

A model of Active Aging 2.0 to stimulate older adults in the use of virtual social networks

Domenico Consoli

University of Urbino, Italy

domenico.consoli@uniurb.it

Abstract

In the knowledge era, Web 2.0 tools (chat, forum, blog) and social media are very popular not only in companies, public agencies but also in everyday life. These tools can also be used by older adults to increase their social relationships with family and friends, especially if they live in other places. Nowadays, many statistics highlight how the percentage of elderlies, that use interactive and collaborative tools, is increasing.

In the paper we describe a model of Active Aging 2.0, for older adults, that use different interactive tools and social networks. In this way, the technological digital divide is reduced and elderlies becomes active citizens. After the description of the platform some success case studies, when older adults frequently use web 2.0 tools, are described.

Keywords: elderlies, web 2.0, social networks, virtual community, active aging 2.0.

1. Introduction

Internet and new web 2.0 technologies (O'Reilly, 2007) may become a very useful tool for the reconciliation between the old generation and the digital society that communicates and shares information. For elderlies, these tools are useful in everyday life: to arrange travel, by bus, train or plane, to obtain information about public authorities or to consult websites about the health. In this way the elderly feels less alone and participates more actively in the public life. In this direction, many projects have been made and there are also excellent case studies.

The paper presents the following structure: in the next sections we describe the literature analysis on the use of ICT and web tools from older adults. In the third section we synthetically show statistical data in this topic. The fourth section focuses on the Active Aging 2.0 model. In the fifth section, some excellent case studies are analysed and also the benefits and limits are shown. Finally some conclusions are drawn.

2. Literature review

Researches about motivations that stimulate elderlies in the use of new technologies are limited (Wolfinger et al., 2005; Selwyn, 2004). The majority of older people do not use ICT and Internet because they do not see any utility; they would like the web more suitable to their needs (Schelling and Seifert, 2010). Older people understand the usefulness of the Internet if web tools facilitate the everyday life such as the ability in online shopping, buying tickets, banking and so on. The results of the research show that older adults desire to learn new technologies (60%) but they do not use Internet because it seems very complicated (71%) and they have doubts and fear about data safety and cyber crime (60%).

Adults do not have a favourable attitude towards ICTs like younger segments of the population (Robinson et al., 1984). There are some problems in the context of use (Mantovani and Spagnoli, 2001) but the user experience improves the attitude in the adoption of new media (Fisk et al., 2004).

Different empirical studies have demonstrated the improvement of the life quality such as the decrease of the loneliness degree and perceived stress and the improvement of the psycho-social well-being (White et al., 1999, Cody et al., 1999; Loges and Jung, 2001; Porcu, 2006).

In different ways ICTs can bring benefits and provide a social support to elderlies, especially for those living alone in rural contexts and have a restricted mobility.

The non-use and the difficulty in learning is also linked to mental barriers: anxiety, technophobia and problems with technological interfaces. To overcome these barriers it is important to improve the design of interfaces and make them more senior-friendly (Goodman et al., 2003).

Elderlies, in the theories of the technology diffusion (Rogers, 1995) are considered slow (late majority) or unwilling (laggards) to adopt them. In addition to physical gap there is also the barrier of the cultural gap like the absence of primary motivation to search and communicate information and they express negative opinions about the effectiveness and control of the artifacts.

Selwyn et al. (2003), examined the relationship between technology and different variables like gender, education level, income, health conditions and personality traits.

In the adoption of new technologies it is important the support of the family, young friends and acquaintances. Helped adopters are the most motivated groups of seniors in the use of Internet and web technologies (Wolfinger et al., 2005).

People can change their attitude towards ICTs, not necessarily because they are afraid or do not approve new technologies but because they have a different perspective of

themselves as members of the society (Ostlund, 2001). Being a PC-users is not a permanent state (Selwyn, 2004); during the course of the life, a senior who has used a PC in the workplace, may not or partially use it in the retirement period.

3. Statistical data on elderliers and web technologies

An interesting research on “The elderly and Internet” conducted by the Center for Gerontology of the University of Zurich and other partners (Schelling and Seifert, 2010) has collected and analysed data of 1105 persons aged over 65, of all linguistic regions of Switzerland. Only 40 percent of over-65s have used Internet at least once in the six months before the survey; 60 percent of elderly people never used Internet. In the group -65 to 69 years - Internet users are 58%, 50% in the group -70 to 74 years- and 8% over 85 years.

A statistical survey in Italy (ISTAT, 2010), shows that the peak of the use of PC and Internet occurs with young people of 11-24 years and decreases rapidly with the increasing of the age.

Data on the use of PC and Internet, for each age group starting from 55 years, in different years, from 2005 to 2010 is shown in Table1.

Table 1. PC and Internet adoption according the age of people. Source: Istat, 2010.

age	PC adoption (%)						Internet adoption (%)					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
55-59	25,0	26,7	29,9	33,6	36,0	44,1	19,4	21,5	26,3	29,7	33,1	41,0
60-64	13,8	16,4	17,5	20,5	25,0	28,3	10,8	12,3	14,9	18,0	22,8	25,2
65-74	5,5	7,0	6,9	9,1	9,9	13,7	3,9	4,8	5,5	7,2	8,5	12,1
>= 75	1,5	1,4	2,1	1,9	2,4	2,7	1,0	0,9	1,5	1,3	1,5	2,0

From Table 1 it is possible to see how the percentage of the PC and Internet adoption from elderlies is the lowest, also if in last two years it is increased.

According to a recent research of eBay (www.ebay.com), every day, a lot of elderly people, especially men, are connected on the website for the shop online.

One of the latest research in this topic, by the Pew Research Center (2011), has revealed as the greatest increase in the adoption of social networks, in the last two years, has quadrupled (from 4% to 16 %) the presence on social networks of over 74 years. Even in the range between 65 and 73 years, always in retired age, the use of social networks has tripled from 11% to 34%. The 42% of adults over 50 (50-64 years) are present in social platforms, almost the double compared with the 22% of the last year. These users use social media to stay in touch with friends and family.

This trend is even higher among people over 65; the 26% of them are present in social platforms, with a growth of 100% over the last year. Young people between 18 and 29 years had a smaller increase than the older target. The percentage of the social networks adoption, for each age group (a sample of 2,252 people), over time, is shown in Figure 1.

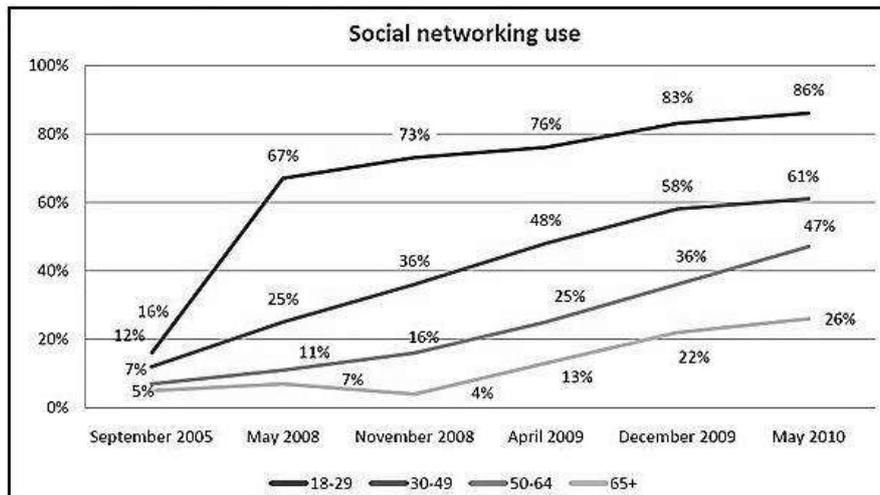


Figure 1. **Social networks adoption for age group.** Source: Pew Research Center, 2010.

From the Figure 1 it is possible to see how the percentage of the social network adoption from people over 65 years, in last years, is increased (from 5% of 2005 to 26% of 2010). The percentage of the single activities of web technology adoption, for each age group, is shown in Figure 2.

In the Figure 2 we can see that the main activities execute from older people are: send or read e-mail (55%), get news (34%), social networks (13%) and Twitter (3%).

Regarding the reading of online news it is a daily routine: the 76% of adults over 50 follow online news and the 42% do it daily. The 65% of over 50 users search news in the web and the 34% do it every day. In USA, the 44% of people among 55-64 years uses Internet versus the 12% of Europe and there is a difference between northern and southern Europe. The American situation of the elderly access is documented by NTIA reports, Pew Internet & American Social Life (2011) and the largest online portal Seniorsnet focused on elderlies (www.seniornet.com). Older Americans over 65 years are called "wired seniors" that frequently use e-mail and web searching.

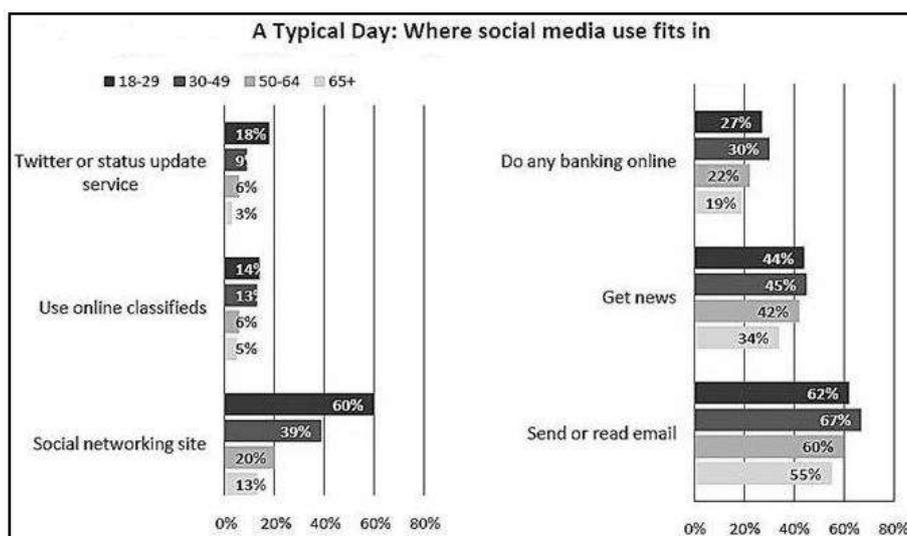


Figure 2. **Single activities adoption for each age group.** Source: Pew Research Center, 2011.

4. Active Aging 2.0 model

In Figure 3 an Active Aging 2.0 platform is represented.

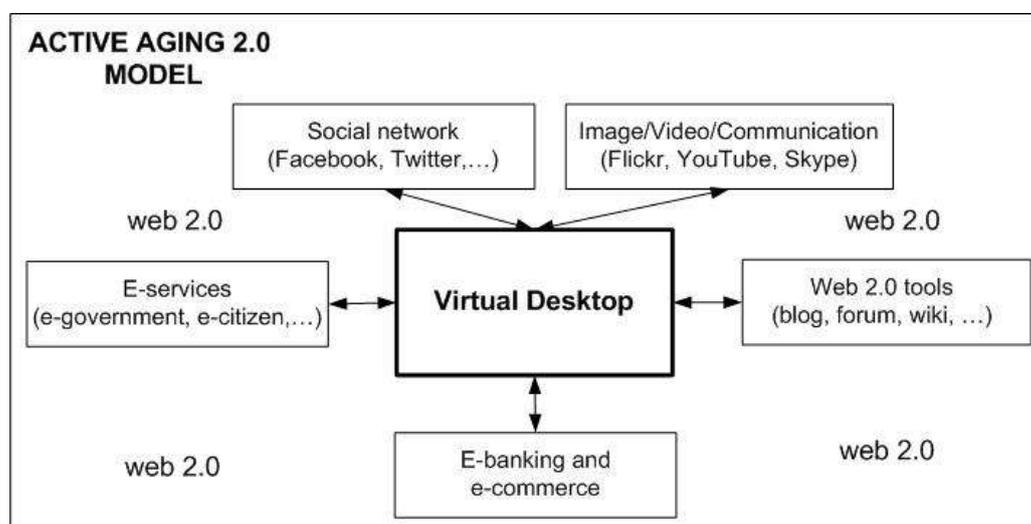


Figure 3. Active aging 2.0 model.

The platform integrates most of tools that older adults may use in interactive modalities. The personal virtual desktop contains useful tools such as agenda and calendar to plan daily activities and to share events and tools to search documents. It is important to use social networking (Facebook, Twitter, Flickr) to communicate and socialize with friends and family.

The module web 2.0 tools is very important in the creation of shared knowledge. The module includes blogs, forums and especially the wiki platform that can stimulate the creativity of new content. Older people can produce with many hands a shared document. The module e-services is useful for the public life of elderly citizens to exploit online public services such as the download of a document (e-government) or the participation in a public discussion (e-democracy). Elderly must also learn how consult timetables of trains, buses or planes.

In the module e-banking it is important to enter in own online account for reading the financial statement and to execute an international bank transfer.

The e-commerce module is used to buy or sell on e-bay and to know how using the credit card for transactions. In this way the older adult is able to also buy a travel ticket. By this platform, elderlies are able to create images, videos and put them inside a website (Flickr, YouTube,...). They must also acquire abilities in the use of skype to communicate with friends and family.

The platform stimulates more the elderly in using the new technologies and to remain agile. As mentioned in the literature, only in the case where the older adults see a practical utility, they will be able to use ICTs and web technologies.

To reduce implementation costs, it is possible to use software open source. The model, for the elderly, may be, for example, implemented with the platform *Elgg* (<http://elgg.org>) and other interactive tools. The wiki space can be created with *Wikispaces* and the blog, integrating chat and forum, by *WordPress*.

5. Case studies

In this section we analyse different excellent case studies.

5.1 *Italian Association of Psychogeriatrics*

A research of the Italian Association of Psychogeriatrics (www.psicogeriatría.it) conducted in two assisted health care homes has experienced how Facebook has beneficial effects on older people who use it every day almost for an hour. In this way the memory of over 65 is constantly stimulated and is maintained more active with benefits also on the mood. Internet adoption has many other benefits because it keeps alive the cultural curiosity of the elderly, improves cognitive performance and keeps alert the brain stimulating the attention, memory and perception (Guglielmi et al., 2011). Facebook reduces symptoms of anxiety, stress and depression and it is a valuable aid in creating a support networks for older people with disabilities who could otherwise have a very limited social life.

For older adults, Internet and Facebook are an opportunity to share, transmit, exchange and update information and news; a mean to interact with others peers and to stay better. In recent years the number of older adults who approached the Web grew by 80%; elderlies are the group of users growing faster. Users of Facebook or MySpace, over 65 years, are about 8% of the total; 4 elderlies on 10 learn the secrets of the network by grandchildren and use web technologies to strengthen their relationships.

5.2 *Bread and Internet project*

In Emilia Romagna many elderlies are involved in literacy courses (630 editions) called "Bread and Internet" (www.paneeinternet.it). The funding of the project is included in the regional telematic plan PITER. The purpose of these courses is to provide the basic digital competence to disadvantaged people which, for various reasons, are cut out. The project goal is to reduce different gaps: territorial, generational, social and technological. It is a project that promotes a social cohesion of the community.

The Region is willing to provide a set of tools and knowledge developed during the trial in favour of institutions that want to start the project on their territory. It is also possible to activate sponsorships or partnerships with private entities on the territory with the aim of decreasing the digital divide in terms of knowledge, services and tools.

5.3 *Grandparents on Internet*

The Mondo Digitale foundation (www.mondodigitale.org) has experienced in Italy, Spain, Romania and Belgium, as part of the Community Action Programme for Lifelong Learning, a project to stimulate ICT learning among active european elderlies. This project will move from cities to small towns to cover most of the elderly people. The purpose is to teach to over 60 years, by young tutors, in using the computer, surfing the Web and to consult online services of the Public Administration.

A thousand of seniors participated in the initiative with 500 young students-tutors and 50 teachers. Over the 90% of seniors who participated in the courses would like a new edition and more than 70%, after the course, has started to regularly use the web and half of them (50%) use social networks. Many of the young tutors are still in contact with elderlies and over 70% of them would repeat the experience.

5.4 *Internet saloon*

Internet Saloon is a place for many new metropolitan elderlies, over 60 year, who want update their technological culture. It is a specific computer literacy among elderlies,

supported and promoted by the association *Interessi Metropolitani di Milano*. In a research conducted in this Internet space (www.internetsaloon.it) the exchange of e-mail was the most popular activity in Internet (81.4%). Even the acquisition of further information drives the elderly to frequently surf in the web for different topics: culture (78.4%), online newspapers (66%), sports or leisure activities (53%), video games (19.7%), use of webcam (5.2%).

5.5 My courses in e-citizens

Some years ago I was personally involved in teaching in two courses of e-citizen program (Consoli, 2011): no. 15 young and old participants for each course.

The average composition of the participants is shown in Table 2.

Table 2. Age of the courses' participants

Age	Percentage
18 - 25	10%
26 - 46	20%
47 - 62	40%
more than 63	30%

Regarding the profession of participants there were: graduated students, young jobseekers, workers and retired people (high percentages). Among young people and young adults there were also some foreigners.

The modules of the training course included hours of distance learning, where students, step by step, made individual exercises in a personalized path. On the web site it was possible to download material and links to didactic resources. The online platform included an internal forum where students could interact asynchronously with the teacher and other colleagues, like in a community of practice.

There were also an instant messaging and chat to allow synchronous collaboration and information's exchange. The interaction allows the growth of the skills. The wiki gives to participants the opportunity to write and create, together, collaborative documents. This data could be subsequently read by teacher and all accesses and activities could be monitored by the platform.

I saw the interest, especially of the older adults to use these new interactive and collaborative tools mainly in the use of electronic public services and in searching online information.

5.6 Benefits and limits of case studies

For elderlies, the perception of the benefits arising from the use of the technology can influence the adoption. In fact, in this context, we can consider the following key benefits (Adler, 2002; Czaja and Lee, 2001):

- *Family*: the intensification of communications with family and friends; mainly in the cases where family members live in distant places
- *Expansion* of opportunities for life long learning
- *Health*: elderlies are particularly interested in using the Web to search information on health (telemedicine) and education services
- *Independent life*: a support for independent living ("aware home")
- *Entertainment*: for leisure activities
- *Finance & shopping*: especially for people with some mobility difficulties

Many of case studies that have been mentioned have a limit: the samples of elderlies have experimented in a classroom or in a laboratory. Also surveys are conducted during courses or in a social context. The observed decrease in the degree of loneliness is inevitably correlated with the time spent with other peers and teachers who are subjects of social interaction.

Conclusions

Nowadays, it is important that elderlies use new technologies and new communication channels for their own well-being, psyche and to live as active citizens (e-citizen). The model described in the paper continuously stimulates the use of interactive web 2.0 tools in managing photos, video, voice and multimedia communications. The platform is also useful to exchange information with friends and other member of the family. In this way, older adults are continuously stimulated to have an active, agile and smart brain. Young people will be tomorrow older adults and, in the future, they will interact with new and evolved technologies. Age-related changes in perceptual, cognitive and psychomotor skills will continue to exist also in the future. Next elderlies will use the new version of the semantic Web and advanced electronic services with a greater confidence.

References

- Adler R.P. (2002). The Age meets the Technology Wave: Broadband and Older Americans. *People & Technology*, Seniornet
- Cody, M.J., Dunn, D., Hoppin, S. and Wendt, P.(1999). Silver surfers: Training and evaluating Internet use among older adult learners. In *Communication Education*, 48, pp. 269-286
- Consoli D. (2011). Educating adults in the use of web 2.0 tools to implement e-democracy projects. In *Proceedings of ESREA Research Network*, Budapest, Hungary, June 16-18, 2011
- Czaja, S.J. and Lee, C.C. (2001) The Internet and older adults: Designs challenges and opportunities in Charness N., Parks D.C., (eds) *Communication and aging: Opportunities and challenges for the future*, Springer
- Fisk A., Rogers W. A., Charness N., Czaja S.J. Sharit J. (2004) *Designing for older adults: principles and creative human factors approaches*, CRC Press LLC, NY, USA
- Goodman J., Syme A. and Eisma R. (2003) Older Adults' Use of Computers: A Survey. In *Proceedings of HCI 2003*, Bath, UK
- Guglielmi L., Alvarez A., Collufio A.M., Ezeme K., Pea S., Zaccari P. (2011). Social Network a servizio delle RSA. Progetto “Insieme su Facebook”: emozioni e ricordi multimediali per ritrovare il passato ed essere più vicini nel presente. In *Proceeding of 11° AIP National Conference*, pp. 149-150.
- Istat. Famiglia e società (2010). *Cittadini e nuove tecnologie*. Istat
- Loges, W.E and Jung J.Y. (2001) Exploring the Digital Divide: Internet Connectedness and Age. In *Communication Research* 28(4): pp. 536–542
- Mantovani G. and Spagnoli A. (2001), Legitimizing Technologies: Ambiguity As A Premise For Negotiation. In *A Networked Insitution. Information Technology & People*, 14, pp. 304-320

- O'Reilly T. (2007). What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. *Communications & Strategies*, No. 1, p. 17, First Quarter 2007
- Ostlund B. (2001), The Deconstruction of a Target Group for IT-Innovation. Elderly users' technological needs and attitudes towards new IT. *In Proceedings of International workshop in Norberg*, available on <http://publications.uu.se/journals>
- Pew Research Center (2011). *Internet & American Life Project*. Report, March 2011.
- Porcu, S. (2006), La terza età di Internet. Trasformazioni dell'invecchiamento e nuove reti di comunicazione e informazione. *Convegno Kinderkom 2006*, 30/6, Bologna
- Robinson P.K., Livingston J. and Birren J.E. (1984). *Aging and Technological Advances*. Plenum Press, NY, USA
- Rogers, E. (1995). *Diffusion of Innovation*, The Free Press, New York, USA
- Schelling, H. R. and Seifert, A. (2010). Internet-Nutzung im Alter. Gründe der (Nicht-)Nutzung von Informations- und Kommunikationstechnologien (IKT) durch Menschen ab 65 Jahren in der Schweiz. *Bd. 7. Zürich: Zentrum für Gerontologie*.
- Selwyn N. (2004). Reconsidering Political and Popular Understanding of the Digital Divide. *In New Media & Society*, Sage Publication, London
- Selwyn N., Gorard S., Furlong J. and Madden L. (2003), Exploring older adults' use of Information and Communications Technology in Everyday Life. *In Ageing and Society*, 23(5), pp. 561-582
- White, H., McConnell, E., Clipp, E., Louise, B., Teague, C., Navas, L., Craven, S., Halbrecht, H. (1999), Surfing the Net in Later Life: a Review of the Literature and a Pilot Study of Computer Use and Quality of Life. *In Journal of Applied Gerontology*, 18(3), pp. 358-378
- Wholfinger M., Gilly M. and Schau H.J. (2005). Keeping up the Times: Innovation and Usage of the Internet Among Later Adopters, *In The Center for Research on Information Technology and Organizations (CRITO)*, available online: www.crito.uci.edu/consortium