Towards digital inclusion – engaging older people in the ‘digital world’

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Governments across the globe have declared their commitment to building a people-centred, inclusive and development-oriented Information Society. But despite rapid proliferation and, in many cases, extensive penetration of digital technologies, a significant proportion of the global population remains ‘digitally excluded’. In the UK, the majority of those who fall into this category are the elderly, and yet digital technologies offer enormous potential benefits to this sector of the population. Age itself is not a barrier to using digital technologies, and although older people tend to face other barriers to access such as cost, skills or disability, research suggests that many simply do not perceive the relevance of these technologies to themselves. This paper reviews some of the literature relating to older people’s use of digital technologies, and presents the results of a survey to investigate the perceptions of older users and non-users of the internet as a step towards understanding the factors which lie behind the current situation. A critical factor appears to be a lack of awareness and understanding of the ‘digital world’. The paper concludes with some suggestions for how this could be overcome.

Keywords; digital technologies; social inclusion; older people

1. INTRODUCTION

In December 2003 the representatives of the peoples of the world, assembled in Geneva for the first phase of the World Summit on the Information Society, declared their “common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life (...)”. Digital technologies are regarded as a fundamental tool for achieving this vision, and yet it is also recognised that the benefits of the ‘information technology revolution’ are currently unevenly distributed, both between the developed and developing countries and within societies. There are concerns that, instead of enhancing social inclusion, these inequalities can lead to new forms of exclusion, creating so-called ‘digital divides’. A challenge for all in a democratic society is to ensure that it is not just the privileged few who enjoy the benefits of connection, but that the whole of the world’s population can do so.

As the development and penetration of digital technologies into society progresses however, it has become clear that, for people to achieve the benefits of engagement with digital technologies, it is not simply a case of providing them with access to the means of connection (hardware, software and telecommunications services). While for some the critical factor in the ‘digital divide’ relates solely to whether or not people have access to the means of connection, there is much evidence to show that even when equipment and services are provided free of charge people will not necessarily make use of those technologies to engage in meaningful social practices [1]. If the vision of the WSIS participants is to be achieved, it is important to understand the factors which cause or contribute to digital exclusion, to understand the consequences for individuals and society, and to identify ways in which digital inclusion can be fostered.

This paper focuses on the topic of older people and digital inclusion. Older people are often at risk of social exclusion by reason of poverty, disability or poor health, or social isolation (possibly all three). The internet offers the potential to improve their quality of life in various ways, e.g. access to facilities and information that they could not otherwise access because of mobility or lack of transport or cost (health, banking, shopping, learning opportunities, lifestyle/hobbies etc., communication with family and friends etc.) and to participate in civil society. However a recent study carried out for the Government by a specially-commissioned Digital Inclusion Panel [2] found that 48% of the UK population reported themselves as “digitally unengaged”, and that the “vast majority” of those were people aged 65 and over and/or on low income. The aim of the work reported here was to explore the factors which influence this situation, through a review of the literature and a survey of older people.

2. AGE AND DIGITAL INCLUSION

There have been numerous studies which have highlighted the existence of a digital divide between those who have access to the benefits of new digital technologies and those who do not. In fact Norris [1] suggests that there are several different kinds of digital divide: a *global divide*, which refers to differences in levels of Internet access between industrialised and developing societies; a *social divide*, which refers to the gap between 'information rich' and 'information poor' in each nation; and lastly a *democratic divide*, between those who do and those who do not use digital resources to engage, mobilise and participate in public life.

Many studies in different countries have shown that older people are more likely to be digitally excluded than younger people (e.g.[3], [4]). Although older adults are currently under-represented amongst internet users, they also appear to be the fastest growing group of users (the UK Office of National Statistics reported a six percent increase to 15% in internet usage this age group in 2004 [5]). Age in itself is clearly not a barrier to access; many older people can be regarded not only as users of digital technologies, but as fully "digitally engaged". But several studies have also found that a significant proportion of older people who are not currently using digital technologies say that they expect to remain that way (e.g. [6]). If older people are to reap the benefits of the information society, and society is to reap the benefits of the economic and social inclusion of older people, then it is clearly of interest to understand what lies behind their resistance to engage directly with digital technologies and to understand how this resistance might be overcome.

A review of the literature relating to 'digital divides' however indicates that limited research has been carried out to understand the attitudes that the older generation have towards digital technologies [7]. Much of the research that has been done relates to the internet, and on those who actually use it, rather than those who do not [9], although there is also research to investigate older peoples' usage of other technologies such as digital television. As a key communications technology, the internet is central to digital engagement, and therefore this study has taken the internet as its focus. Analysis of the available information points to the existence of five broad groups of issues acting as likely barriers to the uptake of the internet for older people. These are: cost and economic factors; demographic and social factors; content and information needs; skills and ability; disability; and motivation and attitudes.

2.1 Cost

While cost of access is an important consideration for many in participating in the information society, several authors argue that it is a particular barrier for older people who are more likely to be living on pensions, with tight limits on their expenditure. Although there are in the UK a growing number of places (such as public libraries) which offer free or low cost access to the internet, and of media for accessing the internet (such as digital television), uptake of these is currently low. However the effect that the cost of equipment has on an older adults decision to use the internet is widely debated in the literature. Eastman and Iyer [8] suggest that the current older generation may have more disposable income than many other sectors of the population and could afford to buy the necessary equipment.

2.2 Demographic and social factors

Demographic and social factors such as gender, culture, household structure, educational level and geographic isolation have been found to be associated with internet use.[5]. There is little literature about how these factors relate specifically to older peoples' use of the internet, but there are indications. For example, usage statistics show that more males than females use the internet and because of differences in mortality patterns, there tend to be more older females than males. Older people are more likely to live in single person households and to have lower levels of education than younger people. Such factors have been found to be associated with lower levels of internet uptake in the general population.

2.3 Content and information needs

There is evidence from a number of studies that some people do not use the internet because they believe it has nothing of interest or relevance to them, and there are particular concerns that this will be true for older people. However a survey by Age Concern and Microsoft [9] found that one in four older people reported spending more time in front of their PC than watching their favourite TV programmes. The profile of internet usage for older users is different from that of other age groups. A survey by Mintel [10] found that half of those questioned over the age of 65 stated that when using the Internet they do none of the top four activities among all adults in the sample group (i.e. shopping, sending/ receiving non-work-related emails, visiting general interest sites, looking up local information). Among older users of the internet, in addition to using email to keep in touch with family and friends, the main uses are for information about hobbies, health, news and current events. However Vuori & Holmlund-Rytkönen [8] also found that although older adults did not consider that the internet was a medium solely for the younger population, 40% of them felt that their needs were not taken into account.

2.4 Skills and ability

While younger people may learn about the internet and how to use it through formal education or through experience in the workplace, there are concerns that lack of skills and ability create a significant barrier to access

for older people. There are several studies that show that many websites suffer from bad design and poor usability (e.g. [11]) and some suggest (e.g. [12]) that this will limit older adults' use of the internet because they do not like what they see. However there is also evidence that older people who use computers find them easy to use. Vuori & Holmlund-Rytkönen [8] discovered that 90% of older adults believed that the internet was easy to use, with more than 70% considering that they would be able to learn to use it quickly, and an Age Concern/Microsoft survey [9] suggests that about 80% of people over 50 find computers easy to use

Nevertheless older people are more likely to suffer from disabilities which would prevent or limit access; as people grow older their risk of developing health complications increases. Common health problems such as impaired vision (which affects one in 12 of the population over 60, and one in 6 of the population over 75, and which may be coupled with other impairments) are likely to have an impact on ability to effectively use a computer or other interaction devices. A recent UK study of 1,000 websites covering a wide range of services carried out by the Disability Rights Commission [13] found that 81% failed to meet the W3 Web Accessibility Initiative basic accessibility guidelines. According to the Digital Inclusion Panel, this means that "there is a real risk that in the medium to long term, significantly more citizens will migrate from being digitally engaged to being unengaged than the other way round." [2, p. 79].

There is also evidence to show that older people are taking advantage of a range of different opportunities to learn how to use the internet. Although more than 40% of older people surveyed learned how to use the internet on a course, a large proportion (28.6%) had learned at work and 14% had been taught by a relative or a friend [14]. Some pensioners are being introduced to the internet via their children/grandchildren (e.g. [15]). Such research however highlights both the importance of learning opportunities in the workplace and the importance of social networks for learning; older people who have retired from work and those who are socially isolated may therefore be particularly at risk from digital exclusion.

2.5 Motivations and attitudes

There is evidence that many older people are highly motivated to use the internet. Reasons given (e.g. [16], [17]) include: remaining active and independent; to keep in touch with grandchildren and/or remote family members; to keep mentally alert, challenged, useful and to feel 'younger'; to seek information, particularly news and health, and for learning and education. In a survey by Mintel [10] two thirds of IT users in the 55+ age group agreed that the Internet has had a positive impact on their lives. These positive attitudes suggest that many older people are not 'technophobic' and will be motivated to adopt new technologies which offer them clear benefits.

Older adults that do not use the internet appear to be anxious about the concept with misconceived ideas about what it actually provides [18], and there is a perception amongst some older people that they are "too old" for new technology. Tatnall and Lepa [3] found that older adult non-users felt that the internet was threatening and the associated technology too hard to understand, and concerns about security are particularly likely to deter older consumers from using internet shopping; 21% of over 65's have concerns about security compared to 35% all adults [10]. Those who actively reject use of the internet report a complete lack of interest in ICT and participate in "self-exclusion". Many authors repeatedly suggest that it is this lack of interest which accounts for many older adults not using the internet. Fox [6] found that 56% of those over 65 years of age say they will never go online. However, Vuori & Holmlund-Rytkönen [8] suggest that a quarter of senior non-users that they surveyed conveyed a positive attitude towards the internet and thought they would become users in the near future.

3. A STUDY OF OLDER PEOPLES' INTERNET USAGE AND ATTITUDES

As the above brief review shows, much of the literature relating to older peoples' usage and attitudes to digital technologies, and in particular the internet, is piecemeal and in several cases results from different studies contradict one another. Many of the studies focus on those older people who do use the internet rather than those who do not, and much of the research is quantitative rather than qualitative. Those studies which are based on surveys of the attitudes and perceptions of older people in some cases are based on very small samples, and results tend to report bald statements, e.g. that older people appear to be fearful of going online, without giving any reasons or further explanation for what might lie behind their anxieties. While the results of many studies may be generalisable to different populations, few of the studies have taken place in the United Kingdom. These limitations in the available data suggested a need for finer-grained investigation and carefully designed studies specifically within this sector of the population. Understanding the perceived causes and barriers to uptake is crucial for informing the design and content of communication strategies and education and awareness activities for older people. Accordingly a research study was carried out early in 2005 by the authors to further explore the reasons for use and in particular non-use of the internet by older people. Data were collected using a questionnaire based survey of older adults aged between 50 and 85 in the Midlands of the UK. Questionnaires were distributed to a sample of 200 older people in three different locations: a hotel, a public authority building and a retail company's head office, and a total of 83 usable responses were received. The data were supplemented by a focus group and face to face interviews with 20 of the respondents. Of the survey respondents, 66% were internet users and 34%

were not. However the age distribution of users and non-users shows that the older the person, the more likely they were to be a non-user of the internet, as shown in Figure 1 below. In line with studies reported earlier about demographic factors, more males than females were internet users, and internet users were more likely than non-users to have had a college or tertiary education.

FIGURE 1: Age and Internet Usage

Reported barriers to uptake of the internet

The reported reasons for non-use of the internet by the respondents are shown in Figure 2.

FIGURE 2: Reasons for non-use of the internet

3.1 Issues of access

While more than half of non-users indicated that they did not have access to the internet, the first reason given by the majority of respondents was that they had concerns about internet security. These concerns are described in more detail below. An equally prominent reason given for non-use was lack of access to a computer. Most of those who used the internet reported doing so from their own computer (65%). However 35% accessed the internet at their workplace. Fewer of the non-users (53%) than users (92%) were still in employment, but of the non-users who were still in employment only 7% (compared to 76% of users) had used the computer as part of their employment.

An important finding was that older adults were seemingly unaware of the ways that they could access the internet. Many also thought that they could only access the internet via a personal computer. None of the non-users (and only 4 of the users) were aware that libraries or community centres provided internet access. None of the users had ever used a community centre or library to access the internet, and only 20% of interviewees were aware that these places existed to provide access. Older adults were only interested in using a personal computer at home to access the internet as this was where they felt the most comfortable and secure. Televisions or mobile phones were not considered an option to going online by any of the respondents in the study. They argued that these devices had specific uses which did not involve using the internet; the television was for relaxing, a mobile phone for making phone calls.

Although a relatively small proportion of the sample said that the internet would cost too much to use (fewer than 10%), statistical analysis showed that there was a significant association between the income of respondents and their use of the internet. Internet users generally had higher incomes than their non-user counterparts. A high proportion of internet non-users had an income of less than £20,000 p.a., whereas internet users were generally

earning more than £15,000 p.a. Nevertheless these results are not surprising given that internet users were more likely to be in full-time employment than internet non-users. For most non-users cost was not regarded as an overriding barrier to access; many argued that they would be able to afford the necessary equipment should they need it.

Perceptions that they did not have the necessary skills to use the internet was given as a reason by 50% of non-users. Again this is possibly related to a lack of opportunities to have used the internet in the workplace. However almost all respondents indicated that they were interested in learning new things, and more non-users than users believed that the internet was very easy to use (29% compared to 15%), suggesting that fears about difficulties in use were not necessarily a barrier to uptake. Although users had learned to use the internet from a variety of sources, none of the non-users could name a single formal internet course that was available to them, and suggested that it would probably cost too much for them to afford anyway.

3.2 Perceptions of older non-users of the Internet

Of the non-users, 73% reported that they had seen the internet in use, and nearly a third (32%) had used it at some point in the past. However only one in five of the non-users expressed any future interest in using the internet. (Some non-users felt that they would probably use the internet in the future as their circumstances changed such as reduced mobility, or because 'everyone else would be using it'.) Only four of the respondents to the survey felt that the internet did not cater for the needs of those aged 50 years and over, which also suggests a general belief that there is material there of interest to those who want it. Yet a large proportion of non-users indicated that they could not see a need for it personally and that there was nothing in it of interest to themselves. Although some respondents gave their age as a reason for non-use, a number suggested that they would use the internet if they felt it would provide them with sufficient benefits, and that their age would only affect how long it would take them to pick up the necessary skills.

Although older adults who used the internet appear to place a high value on it, only a small percentage (21%) of the non-users believed that the internet was a valuable resource. Similarly only 21% of non users believed that the internet would help them to maintain or extend their social network, compared to 76% of users. Compared to internet users, internet non-users were unaware of many of range of activities available via the internet. Several believed that the internet was an application used by companies to sell their goods or services, and that the only activities that could be performed were shopping or banking. None of the non-users were aware that email was part of the internet; all believed that this facility was a separate communication resource.

A high proportion of both users and non-users expressed concerns about security and about privacy. Older adult internet users said that these concerns meant that they spent less time on the internet and were more cautious on it. Conversely, older adult internet non-users said that these concerns were a prominent reason to why they did not use the internet. Non-users were more likely than users to rate the internet as very insecure and as having no privacy. Respondents indicated that the source of these concerns were other people and the media, and also suggested that they had heard no positive features of the internet mentioned in the media. Some non-users expressed concerns about becoming 'addicted' to using the computer. A small number of non-users especially valued face-to-face communication and one person expressed the view that if the internet disappeared it would be of benefit to society because "people would talk to each other again".

4. PROMOTING DIGITAL INCLUSION OF OLDER USERS

A clear conclusion which can be drawn from the study is that many older users are not prevented from access to the internet by reasons of cost or ability, but rather that they are making a conscious choice not to become digitally engaged in order to preserve valued aspects of traditional forms of social interaction or to avoid dangers they perceive in internet usage.. However the reasons for their decisions appears to some extent to be based on a lack of accurate information and awareness about the internet. The results point to some particular gaps which need to be addressed if older people are to be able to exert real choice and make well-informed decisions about participating in the digital society. The following list identifies some of the main gaps in awareness and information:

- What the internet is (e.g. it is the same thing as the worldwide web), and what you can do with it – communicating/emails, finding information, access to learning opportunities, receiving digital radio and TV signals etc. etc. as well as paying bills, banking, shopping etc.
- How you can access it – not just from a home pc, but from pcs in other locations such as libraries (which also provide support) AND via other devices (TV, phone etc.)
- The real costs of accessing and using the internet (i.e. a range from free access resources to high specification home computers and broadband access)
- How people can learn about it and how to use it- what kinds of learning opportunities there are, which ones are free, what they cover etc.
- Examples of "good press", which counteract the negative messages which are often given prominence in the media and which give rise to perhaps exaggerated concerns about the internet.

There would appear to be benefits from an awareness campaign covering these aspects, targeted specifically at older people – i.e. featuring older people, and displayed at times or in places which are particularly likely to attract older people as an audience - in the same way as part of the recent, successful Freeview campaign promoting the benefits of digital television. The misconceptions noted above may not of course be solely confined to older people, so that an awareness campaign of this nature may have benefits if directed more widely. Such a campaign would ideally be government led to ensure that it was not simply perceived as a sales campaign prompted by commercial interest from by manufacturers, service providers or others. However advertisers of good and services might also do well to recognise that some of their potential customers lack even a basic understanding of the nature of the internet; providing a url for their websites is appropriate for many customers but some participants in our study did not even recognise that the world wide web (or a www address) was the same as the internet.

Nevertheless, improving awareness of the nature and benefits of the internet will not necessarily transform a non-user into a user; there is a need to continue to improve the accessibility and usability of hardware and software from the point of view of older and disabled people, and to continue to applications and materials which are meaningful and attractive to older people. Selwyn [18] argues that ICT must be reshaped to better suit the needs and lives of older adults to encourage their use. Marketing strategies have an important contribution to make in reducing this perception by featuring older people in advertising and media. It is important to find out what this segment of the market wants and what they consider to be useful, and then to target design and marketing to their needs [14]. Morrell [4] also suggests that older adults' requirements should be considered when designing websites and this can be achieved by including them in the process

5. CONCLUSIONS

In this country, as in other countries, older people represent a large and growing proportion of the population. Older people are important consumers of government services; for instance In the UK, approximately 40% of NHS expenditure and 50% of social services expenditure is spent on people over the age of 65 [5]. However they are also forming a growing market for commercial products and services. Also in this country, as in other countries, government has embarked on an ambitious programme to provide and to promote digital access to services and information. With three-quarters of UK public services already online and a target of providing all government services online by the end of 2005 [20], the UK Government is committed to ensuring that those people who need these services most are able to access and use them through digital channels. Yet older people are still least likely to be using and engaging with these new technologies, so that the Government's goal of achieving digital inclusion is still an objective rather than a reality.

However, in the words of the former UK Government e-Envoy, Andrew Pinder: "Digital inclusion is not about computers, the internet or even technology. It is about using technology as a channel to improve skills, to enhance quality of life, to drive education and to promote economic well-being across all elements of society. Digital inclusion is really about social inclusion..." (foreword to the DIP Report, [2]). Achieving digital engagement will entail more than just a matter of ensuring that designs do not exclude individuals or groups from access to technology. Promoting awareness of features and potential benefits, as well as delivering systems and services which are genuinely useful and meaningful to a wide range of the population are therefore key requirements in promoting digital engagement. But to achieve greater social inclusion requires that those who are currently marginalized in society must be enabled to actively participate in the determination of both individual and life chances. In order to be able to influence the shape of future technologies, stakeholders (in this case older people) need to be actively engaged in the identification and articulation of their goals, needs and aspirations, and in the evaluation and validation of alternative options. A participative approach to the development and delivery of e-enabled services can achieve the benefits both of shaping systems to meet the needs of stakeholders, and empowering the stakeholders to become more informed users/consumers of the technology and services.

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