"WHO CARES ABOUT DIGITAL LITERACY OF 54+ CITIZENS?!"

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Abstract

Nowadays, information about mostly any social, commercial, public or cultural activity is available on the Internet. If it is not, it does not exist. The age of digital transformation, digital society and digital economy is characterised by e-activities, e-events and e-services. The focus of ICT developers and experts is on how to transform regular services to digital ones, as well as on how to develop protocols for communication machine to machine (Big Data for Smart City concepts). They succeeded; they found a way to apply those concepts to a wide area of social and commercial matters. But, what about citizens? Who cares about their ability to use all the e-services available today and the opportunity to be present at all e-events and e-activities? Availability of information and services to all citizens is a basic human right. The ability to use them and the chance to acquire that ability must also be an elementary human right. The author of this article wonders whether this really is the case. This article presents the facts about digital literacy and e-inclusion of 54+ citizens, especially senior citizens, which can be found in official statistical databases (EUROSTAT or the Croatian Bureau of Statistics). The author also talks about different approaches to raising the digital literacy rate of 54+ citizens. The third part focuses on public resources that could be used in the process of conducting a systematic programme and in making suggestions for further steps in achieving the general goal - increasing the number of users of e-services.

Keywords: *54+ citizens, digital literacy, e-inclusion, digital divide*

1. Introduction

Terms like digital transformation, e-services or digital communication are around us every day. It is obvious that it is hard to find anything not related to them. Nowadays, the availability of e-services is on a high level. The choice of whether to use transformed digital services or the regular ones is on the users themselves. What is the difference between using digital or regular services and do all potential users know the advantages of the digital ones? These are the right questions. Furthermore, we need to ask ourselves who cares about solving the problem of the e-skills gap. This is what the users need to know when choosing the digital edition of e-services as well as how to use them.

Another important fact that drives the author of this article to research is the demographic issue concerning the aging of EU citizens. The number of 54+-year-olds is growing in EU countries, and life expectancy has risen too. Another important detail is that aging and retirement usually imply isolation from most social connections and possibility of education. In that sense, a systematic approach to motivation, education and inclusion of 54+-year-olds in the digital society is a significant point of research.

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Pečjak [22] divides the elderly into four age groups; those aged 50 to 60 are called as early-older ages, those aged 60 to 70 are called as middle-old ages; 70 to 80-year are called as old-old ages and those older than 80. In OECD terminology "elderly population" refers to persons aged 65 and older [20]. In this article the terms "54+ citizens" and "elderly" are not synonymous. When the rate of digital literacy of 54+ and 64+ - year-olds is compared, it can be noticed that their e-skills are not on the same level. When using the term elderly citizens the author of this article refers to 64+ - year-old citizens. In this article the digital literacy level of 10 years younger citizens (54 – 64) is also analysed in order to determine the need for e-skills courses for this age group. This step makes it possible for them to become members of the digital society sooner. The result are citizens included in the digital society, able to use e-services and able to take part in e-learning etc. when they are 64 and older.

Motivated by the previously mentioned dilemma, the author started to analyse the current state of the digital literacy rate published by EUROSTAT, based on an annual survey conducted in EU countries and some of results are presented in the next chapter.

The author used analyse to prove the importance of topic. The author used content analyse of project reports and articles published after performing projects mentioned in reference and synthesis to get common features when collecting data about conducted projects in different countries related to the topic and mentioned in this article. The content analyse was also applied to web pages of public institution related to the adult education.

Considering e-inclusion regarding human rights in this article the author wanted to emphasize who are the stakeholders in the process of raising awareness of e-inclusion of 54+. How to manage the link between global digital transformation and global demographic change must be solved by engagement of public authorities. So, the idea of the author was to present that public authorities need to assure the conditions (technical, organizational, institutional) to approve e-inclusion rate of 54+.

2. Numbers and facts regarding digital literacy and e-inclusion of 54+-year- old citizens

E-inclusion has been researched by many authors. Žajdela Hrustek [29] wrote a review of her research in her doctoral thesis under the title "Multidimensional and multiperspective approach to monitoring e-inclusion. Žajdela Hrustek did a research on e-inclusion in the whole population, whereas this article is focused on 54+-year-olds as a special societal group.

The current state of statistical research results in the field of digital literacy and e-inclusion of EU citizens was published by EUROSTAT on *http://ec.europa.eu/eurostat/data/database*. The used methodologies are stated in references [8], [9]. The target population consists of all individuals aged 16 to 74. The periodicity is annual, meaning the data is collected and compiled once per year. All data mentioned in this article regarding EUROSTAT source are taken on 21.01.2018. and are updated in the EUROSTAT database dated on 20.12.2017. The research is divided into following categories: ICT use in households and by individuals; ICT use in companies, e-skills, ICT sector and digital economy and society (historical data). The EUROSTAT survey covers the issues stated in the following table.

Internet access and computer usage	Internet usage	Digital skills
Use of equipment to access Internet	Internet use	Level of e-skills of individuals
Frequency of computer use	Frequency of computer use	Level of e-skills in computer use
Mobile Internet access	Location of Internet use	Level of Internet skills of individuals
Computer use	Activities on the Internet	Methods of acquiring e-skills
	Using solutions in the "Cloud"	New computer courses
	Internet use on Smart TVs	Reasons for not attending computer skills courses
	Economy of cooperation	Level of digital skills of individuals

Table 1. Internet usage in households and by individuals

The criteria by which the author did the research and organised the data is "type of individual"; namely "all individuals" (16 – 74 years old), "individuals between 54 and 74 years old"; "males aged 55 to 74"; "females aged 55 to 74", "non-ICT professionals", "retired and other inactive individuals" [8]. Some of the most relevant data that prove the fact that the digital literacy rate of 54+-year-olds is low are presented below.

Category	Country	All examinees	55+	Retired	Non-ICT professionals
Examinees who acquired e-skills on their own, on courses and in centres for adult education	Germany	32%	28%	22%	38%
	France	3%	5%	4%	3%
	Romania	5%	1%	**1%**	7%
	Croatia	7%	3%	3%	12%
	EU (28 countries)	13%	12%	**9%**	16%.
Examinees who acquired e-skills by using literature (books, CDs...)	Norway	38%	35%	35%	39%
	Estonia	48%	24%	23%	55%
	Greece	6%	1%	1%	8%
	Croatia	22%	6%	6%	31%
	EU (28 countries)	21%	13%	**10%**	25%
Examinees who acquired e-skills with the help of relatives or friends	Sweden	89%	76%	71%	93%
	Ireland	22%	16%	17%	25%
	Bulgaria	28%	13%	**10%**	38%
	Greece	29%	10%	13%	39%
	Croatia	39%	13%	14%	52%
	EU (28 countries)	51%	33%	**31%**	60%

Table 2. The rate of users of e-skills in 2011 (by EUROSTAT)
Source: made by the author, based on EUROSTAT's database,
http://ec.europa.eu/eurostat/data/database, accessed February 4th 2018.

The values in Table 2 show that retired citizens have the lowest level of digital literacy in almost all EU countries. The question is what measures to take to boost their digital literacy in all EU countries.

Huesing and Selhofer wrote about the Digital Divide as a modern version of the knowledge gap theory established in 2000. It implies the gap between citizens from different socio-economic backgrounds and with regard to their opportunities and abilities to access and use information and communication technologies. The gap is commonly regarded as a potential barrier to participation in the information society [14]. In December 2015 the European Parliament published a document about the Digital Divide in the EU [19]. It mentions two aspects of it: "The first gap considers mainly the division between those who have access to ICT such as computers and the internet and those who do not. This type of scope often refers to the urban-rural divide, the latter having slower internet speeds, prices, and technological choice. The second gap refers to different types and levels of internet use, motivation and skills: looking at what uses and benefits people enjoy, once they have access to the internet."[19] Except implementing broadband and measuring the progress in fast and ultra-fast broadband, the progress in bridging the Digital Divide in Internet use in the EU was also measured and presented. The number of 54+ citizens in the whole population is growing, so the importance of their inclusion in Internet use is much more important than before.

According to the EUROSTAT survey [9] activities on the Internet with an additional value for retirees and other inactive people consists of: Find information on education, workshops and courses; Online courses on any topic; Receiving and sending e-mail; Telephony and video calls; Write social and instant messaging postings; Participating in social networks (creating profiles, writing messages and contributing to facebook, twiter, etc.); Participation in social and professional networks; Creating web pages or blogs; Transfer your own content to the web to share material; Finding information for goods and services; Read and download online news / news; Downloading the program; Consultation on wikipedias; Reading online news / newspapers and magazines; Playing and downloading games, pictures, movies and music; Listen to a radio empire or watch web TV; Playing online games with other people; Listen to web radio; Internet banking; Travel and accommodation; Sale of goods and services; Looking for work or sending inquiries; Participation in a professional network; Meetings through the web; Searching for Health Information; Reading and Writing about Citizens' and Political Issues on the Web; Civil or political involvement; Learning From Online Materials; Communication between students and teachers; Any activity related to learning; Downloading games; Listening music; Watching TV or video direct streaming over the Internet; Watching TV Direct Broadcasting over the Internet; Watching video on demand through commercial services; Watching video content through shared services; Watching video content through shared or commercial services; Playing / downloading games, listening to music, or watching videos; Playing / downloading games, listening to music, or watching TV or video directly; Financial account management for payment of goods or services ordered via the Internet.

The author has researched data from period 2008-2017: Receiving and sending e-mail; Telephony and video calls; Reading online news / newspapers and magazines; Internet banking; Sale of goods and services; Searching for Health Information; Financial account management for payment of goods or services ordered via the Internet. For example, it can be emphasized that in 2017 the lowest rates of usage of Receiving and sending e-mail were noted in Romania (17% od 54+), Croatia (22%), Poland (27%), and the highest rates were noted in Denmark (87%), Netherlands and Iceland (86%) and in Norway (84%). The EU average is 52%.
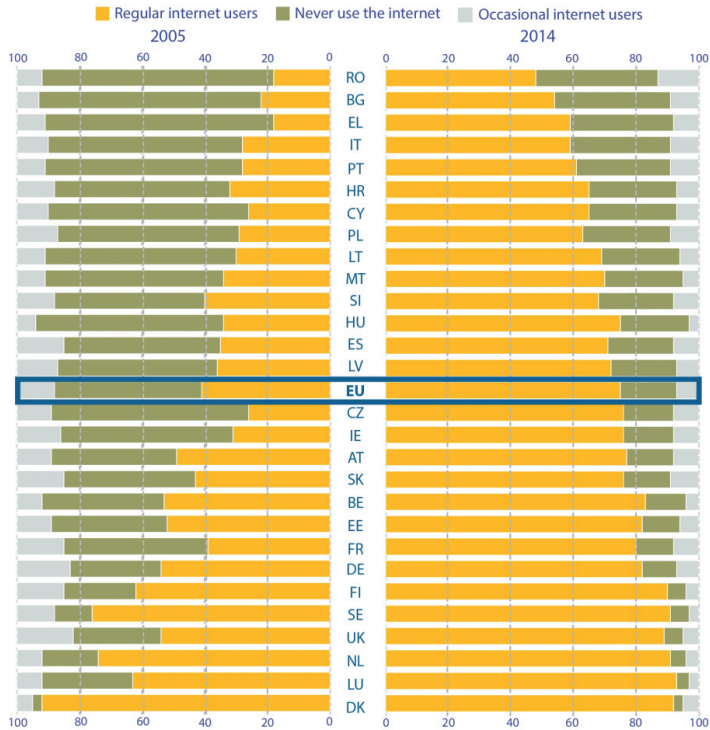
Figure 1. Progress in regular internet use and on internet non-users
FR, BG and RO: earliest available data is from 2006; HR; from 2007. Source: Eurostat.
Source: [19] http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/573884/EPRS_BRI(2015)573884_EN.pdf;
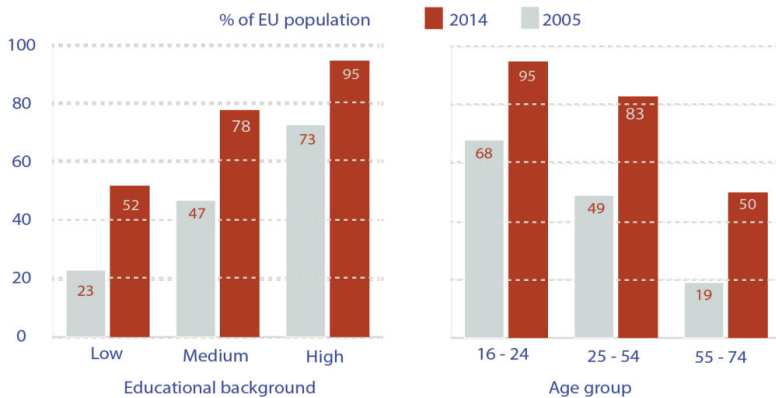

Figure 2. Progress in internet regular use according to age groups (% of the EU population)
Source: [19]
http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/573884/EPRS_BRI(2015)573884_EN.pdf;

3. Approaches to raising digital literacy rate of 54+

The author has recently analysed different approaches to raising the digital literacy level of senior citizens. In the last ten years politicians in many countries carried out different kinds of projects for raising awareness of digital literacy of the elderly. The author has analysed many projects focused on solving the problem of Digital Divide which the elderly are facing [1], [4], [10], [11], [12], [13], [15], [16], [20], [21], [22], [23], [24], [25], [26], [28]. Even though the projects were carried out in different parts of the world and at a different time, all of them suggest how to boost the digital literacy of senior citizens. The research primarily focused on their habits and on how to boost their digital skills to include them in the digital society and digital economy. The projects were mostly carried out as pilot projects, so the results achieved in them were not widely implemented. Along with other challenges the answer to the question "why" is one additional challenge to the author.

All projects took the competences for acquiring e-skills into consideration. The European Digital Competence Framework for Citizens was established and published by the European Union in 2016 [5]. The competences were clearly set and the levels defined. The author wonders how the EU citizens who are 54+ -year old and are not on the labour market any more will benefit from that [5]. A systematic review of the citizens' digital competences gives a complete insight into an average citizen's the need for knowledge and skills [9].

Another important part of the projects was motivating the elderly to take part in the project. Motivation was also the part of proposed general theoretical conceptual model of e-inclusion suggested by Žajdela-Hrustek [29]. Use of ICT and e-services depends on motivation. The value of e-service is a motivational factor for being e-included, and that value differs from user to user. The famous scientist Maslow was elaborated the motivation and personality in 1954 [18]. His Theory of Motivation inspires most of scientists because the theory is based on essentials of human beings psychology.

Quality of life (QoL) has been the topic of many researches, observed from many points of view and in many sciences like social science, psychology, economics and medical science. Martinis researched the perception of QoL depending on age [17]. The quality of life diminishes with age. Different domains are significant in different periods of life. It is very individual what makes one a satisfied person. Still, we can say that not being bothered by any troubles and obligations can be a trigger and motivational factor for doing activities that result in personal satisfaction and a better quality of life.

QoL as a societal issue is probably the most related to the Digital Divide issue. The social and economy inclusion is a part of the EU Digital single market strategy.

4. Public institutions and resources for raising the level of e-inclusion

Driven by the necessity arising from a growing number of 54+-year-olds in the population, the low level of their digital literacy, accessible e-services, digital transformation, the expectations of investors in the development of e-services and lifelong learning, the author turned to institutions for adult education. In Croatia, adult education is mostly organised in three different ways: by regular high schools (managed by county governments), libraries (managed by local governments) and public open universities (mostly governed by local governments), which exist only in some towns. The public open universities (POUs) in Croatia were established by Bazala in 1907 [2].

The mentioned institutions do not have the same mission; actually they differ regarding the areas they cover. In terms of raising the level of e-skills of 54+-year-olds, a minus point of public open universities is that they are not accessible in rural areas. In that case, there is the possibility to include primary schools. In Croatia, mostly all of these institutions are users of their founders' budget, except for public open universities, which are in some cases established as non-profit organisations, their founder being the local government. Other EU countries have different institutional support for adult education [3]. In the era when lifelong learning is seen as a model of education, there are many theories on who has the right competences to educate adults and what exactly are the right competences. The difference between the education of pupils and adults can be viewed from different angles [3]. The national systems of qualifications and standards for adult learners and trainers are different across EU countries.

In the case of Croatia, which is the focus of the author's research, public open universities (POUs) and libraries are the main institutions providing adult education and lifelong learning projects. At the time when such institutions were first established, the problem was basic literacy and numeracy, so POUs gave courses to this purpose. Nowadays, the general problem is digital literacy. As the numbers in chapter 2 of this article suggest, 54+ -year-old citizens are the most threatened group.
In Croatia, public institutions such as POUs and libraries provide courses for the elderly, as the information published on their official websites suggests. The research about libraries and public open universities as government budget users in Croatia was conducted based on the list of institutions found online (published on http://www.mfin.hr/hr/registar, accessed on February 2nd 2017). The author checked the accessibility of their official web pages, if they existed. Another step was to find out information about e-skills courses for 54+-year-olds - how often they took place and how many users participated. There were just few exceptions regarding the fact that the public open universities in some town are not government budget users, but are registered as non-profit organisations even though they were founded by the local government (Ivanec, Varaždin, Bjelovar, Daruvar, Rijeka, Zadar, Osijek, Šibenik, Trogir, Sinj, Pula, Čakovec, Zagreb). So, the total number of registered POUs is 61. The number of government budget users is 45, and the rest are non-profit organisations. As they were all founded by the local government, they have to function in the public interest. E-inclusion of the elderly is one of the societal issues of today.

Here are the results of POUs' official websites analysis:

-   50 out of 61 POUs have a developed system of dynamic websites, 13 out of 50 have programmes published on the website, 10 out of 50 have news only and 27 out of 50 present all the content in a dynamic version

-   4 out of 61 POUs have no official websites

-   5 out of 61 POU websites could not be found

-   1 out of 61websites is not in function, and 1 is under construction

The author found the following information regarding the programmes and projects for developing e-skills of senior citizens:

-   23 institutions published general programmes for developing e-skills

-   22 institutions published no information about such programmes

- the information of 4 institutions is not accessible because they have no official website

- 10 institutions have different kinds of e-skills courses for 54+-year-olds and for retired citizens

- 2 have no functional websites

It is useful to point out that on some POUs' official websites the information about e-skills courses for the elderly are specially positioned in order to find them more easily.

For example, the POUs in Bjelovar, Zagreb, Umag, Ogulin, Križevci, Osijek, Rijeka, Varaždin and Dugo Selo specially highlight the information, which gives the visitors the feeling that they pay a lot of attention to that vulnerable group of citizens who strive to be a member of the digital society and digital economy.

Libraries were analysed in the same way; there are 172 registered in Croatia. 162 of them have no published information about the courses they provide for users. Even when there is one, it is usually taught one on one and is not for groups. Here are the statistics for library websites:

- 131 out of 172 libraries have a website (1 is under construction; 46 are static and just list contacts; 84 have a dynamic website, where the news and other contents are often updated)

- 48 libraries have no official website and the contents are published on the founder's website

- 17 libraries have information about e-skills courses for 54+-year-old citizens (some even for 65+-year-olds) on their website

The public libraries that have published the information about the possibility of acquiring and practicing e-skills are in the following towns: Dugo Selo, Zaprešić, Popovača, Sisak, Karlovac, Senj, Grubišno Polje, Mali Lošinj, Zadar, Osijek, Vodice, Ilok, Vinkovci, Vukovar, Kaštel Sučurac, Split and Zagreb.

The problems detected regarding the organised e-skills courses presented on the official websites of POUs that the author wants to stress are: the programmes are not standardised so the results of the course and the acquired competences cannot be measured, there are no set measuring methods, the duration of the courses is not standardised, the acquired competencies are not standardised and finally, lecturers and trainers have different competences too.

As public institutions, POUs and libraries can be a generator of Economy of cooperation, based on the cross-generational approach to solving the problem of Digital Divide of elderly and the problem of unemployment of young people.

5. Conclusions and suggestions

Anyone has a basic human right to choose to be or not to be e-included. The campaigns and activities directed to the motivation of citizens to be e-included and to raise awareness are the most important roles that public authorities need to take.

When we talk about digital literacy as a skill, it can be compared to the skill of driving a car. Both of them can be developed on several levels, both of them can be acquired in different institutions

and with the help of different kinds of educational support. The most important difference between e-skills and driving a car is in the level of danger when the user does not follow the rules and does not use the technique correctly. Actually, driving skills are more complex than e-skills. So, if a driving instructor (not necessarily an andragogist) can teach one to drive a car, why is it impossible to expect that volunteers (also not necessarily andragogists) can help adults acquire basic e-skills? Why is it important to raise the number of citizens included in the digital society and digital economy? The answer is to achieve the profitability of e-services and lowest prices. On the other hand, this measure would lower the cost of maintaining the infrastructure necessary for providing the service in its usual form, as the demand for this type of service would decrease too.

All the facts mentioned in this article suggest that it is vital to find a systematic approach to solving the general problem of motivating the 54+ year old population to become a part of the digital society and to become a customer in the digital economy. The approach should focus on how to motivate the people to acquire e-skills and hence improve their quality of life. It should use the competences for e-inclusion determined in [10] and determine how the level of acquisition of these competencies should be measured. The cross-generational cooperation in teaching e-skills to the elderly should also be researched [6].

Finally, the environment (society services, economy..., health, culture) is ready; it is getting smarter more and more – but what about citizens [30]? Solving this problem will trigger many positive processes in the context of the usability and cost-effectiveness of e-services and solving the consequences of low e-inclusion.

So, who should take care about digital literacy of 54+? The lights are turned to the:

- Government organizations on EU, state, regional and local level, by supporting coordination of activities oriented to solve the problem and offering grants for that kind of activities

- POU and libraries, that have enough technical resources, bought by public money; also their mission was to take care about general literacy of adults in the past, so now they have to be leader in solving problems of Digital Divide

- Non-profit organizations of the elderly who take care about interests of older people

- Volunteers, who pass previously tested competences for providing e-courses, who are for example unemployed.

Conducting such kind of cooperation can give the expected results of raising the rate of digital literacy of 54+.

6. References

[1]   ABAD, L., Media Literacy for Older People facing the Digital Divide: The e-Inclusion Programmes Design, Comunicar n. 42. v. XXI. 2014. Media Education Research Journal: ISSN: 1134-3478: p. 173-180, Madrid

[2]   BAZALA, A., Pučka sveučilišna predavanja (njihova uredba i svrha), Zagreb, 1907.

[3]   DIJANOŠIĆ, B. and POPOVIĆ, K., Curriculum glo bALE – Program za učenje i obrazovanje odraslih, Pučko otvoreno učilište D. Novak Ludbreg, Andragoški glasnik, Vol. 17, br. 2, 2013, str. 101-116, Pregledni rad

[4]   ESHEET-ALKALAI, Y., Digital literacy: A Conceptual Framework for Survival Skills in Digital Era, research gate, https://www.openu.ac.il/personal_sites/download/Digital-literacy2004-JEMH.pdf , Izrael – pučko učilište

[5]   European Commission: The European Digital Competence Framework for Citizens, Luxemburg, Publications Office of the European Union, 2016, https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework, downloaded on 20.12.2018.

[6]   Europska Komisija: Manifest o e-vještinama, 2015, downloaded from https://issuu.com/european-schoolnet/docs/hr_manifesto, accessed 05.03.2018.

[7]   EUROSTAT, http://ec.europa.eu/eurostat/data/database, accessed on January 21st 2018., last database update 20.12.2017.

[8]   EUROSTAT, Methodology of EUROSTAT survey MM2017_Part_I_Enterprise_survey

[9]   EUROSTAT, Methodology of EUROSTAT survey M2016_Part_II_Household_survey

[10] FERRARI, A., DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe, Jont Research Centre scientific and policy reports, 2013. http://digcomp.org.pl/wp-content/uploads/2016/07/DIGCOMP-1.0-2013.pdf, downloaded 05.09.2018

[11] FOX, M. L., Let's give adults the benefits of digital skills, https://www.theguardian.com/education/2012/jan/16/digital-literacy-for-adults, accessed on 11.11.2017)

[12] GONZÁLEZ, A., PAZ RAMÍREZ, M. and VIADEL, V., Attitudes of the Elderly Toward Information and Communication Technologies, Educational Gerontology No 38. pg. 585-594, Routledge Taylor & Francis Group LLC, 2012., accessed on ResearchGate, upload 30.04.2014.

[13] GROM, S., Digital skills for the digital economy Department for Culture Media & Sport, Sandy Assistent Director for Digital Skills, Digital Economy Unit, Department for Culture, Media and Sport, United Kingdom

[14] HERNANDEZ ENCUENTRA, E., POUSADA, M. and FOMEZ-ZUNIGA, B., ICT and Older People: Beyond Usability, Article in Educational Gerontology, February 2009., downloaded https://www.researchgate.net/publication/242534680_ICT_and_Older_People_Beyond_Usability accessed on September 2018.

[15]   HUESING, T. and SELHOFER, H., The Digital Divide Index – A Measure of Social
       Inequalities in the Adoptioon of ICT, ECIS, 2002 Proceedings, downloaded
       https://aisel.aisnet. org/cgi/viewcontent.cgi?referer=http://r.search.yahoo.com/_ylt=AwrJ7Ji8
       ezxcZE4AuhxXNyoA;_ylu=X3oDMTEybnJrcWVzBGNvbG8DYmYxBHBvcwMxBHZ0aW
       QDQjY1NzRfMQRzZWMDc3I-/RV=2/RE=1547496508/RO=10/RU=http%3a%2f%2faisel.
       aisnet.org%2fcgi %2fviewcontent.cgi%3farticle%3d1042%26context%3decis2002/RK=
       2/RS=tYV.30t8XN bwtCXmiMRJImWZHyw&httpsredir=1&article=1042&context=
       ecis2002, accessed on 10.12.2017

[16]   IBSA (Innovation and Business Skills Australia): Digital literacy and e-skills: participation in
       the digital economy, https://www.researchgate.net/publication/275522942_Digital_ Literacy_
       and_E-Skills_Participation_in_the_Digital_Economy, downloaded 4.1.2019.

[17]   MARTINIS, T., Percepcija kvalitete života u funkciji dobi, Sveučilište u Zagrebu, Filozofski
       fakultet, Odsjek za psihologiju, Zagreb, 2005., downloaded from https://bib.irb.hr/datoteka
       /261924.TinaMartinis.pdf, accessed on 01.02.2018.

[18]   MASLOW, A. H., Motivation and Personality, Reprinted from the English Edition by Harper
       & Row, Publishers 1954

[19]   NEGREIRO, M., Bridging the digital divide in the EU, European Parliamentary Research
       Service, Member's Research Service, Briefing, December 2015, European Parliament,
       http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/573884/EPRS_BRI(2015)573884
       _EN.pdf, downloaded 1.10.2018.

[20]   OECD, Definition of Elderly population, downloaded from https://data.oecd.org/pop/elderly-
       population.htm, accessed 1.3.2018.

[21]   PADILLA-GÓNGORA, D. and LÓPEZ-LIRIA, R., et.al.: Habits of the Elderly regarding
       Access to the New Information and Communication Technologies, ScienceDirect – Procedia
       Social and Behavioral Sciences, 7th International Conference on Intercultural Education
       „Education, Health and ICT for a Transcultural World", EDUHEM 2016, 15 – 17 June 2016,
       Almeria, Spain

[22]   PEČJAK, V., Psihologija treće životne dobi, Naklada Prosjveta, Zagreb, 2001.

[23]   RATHMAN, L., Evaluation of ICT skills & Elderly People's Motivation in SATKA-project
       svibanj, 2013, Otaniemi http://www.theseus.fi/bitstream/handle/10024/63420/Rahman_Lutfor
       .pdf;sequence=1 (downloaded 5.12.2017.)

[24]   REDER, S., Digital Inclusion and Digital Literacy in the United States: A portrait from
       PIAAC's Survey of Adult Skills, PIAAC (The Programme for the International Assessment of
       Adult Competencies), Commissioned Paper, Portpland State University, February 2015,
       https://ipathways.files.wordpress.com/2015/08/3fb0c-reder_piaac.pdf ; accessed on 1.10.2018

[25]   State of Czech Republic – A new strategy for promoting digital literacy, http://www.cede
       fop.europa.eu/en/news-and-press/news/czech-republic-new-strategy-promoting-digital-
       literacy , accessed on 19.11.2018.

[26]   State of Mexico, www.oecd.org/gov/mexico-ICT-policy.pdf ; www.oecd.org/gov/mexico-interministerial-commission-egov.pdf ; www.oecd.org/gov/mexico-digital-strategy.pdf ; http://www.oecd.org/gov/mexico-digital-literacy.pdf, accessed on 19.11.2018.

[27]   The Open University of Israel : Thinking in the Digital Era: A Revised Model for Digital Literacy, Raanana, https://www.researchgate.net/publication/312281798_Thinking_in_the_Digital_Era_A_Revised_Model_for_Digital_Literacy, 2012., accessed on 26.11.2018.

[28]   XIE, B., Information Technology Educational for Older Adults as a Continuing Peer-Learning Process: A Chinese Case Study, download from Research Gate from author profile https://www .researchgate.net/publication/248983951, accessed on 13.11.2017.

[29]   ŽAJDELA HRUSTEK, N., Multidimensional and multiperspective approach for monitoring e-inclusion, Doctoral thesis, https://urn.nsk.hr/urn:nbn:hr:211:404534

[30]   ZDJELAR, R. and KELEMEN, R., The Smart Cities are implemented – Are Citizens Also "Smart"?, The 6th Smart Cities Conference organized by The National University of Political Studies and Public Administration, Bucharest, December 6th -7th 2018.