Older people and technology- a social need, an economic opportunity?

Is an inclusive digital era the answer to our economic woes? Meeting the needs and aspirations of older people with digital technologies could spur a significant growth in Europe's knowledge economy.

No one ever doubts the scale and impact of the industrial revolution, with the phenomenal growth in production and innovation. Our view of those times is always marred, however, by child labour, deaths in coal mines and the suffering of those working in mills.

We are in the middle of a digital revolution, perhaps more significant than its industrial predecessor. How history retells this period may also depend on how we handle the social consequences; that is the extent to which we make the digital era an inclusive one. Whilst this is a social imperative, it is also an economic opportunity.

Inclusivity of our digital era has two elements, the first concerns access to everyday technologies and the second is innovation. Almost any individual, regardless of their age or socio-economic background, should be able to make full use of day to day technology (mobiles, internet, email, etc). These are now everyday tools bringing savings in time and money and new ways of staying in touch with essential social networks.

Innovations largely focus on business users or relatively well off people pursuing leisure activities. Inclusive innovations would ensure the life circumstances of all citizens are underpinned by effective technologies. They could, for example, improve health service delivery or counteract memory or mobility loss.

The majority of older people don't enjoy the benefits of the digital era - only 10% use the internet as compared to 47% for the EU25 on average[1]. Severe vision, hearing or dexterity problems, frustrate many older peoples' efforts (21% of the over 50s) to engage in the information society[2]. For many the challenge is simply one of confidence, knowing where to get help and understanding what digital technologies could do for them.

Digital technologies also enable older people to remain active at work or in their community. Their accumulated experience and skills is a great asset, especially in the knowledge society. Use of PCs in work by the 50+ age bracket has increased enormously in the last few years. Enabling older people to get online skills then, is a first challenge. Many EU countries have initiatives designed to help, often run by Non Government Organisations (NGOs).

Seniornett Norge is an NGO from Norway working towards e-inclusion for elderly people. The organisation has two offerings, the first is the annual 'Senior-surf day', an open house event held at libraries and community centres nationwide for the elderly to learn about ICT. The second is a 'club' or training centre established at the local site where seniors can continue their learning and become proficient ICT users.

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[1] European Commission – Measuring progress in e-Inclusion, Riga Dashboard 2007.
http://ec.europa.eu/information_society/activities/einclusion/docs/i2010_initiative/rigadashboard.doc

[2] Active Ageing in the Information Society – Position Paper, June 2007.
http://www.age-platform.org/EN/IMG/pdf_Active_Ageing_in_the_Information_Society.pdf

Inforum is an umbrella organisation of Hungarian ICT NGOs. Their Grandparent-Grandchild Competition of Informatics demonstrates how children can play an important role in the motivation of their grandparents for using computers and the internet.

The Seniormedia Marketing flagship project of Austria works towards facilitating access to the internet for elderly people and intergenerational work. The project contains a series of initiatives such as schooling programmes and learning events to inform the elderly about e-Government and the benefits of computers.

So work is taking place across the EU to address, access, skills and motivational issues. On the second issue of inclusive innovation, EU research projects have developed many technologies, such as for home care, advice and remote health monitoring; intelligent alarms and personalised route guidance.

Netcarity is one such project aiming to help users keep in touch with friends and family through new communication terminals in their homes. By interacting with Tablet PCs, through touch–screen user interfaces, avatars and virtual representations of objects, users can easily initiate conversations with other people, share images, documents and carry out social activities such as preparing Christmas gifts for local church congregations or playing card games.

Another EU funded project, ElderGames is researching the specific needs of elderly people and creating an entertainment offer with particular emphasis on cognitive skills in old age.

Health and social services can also be underpinned by ICT. “E-enabled” mobile working, data sharing and telemedicine are all ways in which an older person could benefit from improved service provision.

Two European e-inclusion award winning projects have demonstrated how technologies can assist older people in living independently and in lightening their experience of health care:

Newham Advanced Telecare (NeAT) aims to encourage increased participation in society and the economy by older people, assisting them to stay actively engaged in their communities and work. Telecare technologies are set up in elderly peoples’ homes which monitor a person’s activities, and can trigger an alarm when a problem is suspected connecting through to a control centre if an alarm is triggered. Telehealth is delivered through a TV set top box; guiding users through vital sign measurement, enquires about their health, and providing education and training in self-care.

The e-Health Unit at Sotiria Hospital has incorporated the use of ICT into clinical practice to develop integrated home and community-based health and social care and chronic care management. Patients or carers make use of TV, real time video and stationary or mobile, wearable devices. This approach results in reduced admissions and days spent in hospital. It can be particularly important for patients living on remote places offering monitoring and support when physical access to the hospital is impossible due to bad weather conditions.

Clearly these projects and aspirations also raise a number of ethical questions concerning how they might be applied. Will dignity and privacy be respected? What drivers will underpin the spread and take-up of technologies? And so forth. The issues have been subject to a detailed review and stakeholder dialogue[3], with a number of suggestions for how the EC might guide and regulate in this area.

If ethical questions are addressed appropriately, developing an inclusive digital age across Europe is a social necessity for shared goals of equal opportunity and quality of life. Beyond this, there is also an economic opportunity.

Europe's population is ageing: average life expectancy has increased from 55 in 1920 to over 80 today. With the retiring baby boom generation the number of people aged from 65 to 80 will rise by nearly 40% between 2010 and 2030[4]. This demographic change poses significant challenges to Europe's society and economy. The number of 80+ people will almost double by 2050[5]. Spending on pensions, health and long-term care will increase by 4-8 % of GDP in coming decades. The ratio of workers (to sustain such spending) to retired persons will drop from 5:1 to 2:1 by 2050[6].

Europe's ageing population is clearly a challenge for the job market, and its social and health systems. ICT increasingly allows older people to stay active and productive for longer; to continue to engage in society and to enjoy a healthier and higher quality of life for longer. To illustrate the potential:

- 68 million people in 2005 had several forms of age-related impairment. This will grow to 84 million in 2020[7].
- Europeans over 65 possess wealth and revenues of over 3000 B€[7].
- The market for smart homes applications (age-related assistance in shopping, dressing, moving independently) will triple between 2005 and 2020, from 13 million people up to 37 million[7].
- Early patient discharge from hospital due to the introduction of mobile health monitoring would save €1.5 billion p.a. in Germany alone[7].

[3] ICT and Ageing: Users, Markets and technologies, Compilation Report on Ethical Issues, January 2009, Empirica, WRC & TUW for DG Info Soc and Media. Also SENIOR project under FP7

[4] European Commission COM (2005) 658, Review of the Sustainable Development Strategy; COM(2006) 57, The demographic future of Europe – from challenge to opportunity

[5] Ageing well in the Information Society, European Commission, June 2007; http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0332:EN:NOT

[6] European Commission COM(2006) 571, The demographic future of Europe – from challenge to Opportunity

[7] European Commission COM(2007) 332, Ageing well in the Information Society - Action Plan on Information and Communication Technologies and Ageing.

Care Coordination/Home Telehealth (CCHT) is a national programme operated by the Veterans Health Administration (VHA) in the United States. The cost of CCHT averages €1,150 per annum per person, and this has been compared with the €9,400 per annum for VHA's home-based primary care service and €55,700 per annum for private nursing home care. Information on patient satisfaction is collected from patients every 3 months and satisfaction ratings are as high as 86%. Reductions in hospital admissions of 19.7% and day bed occupancy of 25.3% have been greeted with enthusiasm.

A report on Scotland's Telecare Development Programme concludes that it has delivered savings of £11.15m in 2007-08, based on 7,902 people receiving telecare equipment. It estimates that total cost savings over the period 2007 to 2010 are on track to be a minimum of £43m[8].

There are, however, many barriers to growth in the market for products and services for ICT and ageing (lack of standards, uncertainty about the sustainability of business models and fragmentation being a few). Case studies of policy, procurement practice, and programmes which have overcome barriers to implementation are being studied by the EU, with a view to spreading good practice and realizing benefits on a greater scale.

Getting older people online and digitally enabled will empower them to reap benefit for themselves but also support finding solutions to sustainable, high quality social and health care for an ageing population. The potential business opportunities are huge, so long as market barriers can continue to be addressed and ethical dimensions are considered in full. This requires strong action at both the European and Country level. The social imperatives and economic opportunities are too great to do otherwise.

[8] Scottish Government – Joint Improvement Team – Telecare Development Programme: Monitoring Telecare Progress – May 2009. http://www.jitscotland.org.uk/downloads/1242917400-Telecare%20Development%20Programme%20%282008-2010%29_%20Evaluation%20-%20Monitoring%20Progress%20Final%20Report%202008_9%20-%20May%202009.pdf