E-Inclusion: The Digital Divide and ICT Acceptance among Elderly People in Macedonia Compared with Bulgaria and Romania

Ivana Stojanovska, Marjana Vaneva, Biljana Stojcevska

Abstract

Despite the rapid growth of digital technologies, a significant proportion of the global population continues to be digitally excluded. According to the National strategy for e-inclusion, in Macedonia the age group from 55 to 74 years uses computers and the Internet significantly less, thus indicating a high disparity compared to other age groups. Based on the fact that the elderly citizens are a strongly growing population group in our society, the use of the Internet and ICT for older people is essential. But, it is doubtful whether the mere provision of computer courses or free Internet access is sufficient in aiming to achieve a more inclusive information society. Around 120 million European citizens have never used the Internet, with age being the principal factor. Bulgaria and Romania are both among the top five countries that have the highest rates of non-users in the EU. According to the Digital Agenda for Europe and Eurostat data statistics on digital literacy, both Bulgaria and Romania have a substantial percentage of the population missing from the picture on Internet usage. But, both of them have experienced reductions in the past, whose practices have to be encountered in the process of reducing the rate of non-users in Macedonia, towards the decreased digital divide. According to AGE, the Digital Agenda for Europe calls for halving the proportion of the population that has never used the Internet (to 15%) by 2015. This chapter reviews a part of the literature regarding the use of digital technologies among older people in the EU, as well as EU directives for overcoming the digital divide. The paper concludes with some suggestions and strategies that are adequate to the specific context.

Keywords: Internet, digital technology, digital divide, e-Inclusion, elderly citizens.

DOI: 10.5281/zenodo.4553582

Introduction

We live in a world of communication and information technologies, which are a major force for change. Technology is a dynamic subject that continuously produces new ideas and development, thereby creating multiple digital divides. On the other hand, due to increased life expectancy coupled with a decline in birth rates, elderly citizens form an ever larger population group in our society. The latest census confirms this trend. The total number of people over 55 years of age in Macedonia has amounted to 508,027, of whom 237,868 are men and 270,159 women, which is approximately 24,6% of the total population. Due to the ageing of the population pyramid, long-term projections indicate that the population aged over 55 will represent a larger portion of the total in the years to come. In 2020, about a quarter of Europe's population will be over 65 and the number of people aged between 65 and 80 will grow to nearly 40% of the European population between 2010 and 2030 (Abad, 2014). Therefore, compelled by circumstances, the need for older people to develop skills in the use of the Internet and ICT is essential.

For non-users, age is the principal factor with around two thirds of Europeans aged 65-74 and about half of those aged 55-64 having never used the Internet. When asked about their reasons for not having an Internet connection, lack of interest, motivation and attitudes is the most cited reason. However, research suggests that older people tend to face different barriers and challenges to access, such as cost and economic factors, demographic and social factors, skills and ability, disability, concerns about security and privacy, the lack of time to use it, many people simply do not recognise the relevance of these technologies for themselves. Disabilities, as well, can hinder people from actively engaging in the use information technology. For the usage of online services, the most important disabilities to consider are visual handicaps, cognitive defects and limitations of motor skills.

Despite all this, we believe age itself is not a barrier to using digital technologies, and they can also offer great potential benefits to this section of the population. Therefore, the digital age divide must be prevented, by adapting services and technologies to the needs of the elderly population.

EU Initiatives and Directives

The Digital Agenda for Europe, a 2020 initiative, outlines seven pillars that are central to the delivery of Europe's Digital Agenda, namely: A Digital

Single Market; Interoperability and Standards; Trust and Security; Fast and Ultra-Fast Internet Access; Research and Innovation; Enhancing Digital Literacy, Skills and Inclusion; and, ICT Enabled Benefits for EU Society.

The aim of Pillar 6 - Enhancing Digital Literacy, Skills and Inclusionis to tackle the concern that some 30% of the population in Europe has never used the Internet. Most of these people are either older, unemployed or have a low income and a lack of confidence and skills in using ICT. In 2014, 76% of the EU population had used the Internet at least once. At a global level, the EU is the second largest region behind Asia by number of Internet users, with more than 582 million users (Table 1). Worldwide only 42,33% of the population is estimated to use the Internet. The Digital Agenda has set a target for having 60% regular Internet use (at least once per week) among disadvantaged people by 2015 (the sub-population of socially disadvantaged people includes persons aged between 55 and 74).

The concern about the need to include older people in ICT has been taken up by various public authorities and international organizations leading to a significant number of media literacy initiatives for this sector of the population. One interesting project is the intergenerational project "Grandparents and grandsons" for people over the age of 55, which offers opportunities for young students from colleges as "digital facilitators" who assist older people in the use of the Internet and e-mail. As part of the e-Inclusion policies and specifically the "European i2010 initiative on e-inclusion", the Commission has set up a group of measures to improve e-Accessibility for older people. This proposal complements the initiative taken in 2007, called the "Ageing Well in the Information Society Action Plan". One of the most ambitious studies on the issue is that called the "Social Impact of ICT" conducted under the auspices of the Directorate General for the Information Society of the European Commission, which has involved several European universities (European Commission, 2010). One of the main recommendations arising from this study is precisely that e-Inclusion should not focus on access to ICT, but especially on operational skills and more advanced forms of digital literacy, offering support to those groups at risk of being marginalized in this process, especially the elderly (Abad, 2014).

The Internet offers the potential to advance the quality of life for elderly people in different ways, such as: access to facilities and information that are not otherwise accessible because of mobility or the need for transport or cost (health, banking, shopping, educational opportunities, hobbies, contact with family and friends) and participation in civil society. 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 (Olphert, Damodaran and May, 2005).

Initiatives for e-Inclusion in Macedonia

The digital divide has been addressed by governments all over the world: The European Union recognised that ICT is an important driver of growth and employment and that many Europeans do not use ICT and do not benefit from it. Therefore, the ministers of the member states of the EU called for an inclusive information society and declared to focus on multiple goals to reach this aim (Niehaves and Plattfaut, 2010).

Bridging the digital divide is a part of the policy of the local government. First generation projects to bridge the digital divide in the Republic of Macedonia included: IT courses for all citizens (40,000 citizens, between 2007 and 2008); free Internet access for a limited time period of two months within two years (2008); Internet cafes for free Internet access - within the project ”Svetot na dlanka“, 22 Internet cafes in different cities around the Republic of Macedonia were opened, allowing all citizens free access to the Internet and use of other services and computer applications for professional or personal needs; free Internet kiosks with wi-fi routers in rural areas - 680 points were installed across Macedonia (2009); an annual conference entitled "e-Society.mk" in order to raise public awareness, organized by the Foundation Metamorphosis and several non-governmental organisations.

One of the priorities in the national strategy for e-inclusion is providing independent living for the aging population, which includes: carrying out training for the elderly to use the computer and the Internet; setting specific time periods dedicated to the elderly in the Internet clubs in the Republic of Macedonia; creating websites with services for the elderly and conducting online training by students for the elderly.

However, research into technology acceptance still suggests that numerous barriers remain in place. Current research lacks an understanding of the potential factors that influence private Internet usage. Moreover, there is the possibility that the group of non-users is fragmented and that different measures should be established for different groups. The National Strategy for E-inclusion 2011-2014 presents disparities in the use of the Internet by socio-

economic groups. Disparity in the age group from 55 to 64 years is 0.68 in terms of the average value of using the Internet, while for the group of users from 65 to 74 years it is 0.33. The index of digital literacy in the age group 55 to 64 years is 0.7, and in the age group 65 to 74 years is 0.38. The index of digital literacy in the age group 55 to 64 years is 0.7, and in the age group 65 to 74 years is 0.38.

According to the analysis of the Metamorphosis foundation, the percentage of citizens who have an elementary knowledge of the use of the computer as a prerequisite for the functioning of the e-services is at the level of 50.3%. However, it must be noted that among the group of people who do not have any basic knowledge are dominant people with lower levels of education, the unemployed, those older than 40 years of age, citizens in rural areas and similar target groups. This addresses a real danger of increasing the digital divide in this population group, numbering over one million inhabitants. A positive fact is that over 60% of them expressed a readiness for learning ICT. Improved usability and accessibility are vital, and we must do more to encourage older people to want to use the Internet.

Initiatives for e-Inclusion in Romania and Bulgaria

Across the EU, AGE and its members rely on Eurostat evidence. This is comprehensive and highlights how some EU countries are making better progress than others. Romania, Bulgaria, Greece, Cyprus, and Portugal are all lagging behind in terms of digital inclusion. These five countries have the highest rates of non-users but together these five countries have just 25 million people (a figure similar only to Italy with 23 million non-users; altogether, the six largest countries (the UK, Italy, Poland, Spain, Germany and France) account for 80 million out of the total 120 million inexperienced citizens that have never used the Internet. Although the gap between Member States in the number of non-users is closing, progress in the last year has slowed down. Situations are uneven across the largest Member States, which influence the EU average, with the UK over-performing (only 11% of its population has never used the internet), while in Italy, Poland and Spain between 30-40% of the population declare that they have never used the Internet (this equates to 49 million people). Germany has reduced its rate by one percentage point to 16%, while in France it appears that no further progress has been made.

According to the Eurostat statistics for Macedonia, Bulgaria and Romania, shown in Table 2, in 2014 the largest difference in individual computer use between those under the age of 24 and over 65 is in Macedonia with 77%,

compared with slightly better statistics of 76% in Bulgaria and 75% in Romania. The percentage of people who have never used a computer in Macedonia is 56% (the age group 55-64) and 82% (the age group 65-74). The largest age group differences in individual Internet use can be found in Macedonia with 77%, compared to Bulgaria and Romania with 75%. In Macedonia the age group from 55 to 64 and from 65 to 74 years of age uses the Internet significantly less, with 58% and 83% of them, respectively, who have never used the Internet at all, indicating a high disparity compared to other age groups. The difference in the frequency of Internet use, between age groups under 24 and over 65, is the largest in Macedonia with 79% and 73% in Bulgaria, compared to Romania with significantly less at 61%.

The information on particular Internet use and skills is missing a lot of data for the older age group since they are probably unlikely to undertake such activities, but amongst the skills for which there is data, the statistics for the elderly group in Macedonia, Bulgaria and Romania are shown in Table 3, indicating an average of 5,6 % Macedonians, 2,9% Bulgarians and 2,8% Romanians who perform certain tasks and have skills for specific Internet use, and belong to the group above 65 years of age. Despite the fact that Macedonia has a similar percentage of individuals who use/do not use the computer and the Internet, as in the case of Bulgaria and Romania, both of them have experienced reductions of (-5) and (-3) percentage points, and those practices have to be encountered in the process of reducing the rate of non-users in Macedonia.

The strategies developed and supported by the Ministry of Communications and Information Society in Romania aim to solve various problems and social challenges either through direct projects or by supporting central government institutions through calls for proposals in e-governance. Funding and direct support are given to public partner institutions from the fields of education, culture, health, and environment, thereby generating a positive impact directly correlated with the Digital Agenda 2020. The most important reason behind the focus on this group is the reality existing in Romania: seniors are people close to retirement age and have financial, social and communication problems, given the fact that their income decreases on retirement, social bonds are not so strong whilst the communication need is much higher than the period when they were in the labour market. In the last few years, Romania has been facing a large population migration to other more developed countries in Europe, with young people moving, leaving older parents often lonely and socially isolated. They have begun to look for funding to develop projects for seniors. Thus, they have joined the E50+ and Carer+

projects so they could reach their target group more easily. The E50+ is a 2-year programme funded through the Grundtvig Lifelong Learning Programme, whose aim was to look at the methodologies used to engage older people in ICT usage in 4 partner countries – England, Iceland, Romania and Spain.

In order to implement the Europe 2020 strategy, Romania realized several solutions, such as: implementing the latest technology projects to buy equipment and software adjusted to the needs of the elderly; using mobile training teams to conduct ICT workshops for the elderly in the Day-care centres or homes; setting up telecentres and employing local public administrators to manage ICT courses for the community, especially for the elderly. In order to initiate their interest in learning and cooperating, as well as overcoming the fear of damaging the equipment, they ensured that the ICT trainer, apart from good ICT skills, also had good inter-personal and psychological skills, enough to convince the seniors that the equipment cannot be damaged easily.

As for Bulgaria, recent data suggests that on some indicators they perform well, but for the others there are concerns. Although ICT is one of the most developed sectors in Bulgaria, 40% of citizens have never used the Internet. What is indicated as a major barrier is the lack or low level of computer or Internet skills. Just over 10% of the population of Bulgaria have high computer skills compared to the EU average of over 25% and less than 10% of the population have high Internet skills, compared to the EU average of over 10%, indicating the regularity of Internet usage. The main strategic planning and programming documents that outline strategic policy framework for the development and usage of ICT in Bulgaria are consistent with the key strategic planning documents of the "Europe 2020" and "Digital Agenda for Europe". They are: the national program "Digital Bulgaria 2015", which defines the parameters (measures, responsible institutions, deadlines, budget) to develop an information society in Bulgaria and aims to support the implementation of European priorities and objectives set out in the Digital Agenda for Europe; the National Strategy for Broadband Development 2012 -2015 and a National Operational Plan, updated and supplemented with an extended time horizon to 2020 and thematically focused most closely to ensure fast and ultra-fast Internet for all citizens; a common strategy for e-government in the Republic of Bulgaria 2011 - 2015, focused on making the administration of fragmented and bureaucratic structures an integrated, efficient single system by providing modern high quality public e-services for citizens and businesses. One of the priorities in Bulgaria is to encourage the widespread use of ICT to address some major economic and social challenges.

Methodological Proposals for e-Inclusion Programs

All the afore-mentioned studies show the difficulty of encouraging the elderly into an active, beneficial and productive use of ICT. Regarding this, the need to bridge the digital divide for this population group which is without the abilities and capabilities for the effective use of ICT is crucial, leading to the concept of e-inclusion, understood as the ability to regularly and easily access the various services and programs both 'online' and 'off-line' and to be able to use their skills linked to the specific needs of each user. As a step towards digital inclusion, digital literacy, defined as: "the ability to understand and use information in multiple formats from a wide range of sources when presented via computers", is essential.

Theoretically, there are three phases in the progress of digital literacy:

- digital competence,
- digital use, and
- digital transformation.

Digital competence involves finding information on the Web, document preparation and processing, electronic communications, the creation and manipulation of digital images, using spreadsheets, creating presentations, web publishing, creating and using databases, digital and interactive games, the production of multimedia objects and the dominion of digital learning environments. Digital use involves the successful use of digital skills in real life situations, the proper application of digital competence in any specific profession or context, giving rise to a corpus of specific digital uses for an individual, group or organization. Digital transformation is the ability to make those digital applications that have been developed to permit and enable innovation and creativity, and encourage significant changes within professional or knowledge-based areas, or in a personal or social context (Abad, 2014).

Most of the projects on the digital divide, aging and e-inclusion have been linked to E-learning and few studies have focused on the needs of older people regarding new technologies, and specifically on the usefulness of the Internet.

Conclusion

A clear conclusion which can be drawn from this study is that many older users are not prevented from access to the Internet by reasons of cost or ability, but that the motive for their exclusion appears to be based on a lack of precise information and awareness about the Internet. The results indicate some specific

gaps that need to be addressed for older people to be able to make well-informed decisions and choices about participating in the digital society. Providing elderly-friendly user interfaces, the development of good learning materials on the use of computers, the creation of public Internet access points and computer literacy training to increase the skills of elderly people, grants to provide more senior citizens with computers, as well as free Internet access at local libraries or comparable centres, are some of the suggestions that can be drawn from the research conducted on Romania and Bulgaria, in order to overcome the digital divide in Macedonia. But, for all this it is necessary to have different pedagogical approaches and teaching strategies that are adequate to the specific context, especially considering the functional transformations that come with age.

Nonetheless, increasing awareness of the benefits of the Internet will not necessarily transform a non-user into a user. The need to continue to improve the accessibility and functionality of hardware and software from the elderly people's point of view, and to continue to develop applications and design materials which are significant and attractive to older people, are some of the things Romania and Bulgaria have been trying to achieve through the past years. In order to provide independent living for the aging Macedonian population, this whole process requires continuous direct forms of influence, free access using specific time periods, training and education, including websites with services for the elderly and online trainings for the elderly, given by students. Undoubtedly, ICT must be reformed to better address the needs and lives of older adults so that they are encouraged to use it.

References

Abad, L. (2014, January). *Media Literacy for Older People facing the Digital Divide: The e-Inclusion Programmes Design.* Paper presented at Comunicar 42: ¿La revolución de la enseñanz. Retrieved from http://dx.doi.org/10.3916/C42-2014-17

Perlgut, D. (2011, November). *Digital Inclusion in the Broadband World: Challenges for Australia.* Paper presented at the Communications Policy and Research Forum Sydney. Retrieved from http://www.intelligentcommunity.org/clientuploads/PDFs/Digital-Inclusion-Australia-Nov2011_Perlgut.pdf

Niehaves, B., & Plattfaut, R. (2010, March). *T-Government for the Citizens: Digital Divide and Internet Technology Acceptance among the Elderly.* Paper presented at the tGov Workshop "10 (tGOV10) at Brunel University, West London. Retrieved from http://www.researchgate.net/publication/228430912_T-Government_for_the_Citizens_Digital_Divide_and_Internet_Technology_Acceptance_among_the_Elderly

Olphert, C. W., Damodaran, L., & May, A. J. (August, 2005). *Towards Digital Inclusion – Engaging Older People in the 'Digital World'.* Paper presented at the Accessible Design in the Digital World Conference. Retrieved from http://ewic.bcs.org/content/ConWebDoc/3825

Aula, A. (2004, September). *Learning to Use Computers at a Later Age.* Paper presented at the HCI and the Older Population Workshop at University of Glasgow, UK. Retrieved from http://www.dcs.gla.ac.uk/utopia/workshop/aula.pdf

Ministry of Information Society and Administration - Government of the Republic of Macedonia. (2011). *National Strategy for E-inclusiveness (2011-2014).* Retrieved from http://www.mio.gov.mk/files/pdf/dokumenti/Strategija_za_e-vklucuvanje.pdf

Ministry of Information Society and Administration - Government of the Republic of Macedonia. (2005). *National Strategy for E-society Development (2011-2014).* Retrieved from http://mioa.gov.mk/files/pdf/dokumenti/Strategija_i_Akcionen_Plan.pdf

Ministry of Information Society and Administration - Government of the Republic of Macedonia. (2010). *Strategy for E-content Development (2010-2015).* Retrieved from http://mioa.gov.mk/files/pdf/dokumenti/akcionen_plan_e-sodrzini_3.pdf

ZELS. (2010). *Strategy for ICT Development 2011-2015*. Retrieved from http://www.zels.org.mk/Upload/Content/Documents/Izdanija/Publikacii/MK/Strategija%20na%20ZELS%20IKT%202011-%202015.pdf

Helsper, E. (March, 2014). *Harnessing ICT for Social Action, a Digital Volunteering Programme.* Peer Review on digital inclusion, Digital Inclusion in Europe: Evaluating Policy and Practice, Discussion paper. Retrieved from http://ec.europa.eu/digital-agenda/en/news/harnessing-ict-social-action-digital-volunteering-programme-peer-review

Hardill, I. (2013). *E-Government and Older People in Ireland North and South.* CARDI - Centre for Ageing Research and Development in Ireland. Retrieved from http://www.cardi.ie/sites/default/files/attachments/Final%20EGov%20Full%20Report.pdf

Berry, R. (2011). *Older people and the internet, Towards a „System Map" of Digital Exclusion.* Retrieved from www.ilcuk.org.uk

Lewin, D., Adshead, S., Glennon, B., Williamson, B., Moore, T., Damodaran, L., & Hansell, P. (2010, March). *Assisted Living Technologies for Older and Disabled People in 2030.* A final report to Ofcom, Plum 2010. Retrieved from http://stakeholders.ofcom.org.uk/binaries/research/technology-research/Assisted.pdf

Mancinelli, E. (2007). *e-Inclusion in the Information Society.* Retrieved from http://www.ittk.hu/netis/doc/ISCB_eng/10_Mancinelli_final.pdf

De Sales, M. B., Silveira, R. A., & Gonçalves, L. H. T. (n.d.). *Designing Learning Material for Digital Inclusion to Elderly People.* Retrieved from http://www.researchgate.net/publication/237469924_Designing_learning_material_for_Digital_Inclusion_to_elderly_People

Clarke, A., & Concejero, P. (n.d.). *The Digital Divide - Services for the Elderly and Disabled in 2010 – The PRISMA project.* Retrieved from http://www.hft.org/HFT01/paper01/PSN/19_01.pdf

Abott, C. (n.d.). *E-inclusion: Learning Difficulties and Digital Technologies.* Retrieved from www.futurelab.org.uk/litreviews

Ethics of e-Inclusion of older people, Senior Discussion Paper. (2008). Retrieved from http://www.cssc.eu/public/Ethics%20of%20e-Inclusion%20of%20older%20people%20-%20Bled%20%20Paper.pdf

Tables

WORLD INTERNET USAGE AND POPULATION STATISTICS					
JUNE 30, 2014 - Mid-Year Update					
World Regions	**Population**	**Internet Users**	**Internet Users**	**Penetration**	**Growth**
	(2014 Est.)	**Dec.31, 2000**	**Latest Data**	**(% Population)**	**2000-2014**
Africa	1,125,721,038	4,514,400	297,885,898	26.5 %	6,498.6 %
Asia	3,996,408,007	114,304,000	1,386,188,112	34.7 %	1,112.7 %
Europe	825,824,883	105,096,093	582,441,059	70.5 %	454.2 %
Middle East	231,588,580	3,284,800	111,809,510	48.3 %	3,303.8 %
North America	353,860,227	108,096,800	310,322,257	87.7 %	187.1 %
Latin America / Caribbean	612,279,181	18,068,919	320,312,562	52.3 %	1,672.7 %
Oceania / Australia	36,724,649	7,620,480	26,789,942	72.9 %	251.6 %
WORLD TOTAL	**7,182,406,565**	**360,985,492**	**3,035,749,340**	**42.3 %**	**741.0 %**

Table 1: World Internet Usage and Population Statistics
(Source: Internet World Stats)

INDIVIDUAL COMPUTER AND INTERNET USAGE: 2014						
	16-24	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**
Percentage of Individuals - Computer use (Last 12 months) - 2014						
Bulgaria	87	81	78	60	38	11
Romania	88	81	73	56	34	13
Macedonia	94	94	73	65	42	17
Percentage of Individuals - Computer use (Never) - 2014						
Bulgaria	11	15	19	36	57	83
Romania	10	16	25	41	61	83
Macedonia	6	4	22	29	56	82
Percentage of Individuals - Internet use (Last 12 months) - 2014						
Bulgaria	86	81	78	60	37	11
Romania	87	79	72	55	33	12
Macedonia	94	93	76	68	39	17
Percentage of Individuals - Internet use (never) - 2014						
Bulgaria	12	16	19	36	58	84
Romania	11	18	26	43	63	85
Macedonia	6	5	22	29	58	83
Percentage of Individuals - Frequency of Internet use (Daily) - 2014						
Bulgaria	79	69	59	40	23	6
Romania	65	50	35	24	11	4
Macedonia	89	77	55	39	21	10

Table 2: Individual Computer and Internet Usage for Macedonia, Bulgaria and Romania (Source: Eurostat 2014)

INTERNET SKILLS: 2014						
	16-24	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**
Playing, downloading games, images, films or music						
Bulgaria	72	54	39	20	9	1
Romania	59	40	25	13	6	1
Macedonia	69	40	29	15	5	1
Internet banking						
Bulgaria	6	6	7	6	2	0
Romania	3	9	5	4	2	0
Macedonia	14	12	9	7	3	1
Interaction with public authorities (last 12 months)						
Bulgaria	27	28	29	25	12	3
Romania	7	16	14	12	5	2
Macedonia	49	35	26	22	14	6
Downloading official forms (last 12 months)						
Bulgaria	16	18	19	18	7	1
Romania	3	8	7	6	2	1
Macedonia	8	11	9	8	3	0
Sending filled forms (last 12 months)						
Bulgaria	9	10	10	11	4	1
Romania	2	6	4	4	2	1
Macedonia	23	18	9	10	5	0
Travel and accommodation services						
Bulgaria	18	21	18	12	5	0
Romania	11	17	14	8	5	2
Macedonia	16	18	11	8	1	0
Telephoning or video calls						
Bulgaria	78	68	58	40	24	8
Romania	40	35	26	18	10	4
Macedonia	75	54	44	46	27	13
Participating in social networks (creating user profile, posting messages or other contributions to facebook, twitter, etc.)						
Bulgaria	77	66	52	29	15	3
Romania	69	57	42	27	12	3
Macedonia	88	79	63	40	17	11

Reading online news sites, newspapers, news, magazines						
Bulgaria	57	58	54	42	26	7
Romania	50	55	49	36	21	7
Macedonia	70	59	46	41	25	15
Sending and receiving e-mails						
Bulgaria	75	65	57	39	22	5
Romania	71	64	50	35	19	7
Macedonia	80	69	41	28	22	7

Table 3: Internet Use/Skills for Macedonia, Bulgaria and Romania
(Source: Eurostat 2014)