

ICT TRAINING AS A WAY TO MAINTAIN PROFESSIONAL ACTIVITY BY PERSONS OVER 50 YO - CASE STUDY

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Abstract:

Persons over 50yo are experiencing more often than younger people some forms of social exclusion. Lack of acceptance of ICT and/or lack of ICT access, commonly known as digital divide is probably the most important form of social exclusion experienced by mentioned group in Poland. ICT connected skills are perceived as one of most important predictors of maintaining professional activity by older people. Current situation when such skills are often lacking or not enough high or up to date in perception of employers leads to propose some training activities developing and deepening such skills, not only strictly professionally required but also making everyday life easier. Paper presents as case study ICT training activities undertaken in testing project which main goal was to develop and pilot test an innovative methodology for extending working activity of people aged 50+. Positive effects of proposed learning method allowed to confirm and validate selected approach.

Keywords: ICT training, 50+ age group, digital divide, maintaining work, case study

1. DIGITAL DIVIDE OF ELDERLY PERSONS

Among socio-demographic changes observable in most European countries, ageing of society is perceived as one from most important and negative ones. The reasons of such situation are both low or negative birth rate, as well as the progress of medicine making the life longer in average. Simultaneously older people can enjoy relatively good health and are physically active. From the other side, people over 50+ years old are often affected by social exclusion.

1.1 Social exclusion in European countries

Considering that each European society must maintain a growing number of older people, the European Union enacts the directives, mobilizing EU Member countries to extend the length of employment, to promote the employment and self-employment of older people, increasing their job mobility, but also to promote the active ageing (see e.g. directives: 2000/78/EC, 2003/578/EC). The latest European initiative taking notice to the problems of people over 50 yo was the establishing the year 2012 the European Year for Active Ageing and Solidarity between Generations, the aim of which was to pay attention to the contribution of these people for society. Also active ageing is essential part of the Europe 2020 strategy, in the aim of preventing social exclusion and improving quality of life of the elderly, as well as fully contributing by older people within and outside the labour market and being active as workers, consumers, volunteers and citizens (European Commission, 2012).

Achieving these goals, however, is difficult due to the phenomenon of social exclusion that affects the elderlies. The areas of exclusion focus on three most frequently discussed difficulties, which are also the subject of EU special attention:

- employment – maintaining work under circumstances of increasing the retirement age in some EU countries and increasing unemployment rate in spite of economic slowdown may be difficult in short run;
- participation in social life – in some communities older people are not regarded as valuable persons having a lot to offer for the younger members of the community, and their work, even as volunteers, as well as long life learning activities is treated as unnecessary and costly effort;
- independent living - age-related physical and mental limitations including cognitive difficulties sometimes can make the active participation in society difficult.

The digital divide is a specific exclusion area, and its consequences are appearing in all areas mentioned earlier.

1.2 The nature of digital divide

The development and expansion of technology is very fast now, and simultaneously affects almost every part of social life. Such activities as searching for information about the work or special additional training, possibilities of realizing one's hobby, acquiring others different information like using medical care or checking cultural events, and even managing of own finance, becomes more difficult, more costly and in some cases impossible without using of information and communication technology (hereafter abbreviated as: ICT). Some older people who feel or think that using technology is difficult prefer to resign from active participation in some areas of their lives. Acceptance of ICT by the elderly persons is usually slower comparing to the younger age groups. With increasing age, openness to new experiences (as a personality trait) is changing and falls in manifested person behavior. At the same time the effectiveness of learning decreases (due to lower motivation, weaker efficiency of mental processes, and also weaker sight and/or hearing). As a result, in using computer, its common software and the Internet and its resources - which is today regarded as one of the core of civilization competencies - the average person aged 50+ yo is less fluent in comparison to younger people. However, only an appropriately high level of ICT acceptance allows to fully participate in contemporary social and professional live (named *e-Inclusion*) - the lack of or low level of such acceptance leads to situation of exclusion, referred as the *digital divide* (Kaplan, 2005).

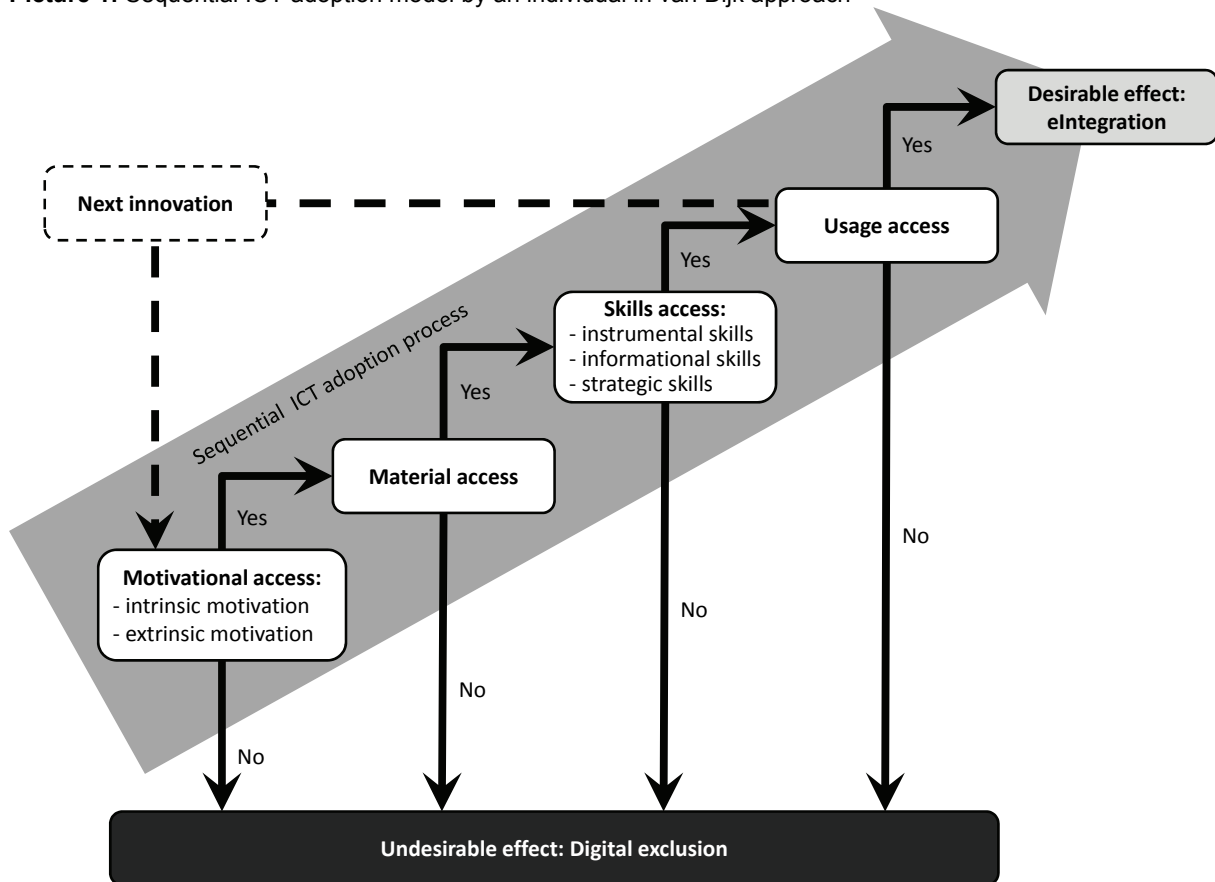
The understanding of the term *digital divide* is not limited to the lack of physical access to digital technology, but it is treated as a more complicated phenomenon - for example, in sequential approach by Jan A.G.M. van Dijk this type exclusion is the result of the rejection of information and

communication technologies at one of stages of sequential acceptance process, which includes (van Dijk, 2005, p 21):

- motivational access - motivation to use the technology (divided between two types of motivation: intrinsic - when a person wants to learn something for their own benefit, this type is better and more useful; and extrinsic, which is usually caused by external pressure: requirements of the employer or the necessity of finding new job, this type of motivation is short-term – its finishes, when cause to learn disappears);
- material access (having a computer or other capable device with internet connection or possibility and permission to use them);
- skills access (ability to have instrumental, informational and strategic skills allowing to use particular information technology);
- usage access - practical use (measured by the number and range of applications, time of use).

Mentioned approach is shown on picture 1 – where cumulative and recursive character of this process is visible.

Picture 1: Sequential ICT adoption model by an individual in van Dijk approach



Source: Authors elaboration on the base of: van Dijk (2005), p. 22.

There is important to note that van Dijk approach not substitutes typical models of information technology adoption including Technology Acceptance Model (TAM) or UTAUT (Unified Theory of Acceptance and Use of Technology). ICT adoption and the factors influencing it was up to date a subject of numerous studies (for example Davis, 1989, Davis, Bagozzi and Warshaw 1989; Venkatesh and Davis, 2000; Moon and Kim, 2001; Venkatesh et al 2003).

2. MAIN CAUSES OF DIGITAL DIVIDE EXPERIENCED BY PERSONS OVER 50YO IN POLAND AND ITS CONSEQUENCES

2.1 Causes of digital divide in Poland

From many different identifiable causes of mentioned situation affecting persons over 50yo in Poland, two types can be distinguished: external and personal reasons.

External reasons

Lack of physical availability and high cost of access. The using of computers in enterprises in Poland was not common until the early 90s of 20th century, and the Internet has spread about 5-7 years later. Having of personal computers and easy access to the internet privately in one's home on a large scale took additional couple of years. For these reasons easy contact with the ICT in Poland is a relatively new phenomenon. Longer time of acquisition of technology was related mainly to high prices, which people had to pay for both the hardware/software and the Internet access service, especially in relation to the average incomes – those days reasons for not using the technology were most of all a financial nature. Importance of such reason is declining over last years - in more recent studies (Batorski 2011; World Internet Project, 2010) despite the decline in prices of computer equipment and Internet access services - some elderly people declare financial reason to not using ICT, although the frequency of their occurrence dropped to single digits (only a few percent of respondents). These respondents are people who are not technology users, so financials causes seems to be only external, and behind them probably lay some personal ones.

Rapid changes and technological development. Technological progress is now very fast, so many elderly feel maladjusted to the contemporary world, overwhelmed by rapid changes in ICT. Number of mobile technologies, mobile devices and possible applications for doing everyday tasks (e.g. purchases or payments) in different places and situations in real or virtual world becomes so great that a large part of the people, especially the elderly, feel maladjusted to the contemporary world.

Personal causes.

Lack of skills. Much of the older people have not ever participated in any computer courses (more than 90% of the population aged 60 +;) another few percent had such training more than three years ago (Dojrz@łość w sieci, 2010). This means that most of older ICT users learned to use such technologies oneself. Considering rapid development of ICT, which is faster year by year, knowledge from some years ago is not adequate to the present applications.

Feeling the fear and anxiety. Such feelings are associated with a sense of incompetence which is caused the above-mentioned lack of or outdated skills, but from the other side anxiety is also due to the lack of direct control and monitoring of the consequences of online behavior, which is expressing by such attitudes like unwillingness to pay over the Internet, use credit cards, shopping or booking medical visits, hotels, tickets online etc.

These two reasons: lack of skills and anxiety feelings, are probably the main reason why in 2009 the Internet was used only by 21.6% of people aged 50+ in Poland, although about 40% of them had access to it at home (Dojrz@łość w sieci, 2010). In addition, there are some people who are forced to use a computer at work despite their willing, so they strongly reject the use of it other situations, when they not have to. As a result, there is a significant group in Poland, even about 2 million people who, despite having access to the Internet at home, do not use it at all, and the majority of them are aged 50+, including the economically active people. (Dojrz@łość w sieci, 2010).

Lack of ICT using needs. Regardless of the physical availability or the using cost's perception some older people just do not feel the need to using ICT, because of its perceived uselessness (Batorski, 2011). Due to lack of positive experiences with computer and Internet they have low level of internal motivation to change this situation. On the other hand, externally imposed necessity of the using of ICT, even basic activities, like paying for purchases by a card or receiving money into a bank account for the some older people in Poland is still something new and disturbing, so it raises the reluctance of the other novelties.

Decreased level of openness trait. Over a lifetime the manifestation of the personality dimension of openness changes – with the increasing age people become typically little more conservative and careful (Costa and McCrae 2003).

Causes of a physiological nature. Older people are also facing physiological restrictions, such as a) weakening of the eyesight (which can make difficult to navigate the content displayed on the computer screen placed in intermediate distance when specific optical correction often is needed), b) lower precision of hand movements (hand and finger movements becoming less accurate and slower, which may causes difficulties in using the keyboard, mouse, touchpad or touchscreen), c) slowdown of cognitive processes (which makes difficult in quick deciding, following the changes, so using the Internet or computers interface at intuitive way and at the ability to learn and remember different things).

2.2 Benefits of overcoming the digital divide in polish society

Different studies, focused on problem older people and their digital divide, including the cyclical study of Social Diagnosis (years 2003-2011), and also the analysis conducted for the initiative " Dojrz@łość w sieci, 2010," which began in 2010, noted a fairly clear link between keeping a job by the person aged over 50 and their use of information and communication technologies - the higher level of competence in this field – the easier to maintaining the work (Batorski, 2011; Dojrz@łość w sieci, 2010). *"The results of the two years interval panel tests clearly show that Internet usage is associated with positive consequences for people aged 50+. Among the many positive effects of the Internet usage are sustaining economic activity (although it has no effect on reactivating professionally non-active persons), career progression, social activities and more frequent participation in cultural and social life. At the same time there is no evidence on the impact of the Internet on the health deterioration. These positive effects experienced by users of ICT are connected at the same time with reduction the life chances of people who do not use technologies, and also with the difficulties which they facing in everyday life".* (Dojrz@łość w sieci 2010, p. 86). Significant differences in the professional activity of people over 50 yo using and not using the Internet can be seen mainly in the age ranges 50-55 years and 60-65 years, for those differences are even about 20-30% favoring Internet users.

Using the Internet can also give a better chance for career progression for persons aged 50+ (in the users group about 8.9% of the employed has been promoted, and in the not-users group only 2.8%), which may be associated with increasing of general by more active people. However, there is no evidence of a link between the use of the Internet, and the establishment of companies by persons over fifty years old ("Dojrzałość w sieci," 2010, p. 75).

Regardless of opportunities to retention or find job new job, active using of ICT makes life easier in many areas of society. It allows to realize interests (by seeking new information among Internet resources, but also by finding the groups of interest, discussion, or special training or courses), , or managing a bank account, doing payment or purchase without having to leave home which for the elderly can be difficult, register to the doctors and find information about the possibilities of medical treatment or simply "to keeping abreast" with events in society.

All these reasons lead to conclusion that the acquisition of using ICT skills among older people would benefit in the wide ways for them. Therefore communities, well as Poland, created many different programs in the aim to minimize digital divide. Under the auspices of the Polish Ministry of Administration and Digitization is currently being implemented program named "Polska Cyfrowa Równych Szans" (Digital Poland of Equal Opportunities – see: <http://latarnicy.pl>), aimed primarily at making digitally excluded persons over 50yo aware about benefits possible to get from the using information technology and to minimize anxiety and fear of technologies. After this, as the second step, will be offered training to acquire basic ICT skills.

3. ICT TRAINING FOR PERSONS 50+ YO – CASE STUDY

Presented case study describes selected activities undertaken in a project and their results, which main goal was to develop and pilot test an innovative methodology for extending working activity of people aged 50+, actually employed in the Lublin province located in South-East of Poland. Project

named “Obudź w sobie olbrzymia” (Wake the Giant in Yourself” (see: <http://olbrzym.info>) has been publicly funded by Operational Programme Human Capital with engagement of European Social Fund.

3.1 Main goals of the project

Project included various types of support for people aged 50+ and contained such elements as coaching, medical and therapeutic care, psychological and motivational workshops, ICT trainings and vocational trainings. Trainings, especially ICT, were carried out in a way which creates different opportunities of longer working, rather than forcing people to continue it. This increases "enables" motivation, while forcing usually effects by reluctance. The aim of proposed support was creation for people aged 50+ conditions helping them to want to work longer and be in good mental and physical condition, which allow them to extend their working active life. It is very important now in Poland - in the situation of legislative changes extending the retirement age to 67 years of age (equally for both genders). Given the widespread public dissatisfaction made by the legal changes, it is necessary to give employed people in age of 50+ such support, that they will have the physical, psychological and health potential and to provide work for such a late age.

One of undertaken activities in the project was the ICT training, as a method which counters of digital divide and improve the quality of participating in social and professional life for older people. In determining the specific objectives of the training, van Dijk's (2005) concept of sequential process of acceptance of Internet technologies was used:

- overcoming psychological barriers of the active using of ICT in the beginners;
- motivating of training participants to actively use ICT in their private and professional lives, what can effects on revaluing that barriers
- encouraging the greater use of ICT at home or in travel situations through a variety of devices, like computers with mobile Internet access, smart phones, tablets etc;
- teaching participants (according to skill level at the start of training) required instrumental (operational) skills needed for independent and efficient ICT using at home and at work;
- teaching desired level of informational skills - the efficient search for different information: professional, financial, purchasing, etc., use of tools and equipment in a variety of conditions and situations;
- teaching necessary strategic skills, allowing to manage one's using of ICT to achieve important personal and professional purposes;
- encouraging participants to continuously upgrade their qualification and update skills.

3.2 Results of the project – employee's perspectives

Pilot testing in ICT training methodology included the basic level and level for skill improvement (such as in the use of office programs) respectively to participants needs. Trainings in 3 groups of ten persons with different levels of advanced were carried out between October and December 2011, thirty didactic hours on training - 4 hours per week, divided into 2 meeting. Trainings were conducted by two trainers, one of them was a person at the age of 50 years, and the second - a younger person. Both trainers have extensive experience in conducting this type of training, even in groups of older persons.

Evaluation of ICT skills before and after training

Participants of the project in the evaluation surveys ex ante and ex post evaluated their skills to using such devices / technologies like computer, internet and mobile phone (see: Table 1).

Table 1: Perceived ICT skills level - ex-ante vs. ex-post evaluation results (dependent sample t-test)

Group	Self-evaluation of skills:	Ex-ante		Ex-post		t	p
		M	SD	M	SD		
Whole group (n=30)	general computer skills	2,67	1,09	3,40	0,72	-4,626	0,000
	general Internet skills	2,80	1,13	3,60	0,67	-4,738	0,000
	mobile phone skills	3,50	0,63	3,97	0,6	-4,065	0,000
Office workers (n=23)	general computer skills	2,96	1,06	3,57	0,73	-3,102	0,005
	general Internet skills	3,13	1,01	3,78	0,60	-3,185	0,004
	mobile phone skills	3,61	0,60	4,09	0,51	-3,447	0,002
Physical workers	general computer skills	1,71	0,49	2,86	0,73	-8,000	0,002
	general Internet skills	1,71	0,76	3,00	0,58	-6,971	0,000

(n=7)*	mobile phone skills	3,14	0,38	3,57	0,79	-2,121	0,078
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* Note: very small group

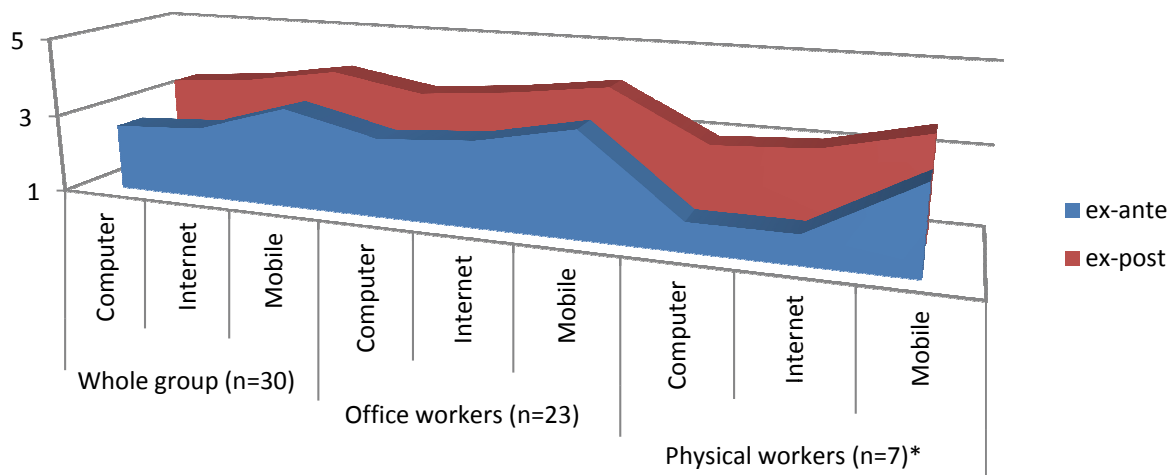
1-5 scale has been used, higher numbers mean higher level of skills

Source: authors own elaboration

Generally, the highest level of ICT skills the participants have in using mobile phones technology. These assessments are highest from all technologies both before and after the training. Although the proposed ICT training did not include issues simply related to the use of mobile phone and mobile internet on the phone, we can see a significant increase in the estimated skill, (See table 1), only in the group of physical workers can be observed statistical tendency.

For the assessment of the ability to use computers and the Internet in the ex-ante evaluation in office workers' group dominated intermediate estimates of skills and low ones in physical workers. In ex-post evaluation was achieved an averages higher by one scale point - respectively high level for office, and intermediate for physical workers. Also in this case, the changes in competence estimating is significant in both groups, and whole participants, and the value of p does not exceed 0.005.

Picture 2: Increase of perceived ICT skills by participation in project



* Note: very small group

1-5 scale has been used, higher numbers mean higher level of skills

Source: authors own elaboration

Given the nature of the work, skills in the using of both the computer and the internet were consistently lower among physical workers - mostly at the intermediate level. Comparing ex-post results to those from ex-ante survey, we can say that in general participating in the project improved the skills of the using of computers and the internet among participants, despite the relatively short training time and partly internal type of motivation.

Evaluation of usefulness of ICT training

However, project participants do not believe that mentioned training was useful at work or in other areas of life. Evaluation of training effects indicates that perceived usefulness does not differ in ex-ante and ex-post, as shown in Table 2. Moreover, the average evaluates of usefulness in the whole group, at among physical workers are a bit lower. Because participants were professionally active people, they cannot see the benefits because training did not increase significantly their competitiveness on the labor market (training was focused on basic skills, but not highly professional or rare). Other reason of this situation is, that probably during the training more emphasis were put on skills, and too little on different possibilities of using these skills in the daily life activities. The next reason could be unrealistic self-evaluation of skills: too high, which resulted in selecting a group with a higher advanced level and, as a result facing difficulties in learning things which were known to other participants in the group; or too low - which led to the selection of a lower level group and as a result feel negative emotions, like frustration, that's training does not get anything new into the existing skills.

Table 2: Perceived ICT training usefulness - ex-ante vs. ex-post evaluation results (dependent sample t-test)

Group	Evaluation of training	Ex-ante	Ex-post	t	p
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	usefulness in work and life	M	SD	M	SD		
Whole group (n=30)	Perceived usefulness	7,63	1,86	7,57	1,59	1,090	0,285
Office workers (n=23)	Perceived usefulness	7,35	2,01	7,48	1,53	-0,251	0,804
Physical workers (n=7)*	Perceived usefulness	8,57	0,79	7,86	1,86	1,698	0,140

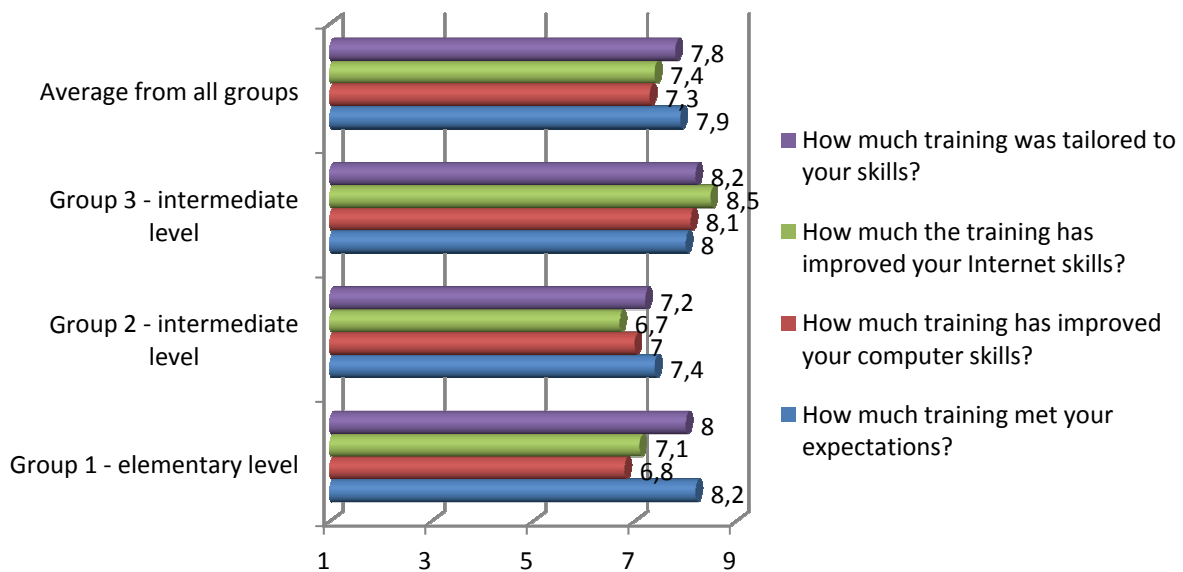
* Note: very small group

1-9 scale has been used, higher numbers mean higher perceived usefulness

Source: authors own elaboration

More specific analysis of differences in perceived usability of training between groups depending on the skills level suggests that project met the expectations of most people with low skills who began training from basic level (picture 3). This group (group 1) is also highly appreciates the fit of training topics to their needs. Results for persons with group 3 (mainly office workers) indicate quite large improvement in computer and the Internet skills. Primary expectations in this group were indeed smaller, but more realistic, so these persons were probably more focused on real training tasks. In group 2 (mainly physical workers) despite of the biggest increase in skills (table 1), training evaluation was slightly worse. These people have still the inner belief that their skills are exactly the same like before the training; they also expressed a reluctance to participate in training. It is probably caused by a lack of motivation to use computer in private life and no need to use of a computer at work - physical workers usually do not have contact with the computer and the Internet at work, so their motivation for this type of training was lower from the begin, which resulted in a greater reluctance and worse evaluation of effects.

Picture 3: Evaluation of training – group level



1-9 scale has been used, higher numbers mean higher perceived usefulness

Source: authors own elaboration

3.3 Results of the project – employers perspective

The last point to which attention should be paid are employers' expectations about the usefulness of performed ICT training. It is worth to note that the need for the involvement of employees aged 50+ in the training of ICT was more strongly perceived by employers than the workers themselves. According to the employers (ex-post surveys) the ICT trainings (likely as medical care package - assessment of the 8.8 on the 1-9 point scale) have the great usefulness for increasing economic activity of working people aged 50+. At the same time there is seen the biggest difference in evaluating such training between the these two groups - almost 85% of employers indicate that participating computer training is useful for the employee, while the only about 18% of the employees indicates the same.

Employers evaluate the presence of older people in their enterprises positively, indicating that they work as well or even better than younger people, they also are helping to younger people with the experience they have and willingly seize the opportunities to updating knowledge and skills. Almost 70% of employers surveyed sees the benefits of the extension of the employment time of workers who have reached retirement age, instead of going to retire, because they are people with great experience who possess special work “know-how”. Only about 30% employers do not see these benefits, but pointed difficulties, such as a weaker perception of older workers, the weaker motivation to work, lack of knowledge of modern techniques (44% of those surveyed employers who do not see the benefits). The least frequently indicated reason for not recognizing the benefits is knowledge inaccuracies. At the same time, however, more than 90% of the respondents expressed a strong willingness (67%) or the probability of willingness (22%) to use the programs that support the extension of working lives of their employees.

4. CONCLUSIONS

People ages over 50yo participated in the ICT training have acquired skills in the using of computers and the Internet, which also increased their competence in the use of mobile phone; differences in the evaluate are significant. At the same time, however, participants do not believe that such training was important and useful, which can become one of the reasons of reluctance to participate in similar training in the future, and a cause of unwillingness to more often using new skills on a daily life. So, such behavior is not helping in reducing the level of the digital divide. Because the training in participant's opinion was carried out in an interesting way, and the evaluation of trainers was high, it suggests that the problem of the perceived uselessness is connected with the internal motivation, which –when is not awaked – does not generate needs for ICT using.

On similar training within the ICT spectrum (in case that these are not very professional skills training, but focused on minimizing the level of the digital divide) it is worth to pay special attention to the benefits of the free use of technology in the widest spheres of social life. Showing to older people, who may not want to do work, but in a different way to participate in society life for the community's benefit, how the information and communication technologies can be useful and helping in this sphere, may raise the internal motivation to adoption such technologies. Only external motivation to learn basic technical skills do not awake interest and willingness to self-improvement.

Similar conclusions can be apply to employers' perception of the usefulness of ICT trainings. If the employee is not internally interested - skills that were acquired will be used marginally and only for the realizing work's purposes. The real threat of losing job or - on the other hand - the possibility of career progression are able to motivate employees to participate in training, but in many cases such participants will not be interested in knowledge they can get. When employer (or even the person conducting the training) will focus on raising awareness of internal needs of the employee, minimizing fears, and showing wide benefits which are not only work associated, but also with life outside the organization – in this way will increase the internal (better) motivation and willingness to adapt new skills and knowledge by the employees.

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