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CHAPTER 5

New technologies: intergenerational tools

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If the oldest baby boomers are now the first generation of entirely mediated seniors, the youngest will be the first digital seniors. Many old people are frequent mobile phone users and it is now beginning to be common to find an internet service in old people's homes.

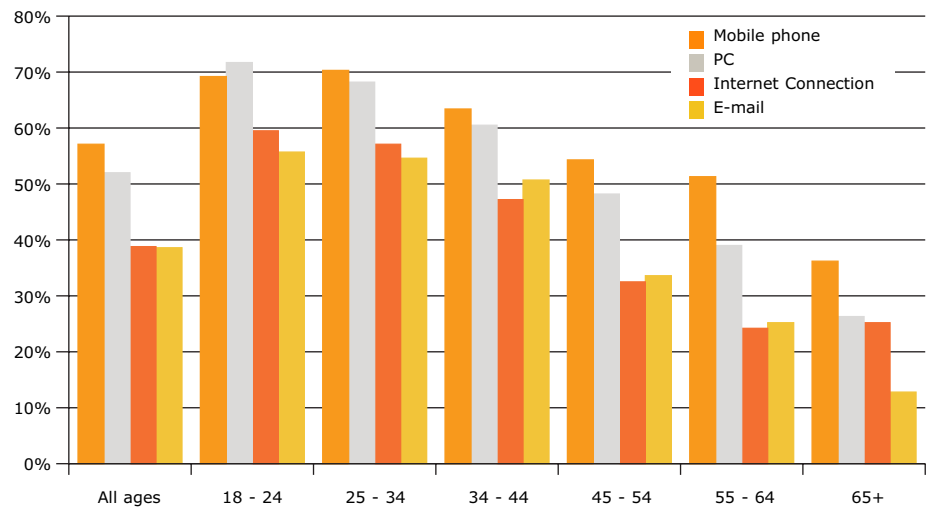


Illustration 39. Need for different technologies in everyday life (2001).

Source: CIS, Estudio 2429, septiembre de 2001 (from the publication *El mercado de los seniors en España: ¿oportunidad o burbuja de negocio?*, by José Luis Nueno and Julián Villanueva).

The experts at the FTF meeting played a game to try to identify what major trends will result from the presence of these two large new consumer segments, immigrants and baby boomers. Surprisingly, most of the suggestions were related to technology. Furthermore, most of those innovations have already been invented and are developed; the next step is to take all that innovation to the consumer market.

5.1. Home automatics

Large technological companies have clearly seen the writing on the demographic wall and in recent years have steered R&D towards adapting technology for seniors. There are, however, two new fields which are particularly interesting: on the one hand, home automatics and on the other, net tools for *Silver Surfers*, a generation of baby boomers who are skilful web surfers, using the Internet for the same purposes as their teenage grandchildren.

Notes

Home Automatics: Home automatics is a combination of systems capable of automating a home, using different services for managing energy, security, comfort and communication which can be integrated with internal and external wired or wireless communication networks and controlled from inside or outside the home. It could be defined as integrating technology into the intelligent design of a premises.

Home automatics is going to be the great revolution in the home of the near future: interconnected domestic appliances, lights and heating systems that save energy, because they use movement detection to switch on, ecological shutters, security systems activated by sensors and a long list of other developments will cut costs for people living in their homes, reduce consumption and provide greater security.

According to these researchers, the monitored home of the future will incorporate assistance services with wireless communication technologies such as 3G, wi-fi and Bluetooth, as well as intelligent textile sensors integrated into textiles, home and decorations. This will mean that pillows, mattresses, upholstery and even clothes will have electrodes based on carbon nanotubes that will let home-owners know if they've left the cooker on or whether they move about in their sleep.

Some good practice:

- Beo5⁵⁰ is Bang & Olufsen's new remote control which can be entirely customised to the user's requirements. The new Beo5 can be used to control all Bang & Olufsen products and also to draw the curtains and switch lights on and off.
- The infrared movement and sound detector⁵¹ turns on a light in a room when it detects movement and/or sound. The sensitivity of the apparatus and the length of time the light stays on can both be regulated. There is also a switch on the front of the terminal to turn the light on and off manually. The system is particularly easy to fit and has a maximum power of 500 watts.
- Senior Pilot⁵² is an infrared remote control especially designed for older people, with very large light-up buttons and easy-to-see symbols, making it easier to read and use. Another advantage of Senior Pilot is that it can be programmed to perform the principal functions of all the other remotes around the home, essentially replacing them. Senior Pilot can be used to control the television, video or stereo as well as any other home automatic appliances installed, such as motorised blinds, lights, doors, etc.
- In some circumstances, it may not be possible for the user to use buttons or switches to control the environment. In these cases, they can still use their

⁵⁰ Website:
<http://www.bang-olufsen.com/page.asp?id=365&bhpc=1>.

⁵¹ Website:
<http://www.voltimum.es/catalog/fam/NIE-/031/002/NIE-41/fam-P/Detectores-de-movimiento.html?fullsize=yes>.

⁵² Website:
http://www.discapnet.com/Discapnet/Castellano/Accesibilidad/Calidad/Ayudas+tecnicas/Guias+tecnicas/GuiasTecnicas_004.htm#SENIOR%20PILOT.

voice. Sicare offers remote controls using infrared, such as the Sicare Light⁵³, or radiofrequency (the Sicare Pilot), which allow any device or domestic appliance to be controlled by voice. This means that you can turn on lights, start your music system, select a radio station, switch on the television, pick up the phone, call to ask for help, turn up the temperature on the climate control, open and close windows, blinds, curtains and doors and adjust a motorised bed to the required position, just by using your voice. The Sicare Light voice control can be used in care homes or private dwellings.

From January 2007 to June 2010, the European Union is subsidising the Persona Project⁵⁴ (Perceptive Spaces Promoting Independent Ageing)⁵⁵, created to develop a platform for ubiquitous, instant and transparent access for older people to services that will allow them to continue living as long as possible in their own home environment. The consortium is made up of over twenty organisations from Spain, Greece, Denmark, Italy and Germany, and includes Vodafone Italia, the Polytechnic University of Madrid, the ITACA Institute of the Polytechnic University of Valencia and the Vodafone Spain Foundation.

The services and solutions to be developed under the project will increase the quality of life and independence of elderly people. The project will work on five aspects:

1. Scientific: finding solutions that favour, for example, social inclusion, early detection of health risks, personal protection, improved mobility, displacement around the home environment, etc.
2. Technical: development of a technological platform that will enable access to those services.
3. Psychological: creating pleasant, easy-to-use solutions.
4. Economic: sustainability of the solutions.
5. Ethical: non-intrusive technological solutions that respect the end users' privacy.

These systems, known as "AAL services", can detect specific emergency situations and inform doctors, firefighters and security personnel, as well as automatically turning domestic appliances, lights, kitchens and televisions on and off.

⁵³ Website:
http://www.discapnet.com/Discapnet/Castellano/Accesibilidad/Calidad/Ayudas+tecnicas/Guias+tecnicas/GuiasTecnicas_004.htm#SICARE%20LIGHT.

⁵⁴ European Union's Seventh Framework Programme for Research.

⁵⁵ Website:
<http://www.aal-persona.org/>.

AAL (ambient assisted living services) are sustainable and accessible solutions for social inclusion and independent living among older people, which allow them to continue living longer in their place of preference, thanks to an increase in their autonomy and personal confidence and an improvement in safety conditions, while watching over their health and social integration.

5.2. Silver Surfers

Innovation in home installations is not the only revolution for baby boomers; The Internet is rapidly adapting to the new needs and ways of looking at life. As a result, a whole new range of tools and applications are being specially developed for Silver Surfers.

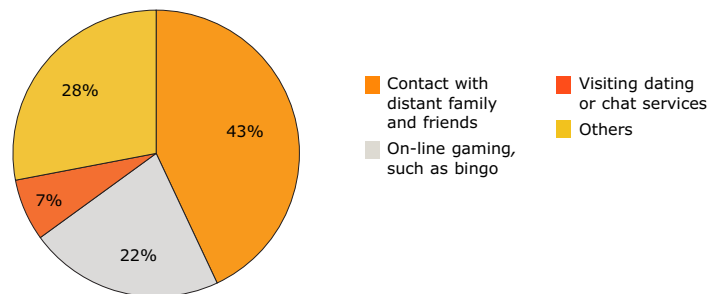


Illustration 40. What do baby boomers use the Internet for?
Source: Telewest Broadband survey 2005.

⁵⁶ The International Organisation for Standardization is a non governmental organisation founded after the Second World War (it was created in 1946). It promotes the development of international standards on manufacture, trade and communication for all branches of industry except electricity and electronics. Its main function is to seek international standardisation among products and safety standards for companies and organisations. ISO is a network of the national standards institutes of 157 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, which coordinates the system. The ISO is made up of government and non-government delegations, subdivided into a series of subcommittees in charge of developing the guidelines that will contribute to environmental improvement. The standards developed by the ISO are voluntary, since it is a non governmental body, independent of any other international organism and therefore has no authority to impose its standards on any country.

Silver Surfer is a term used to describe an elder person (or at least someone over 50) who spends a considerable time surfing the Internet. The original *Silver Surfer* was a silver-coloured comic-book superhero (from Fantastic Four) who travelled the world on a surf board. The term is used metaphorically to describe this segment of the baby boomers.

Clearly, websites that want to find a niche for themselves in the senior segment must take their limitations into account. The FTF experts identified three types of challenges for those designing suitable web contents for baby boomers: sensory limitations (loss of sight or hearing); mobility (for example, mouse skills) and cognitive factors (intellectual and communication).

In order to overcome the physical difficulties baby boomers face when using the Internet—which they see as a path to knowledge, leisure and management of their social relations—websites must fulfil two principles, usability and accessibility. These are two different, but ever more closely related characteristics:

- **Usability:** the ISO⁵⁶ defines usability as “the effectiveness, efficiency and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment”. Deciding whether a website is usable or not depends not only on the site itself, but also on the user and on the specific context. There are three elements involved in usability. Firstly, learnability, i.e. how fast a novice user can develop effective interaction with the system or product; this factor is closely related to predictability, familiarity, generali-

sation of previous knowledge and consistency. The second factor is flexibility, which is the variety of ways in which the user can exchange information with the system; It also covers the possibilities for dialogue, the number of ways of performing the task, similarity with previous tasks and optimisation of the relationship between the user and the system. And, finally, robustness, which is the degree of support provided to users to help them meet their objectives; it is related to the user's capacity for observation, recovery of information and the level to which it can adapt to the user's task.

- **Accessibility:** this is the degree to which a website can be used or visited by anyone, regardless of their technical or physical capability, or factors related to the usage context (technological or environmental). Web accessibility includes aids such as high-contrast or large size type faces, display magnifiers, on-screen readers and checkers, voice recognition programmes, adapted keyboards and other pointer and data input devices. The body in charge of fostering accessibility is the World Wide Website Consortium (W3C). The WAT (Website Accessibility Test) is a tool designed to check certain accessibility-related aspects automatically. It is meant for web designers and developers. The WAT's automatic analysis uses 14 accessibility guidelines, with 65 check points. Depending on the check points a website scores, it will be awarded an accessibility rating of A, AA or AAA (in ascending order of accessibility). The WAT can be run by simply entering the URL of the website to be analysed. It will then generate a report with information on the results.

In IT, usability is very closely related to accessibility, to such an extent that some experts seem then as being part of one another. One of these experts, a guru of website usability, is Jakob Nielsen⁵⁷, who defined usability in 2003 as being "a quality attribute that assesses how easy user interfaces are to use".

In Spain there are various regulatory frameworks intended to help make new technologies more accessible to seniors:

- Plan of Action for the Electronics Administration in Spain (2003).
- Avanza Plan (2006-2010), for the development of the Information Society and Convergence with Europe and between Autonomous Communities and Autonomous Cities (as part of Ingenio 2010). The measures implemented will ensure inclusion of the entire population, facilitating access to useful services of new technologies and disseminating them to improve quality of life, information and citizen participation in the community.
- Moderniza (2006-2010), a raft of measures to improve the public administration.

Elsa Palacios Ramos works for the Economy and Geography Institute of the Higher Scientific Research Board (CSIC) and is a leading researcher in the field of IT as applied to the sector of the elderly. She has written a very revealing paper⁵⁸ analysing some of the main websites for old people in Spain and elsewhere in Europe, entitled "Social inclusion and information: the area of the elderly".

⁵⁷ Jakob Nielsen (born in 1957 in Copenhagen, Denmark) is one of the world's most respected authorities on web usability. Ideas from Nielsen's articles are quoted in many other publications giving guidelines on how to write for the Web and improve usability.

⁵⁸ X Spanish Documentation Symposia (FESABID, Spanish Federation of Societies of Archivists, Librarians, Documentation and Museum Studies), 9, 10 and 11 May 2007. Lemma of the symposia: *E-information: integration and profitability in a digital environment*.

In her conclusions, she highlights the fact that, in terms of usability, Spanish portals for the elderly scored lower than those in English. However, the websites with the best scores included Portal Mayores⁵⁹, Club Estrella (from La Caixa)⁶⁰ and IMSERSO⁶¹. Portals in English are showing a growing interest in accessibility. These include AgeConcern⁶² and the Department for Work and Pensions (UK)⁶³. Among European websites, considerable efforts are generally being made in this direction, as in AGE⁶⁴, Era-Age⁶⁵ and Health-EU⁶⁶. In Spain the greatest moves in the field of accessibility are being made on public websites, such as IMSERSO, Portal Mayores and SID⁶⁷. To a much lesser extent, efforts are also being made in the private sector.

Palacios also offers a simple table to compare compliance with the minimum parameters of usability and accessibility among a number of Spanish, European and American sites commonly used by old people.

	Accessibility	Usability
Júbilo (Spain)	X	X
Inforesidencias (Spain)	X	✓
IMSERSO (Spain)	✓	✓
Portal Mayores (Spain)	✓	✓
Health-EU	✓	✓
AgeConcern (UK)	✓	✓
Ministère de la Santé (France)	X	X
AgeVillage (France)	X	X
NIA (US)	X	X
AOA (US)	✓	X

⁵⁹ Website: www.imsersomayores.csic.es/.

⁶⁰ Website: www.clubestrella.com.

⁶¹ Website: www.seg-social.es/imserso/.

⁶² Website: www.ageconcern.org.uk.

⁶³ Website: www.dwp.gov.uk.

⁶⁴ Website: www.age-platform.org/EN/.

⁶⁵ Website: <http://era-age.group.shef.ac.uk>.

⁶⁶ Website: http://ec.europa.eu/health-eu/my_health/elderly/index_es.htm.

⁶⁷ Website: <http://sid.usal.es>.

Júbilo	www.jubilo.es
Inforesidencias	www.inforesidencias.com
IMSERSO	http://www.seg-social.es/imserso/
Portal Mayores	http://www.imsersomayores.csic.es/
Health-EU	http://ec.europa.eu/health-eu/index_en.htm
AgeConcern	http://www.ageconcern.org.uk/
Ministère de la Santé	http://www.sante.gouv.fr/
AgeVillage	http://www.agevillage.com/
NIA (National Institute on Aging)	http://www.nia.nih.gov/
AOA (Administration on Aging)	http://www.aoa.gov/

TABLE 9. Comparison of level to which certain sites comply with guidelines on usability and accessibility for elderly people.

Source: Elsa Palacios Ramos, paper "Inclusión social e información: el ámbito de las personas mayores", X Jornadas Españolas de Documentación (FESABID), May 2007.

Summing up, we may conclude that thus far, greater attention has been paid to content than to technical aspects when it comes to viewing old people as a target audience for websites, especially in the private area, which is driven fundamentally by commercial factors. Precisely in the private sector, specific sections have been created for elder people on more general pages (such as Saludalia⁶⁸ and Tuotromédico⁶⁹) or even monographic portals for them (Todoancianos⁷⁰ and Mundomayor⁷¹). The trend among these pages suggests that they will not only be suppliers of information, but will also create virtual communities around their contents, facilitating the exchange of ideas and the organisation of meetings among members of these communities.

Baby boomers now approaching retirement offer a host of opportunities for businesses who know how to adapt to their new requirements. Already seniors are searching for a better quality of life, with a critical spirit never known before and with the skills to use the Net. They are familiar with e-commerce and, in most cases, they use it; they socialise and look for communities where they can feel integrated and share common interests and hobbies. They deal with bureaucratic procedures and formalities on-line (whenever possible) and check out possible holiday destinations in specialised forums or sites. The baby boomers surf just like their grandchildren, though they may have different interests and their purchasing power is undoubtedly greater. Web designers would therefore do well to take these needs and restrictions into account, and business owners should make sure their websites meet the basic requirements for this segment. ■

⁶⁸ Website: www.saludalia.com.

⁶⁹ Website:
www.tuotromedico.com.

⁷⁰ Website:
www.todoancianos.com.

⁷¹ Website:
www.mundomayor.com.