ICT Consumer Research Programme (Icon)

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ICT Penetration Rates and Attitudes towards Residential Internet Technologies in the United Kingdom

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Executive Summary

- Computer and internet penetration in households increases slightly between 2003 and 2005.
- Number of households with two or more computers present is increasing.
- Digital divide remains firmly in place.
- Household income is the key driver of the residential divide; age and educational attainment also have a strong role.
- Residential use of internet mostly conducted via the computer.
- Broadband changes the way people use the internet.
- Broadband penetration rate is peaking and is income sensitive.
- Online telephony (VoIP), many have heard of it but few use it.
- Individual attitudes towards computers and the internet vary strongly by age and educational attainment.

1. Introduction

This white paper presents the basic findings of ongoing research into household ICT penetration and usage in the United Kingdom. The survey data that is analysed was collected from UK households during 2003 and again also during 2005. For documentation on the survey design, content and data collection methodology, including weighting procedures, please visit the *Icon* website at www.ictresearch.org.

The digital divide is a term coined to describe the gap that lies between those individuals that adopt and use technologies like the internet effectively, against those that do not. This research programme aims to describe the causes of the digital divide, and where it is appropriate to do so, to quantify the effects that drive its existence. In this paper we present key findings on ICT adoption and diffusion that was undertaken during the autumn of 2005 at Lancaster University Management School. Should readers require any further insight into the results that are discussed below, please contact either Alastair Robertson or Didier Soopramanien via the Icon website.

2. ICT Penetration in UK Households

Our research shows that the number of households adopting personal computers between the years 2003 and 2005 has increased. Using a group of 468 households that were surveyed during both years we find that the number of computer owning households rose from 402 to 417. Internet penetration has increased in line with new computer penetration highlighting that a small decline in the digital divide has occurred over the two year horizon. Of further interest, within our group of 468 households, the number of computers in the household is increasing with 50% of our 468 households in 2005 indicating that they had 2 or more computers versus 38% in 2003. Of the households with two or more computers in 2003 just 53 households had them networked versus 77 in 2005. Of these 77 households 58% used hardwire networks whereas 34% did so wirelessly, the remainder used both technologies simultaneously.

The previous paragraph indicates that mild changes in the digital divide have taken place since 2003 and that within ICT accepting household's general technology acceptance may be increasing. Despite this positive information, and described in more detail below, we still find that the commonest causes of the digital divide (e.g. household income, age, and educational attainment) remain firmly in place. The following results are estimated using a sample base of 1221 households from the 2005 survey.

3. Household Income, Age and Educational Attainment and ICT Penetration

Income represents the strongest barrier to the adoption of computers in the household although the effect weakens slightly if people over the age of 55 are removed from the analysis. This highlights that the older generations tend to less accepting of this type of technology. Subsequent analyses highlight that other forms of household technology (video/DVD players, mobile phone, Digital/satellite TV) also have quite strong income effects but when you remove the presence of the over 55s, the impact declines slightly also. The effect of educational attainment on residential computer adoption is also found to be strong with households from lower educational backgrounds having a much reduced propensity to adopt. Although a solid educational experience may increase the valuation that an individual may have for ICTs in general, it may also be, in part, the improved income potential that these individuals have that increases their likelihood of adopting ICTs residentially.

4. Use of ICTs in the Household

Most internet use in the household focused through the computer. 59% of surveyed respondents indicated that they only use the computer to access internet services at home (note that this represents 90% of computer owning households). 22% of respondents indicated that they do not access internet services at home at all. 8% accessed internet services through the TV (e.g. Sky box or NTL cable) and 16% used mobile phones to access such services.

More than 60% of internet using households use broadband services and most respondents highlighted that this product enhanced their user experience. 74% of broadband users that had also used a dial service previously suggested that this product had changed the way that they used the internet. Both non-internet and dial using households were asked to declare when they would likely adopt broadband services. 65% of non-internet households suggested they had no intention of purchasing broadband in the future, versus 21% for dial using households.

The penetration rate of internet and broadband services is found to be *highly sensitive* to household income. Within very wealthy households (disposable income greater than £40,000) penetration is above 55% (80% for internet). At the opposite end of the scale (disposable income less than £10,000) only 12% (22% for internet) of households used broadband by the summer of 2005. The residential broadband penetration rate from 2001 is highly sensitive to household income also. Early projections using these patterns indicate that the maximum broadband adoption rate in the UK has been reached and that new penetration due to households with income greater than £25,000 will weaken. Despite these findings broadband growth is still quite fast with the adoption being mainly due to middle income households. The peak adoption rate for this group of households is predicted to occur during 2006. The data suggests that the lowest income households may not begin using this technology at home for many years to come.

Products that rely on broadband may increase the rate at which poorer households adopt internet technology in the future. One technology that is presently available, although not fully marketed, is online telephony or VoIP. 24% of our surveyed households have heard of online telephony (e.g. Skype) although only 2% actually use it. This high knowledge versus low usage will probably reverse as marketing effort and word of mouth effects increase. It does look like that this product will add a further competitive layer onto the already competitive telecoms sector despite early concerns regarding VoIP security (e.g. network overloads through virus attacks on the WWW).

It is felt that when products like TV on demand launch that poorer households may be tempted into the broadband market to derive the benefits of this product (bare in mind that the latest TV on demand systems do not need a household computer). This could be felt by as soon as 2008/9 as products are now beginning to launch. Uptake will depend on product delivery issues (i.e. bandwidth that will be limited to populated areas close to very high-speed internet enabled exchanges) and product price.

5. Individual Attitudes towards ICT by Age

Individual attitudes towards computers and the internet vary systematically by age. Of the 18 to 34 years olds surveyed 97% agreed to the statement that they were confident in using the computer and the internet versus approximately 80% for 35 to 54 years, and just 61% for the over 55s. Computer complexity seems to be a key driver in this pattern. When asked if computers were easy to use 93% of 18 to 24 year olds agreed to this statement against only 48% of the over 55s. There is a consistent decline in agreement to the statement from younger to older generations also. When asked on whether they enjoyed using computers the pattern remained in place with 84% of 18 to 24 year olds agreeing to the statement versus 58% of the over 55s. When asked whether they found computers useful 78% of over 55s agreed to the statement versus 100% of 18 to 24 year olds. Moreover, more than 90% of respondents agreed to the statement between the ages 25 to 54. On the matter of computer and internet importance in their lives, 83% of 18 to 24 year olds *disagreed* to the statement that they *did not* find computers or the internet to be important, against 52% of the over 55s.

6. Individual Attitudes towards ICTs by Academic Qualification

As expected, well qualified individuals tend to be confident in their use of computers and the internet. 90% of those indicating that they had a degree or above agreed to the statement that they were confident in using computers and the internet against only 38% that had no formal qualifications. This strong effect is also felt on the importance of computers and the internet in their lives. We find that 85% of individuals with the highest educational attainment *disagree* to the statement that that they *do not* find computers and the internet to be important. For individuals with no formal qualifications disagreement to the statement falls to just 41%; providing evidence that educational attainment can play an important role in raising the valuation that people have towards ICTs.