Samuelson R: 2002: Debunking The Digital Divide

Selwyn, N: 2003: Defining the 'Digital Divide': Developing a Theoretical Understanding of Inequalities in the Information age: Cardiff University: Cardiff

Selwyn N & Gorard S: 2001: Danger of seeing ICT as single solution to all our problems: The Western Mail – Education Supplement p.2

<http://www.cardiff.ac.uk/socsi/selwyn/westernmail>

Skerratt S & Warren M: 31st March – 2 April 2004: 'Virtual Villages': community networks for rural development?

Tambini D: 2000: Universal Internet Access: A Realistic View: IPPR/Citizens Online Research Publication No 1

Turk V, Alakeson V, Kuhndt M and Ritthoff M: July 2003: The environmental and social impacts of digital music – A case study with EMI: Digital Europe: ISociety

Zadek S & Raynard P: An independent commentary

REPORTS

Cabinet Office: Enabling a Digitally United Kingdom – A Framework For Action: Digital Inclusion Panel Report

Everybody Online annual report: April 2004

Making the Net Work – steps towards a sustainable networked world: 2003: Digital Europe

Policy Action Team 15: 2000: Closing The Digital Divide – information and communication technologies in deprived areas: Department of Trade and Industry

Office of the Deputy Prime Minister: 2004: Jobs and Enterprises in Deprived Areas – Social Exclusion Unit Report: Social Exclusion Unit: London

UK online - annual report: 2003:

Sustainable development in broadband Britain – Forum for the future: Prepared for BT

SURVEY RESEARCH

BMRB/Band & Brown: 2003: Access Telephone Omnibus Survey – E- Skills

BMRB/Band & Brown: 2003: Access Telephone Omnibus Survey – Net Whiz Kids