The importance of digital and ICT skills development for longer working lives in the age group 55+ - and how to bridge the digital divide

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SUMMARY

ICT proficiency, the ability to use digital technology and communication tools, is essential for a growing number of jobs today and for accessing services in daily life. Some groups, such as older workers, risk being left behind. Here we look at the age group 55+ in countries in the Baltic Sea Region and we examine determinants of the digital divide in terms of age, educational attainment, and geography. We present perspectives from Finland, Lithuania, and Belarus. In Finland, our example shows how ICT skills training can be effectively integrated at workplaces.

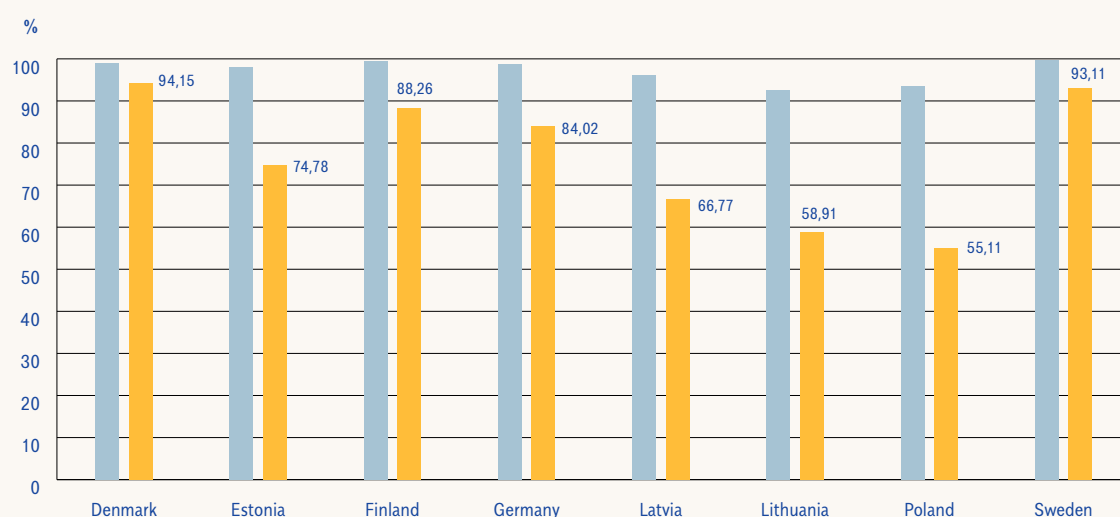## Bridging a digital divide in the Baltic Sea Region

In times of rapid advances in digital technologies, including information and communication technology (ICT), some research predicts that up to 85 percent of all future jobs within the European Union would require at least basic digital skills[1]. Older generations are not born and raised with these skills, unlike the younger generations, and have to obtain them in order to continue work.

The tremendous positive effects of technological change should be inclusive. Some groups are, however, at a higher risk than others of being left behind - women, older people, low-educated, low-skilled workers, as well as those unemployed.[2] Towards the aim of sustainable work, it is of vital importance to bridge the different dimensions of the digital divide, as proficiency in digital and ICT skills is necessary not only for work, but also for accessing services in daily life.

One aspect that illustrates the digital divide is the difference in frequency of internet use across age groups. In the Baltic Sea Region (BSR), data on internet use by individuals shows a divide between age groups that differs significantly between countries.

Figure 1 shows that in 2019, more than 90 percent, and in many countries close to 100 percent, of individuals in all BSR countries in the age group 25-54 used internet services regularly. In the age group 55-74, the frequency of internet use was consistently lower than in the age group 25-54 in all BSR countries. However, the digital divide was significant - between 23,3 and 38,4 percentage points - in Poland and in the Baltic countries, while it was only between 4,8 and 14,7 percentage points in the Nordic countries and Germany.

Figure 1. Individuals use of Internet the last 12 months (%) per age group, Baltic Sea Region, 2019

Source: Eurostat · Age 25-54 · Age 55-74

1   Cedefop (2018). *Insights into skill shortages and skill mismatch: learning from Cedefop's European skills and jobs survey.* Luxembourg: Publications Office. Cedefop reference series; No 106. http://data.europa.eu/doi/10.2801/645011
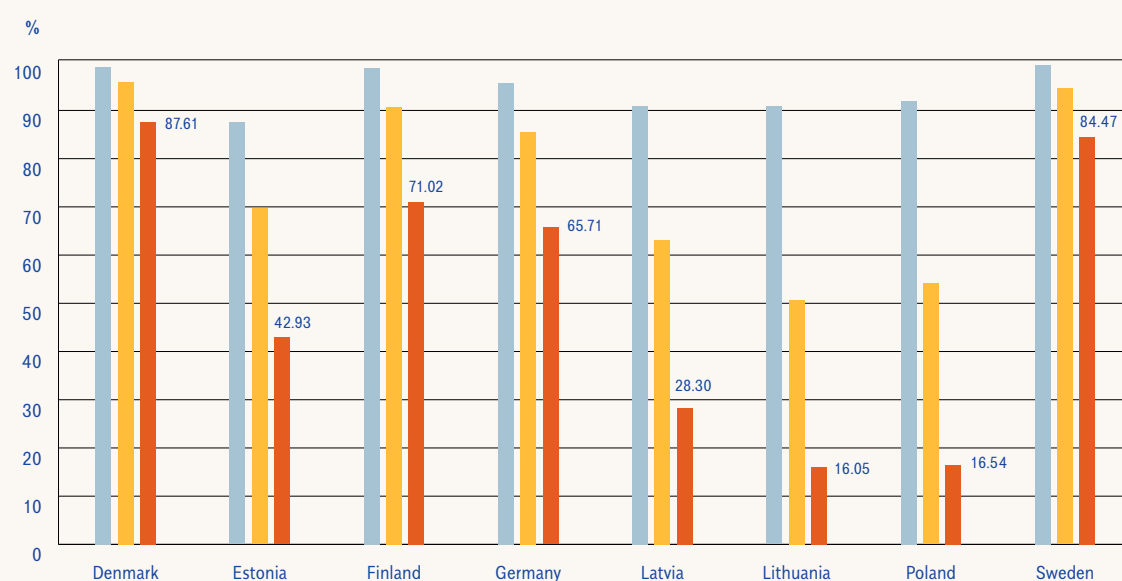2   Cedefop (2018)

The digital divide is linked to educational attainment

The integration of new technology varies widely also within the older age groups themselves, depending on factors such as economic status and education. This is what some call a second-level digital divide.[3] Figure 2 shows that the level of educational attainment, or lack thereof, strongly correlates with the frequency of internet use in the age group 55-74 in the BSR.

For highly educated older individuals, the figure is similar in all BSR countries: a high proportion - between 89 and 99 per cent - used the internet the last 12 months in 2019. However, figures differ starkly in the region when looking at individuals with middle, low or no educational attainment in this age group. In Poland, only 16 per cent of individuals with no or low educational attainment used internet services in the last 12 months in 2019, which is a difference of 75,4 percentage points compared to those highly educated.

Figure 2. Individuals age 55-74 using the Internet the last 12 months (%) by educational attainment, 2019

Source: Eurostat   ● **High level education**   ● **Middle level education**   ● **No or low level education**

Lithuania shows a similar significant divide of 74,8 percentage points, while the figure is 62,6 and 44,5 percentage points respectively for Latvia and Estonia.

In the Nordic countries, on the other hand, the divide between those with higher educational attainment and individuals with no or low educational attainment is visible, but smaller: the difference in frequency of internet use between these groups was 27,8 percentage points in Finland in 2019, and 15 and 11,4 percentage points respectively for Sweden and Denmark.

ICT proficiency levels in the age group 55-65 vary greatly between countries in the BSR

Older persons' skills in ICT differ between countries in the BSR, as illustrated by results from the Survey of Adult Skills (PIAAC)[4] that was conducted by OECD in 2012 and 2015.[5] Figure 3 shows the proportion
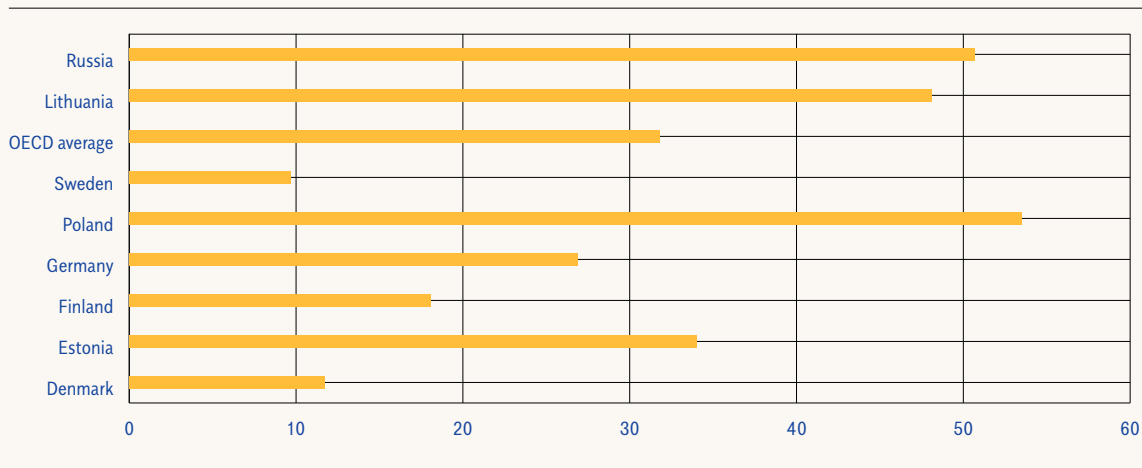
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3   Nash, S. (2019). Older Adults and Technology: Moving Beyond the Stereotypes. Stanford Centre of Longevity. Available online: https://longevity.stanford.edu/older-adults-and-technology-moving-beyond-the-stereotypes/

4   OECD (2016a), *The Survey of Adult Skills: Reader's Companion, Second Edition*, OECD Skills Studies, OECD Publishing, Paris.

5   The survey assessed the proficiency of adults in three information-processing skills that are considered essential for full participation in knowledge-based societies: literacy, numeracy and problem solving in technology-rich environments

of participants in the survey in the age group 55-65 who failed the 3rd category of the core test of the survey or indicated that they had no computer experience. This 3rd category comprised problem-solving in technology rich environments, which is defined as the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks. A heterogenous picture emerges for the BSR. In Russia, Poland and Lithuania, close to or more than 50 percent of the respondents in this age group failed the ICT test or reported that they did not have any computer experience. The Nordic countries of Finland, Sweden and Denmark scored below OECD average, only between 10 and 18 percent of participants from these countries failed the test. Thus, there is a digital divide discernible also between countries in the BSR in the age group 55-65.

Figure 3. Percentage of adults aged 55-65 who scored 'No experience/failed core test' in problem solving in technology-rich environments, Survey of Adult Skills, OECD, 2012, 2015

Source: OECD Statistics

The sample for the Russian Federation does not include the population of the Moscow municipal area

Sufficient numeracy and literacy skills are required for being able to adopt and use ICT

Research published by OECD confirms that numeracy and literary skills are linked to the capacity to learn to use new information and communication technologies.[6] Older workers today are increasingly well-educated, which means that many are well equipped to adopt the necessary basic ICT skills. However, low proficiency in literacy and numeracy can be a significant barrier to using ICT applications to manage information, findings from OECD-PIAAC indicate.[7] The survey defines barriers at two levels. The first barrier would be that adults with poor literacy skills are not able or find great difficulty in acquiring basic ICT skills. Second, adults that do have some ICT skills, but poor numeracy and literacy skills, find many of the tasks related to the management and processing of information to be challenging. Therefore, when designing interventions for increasing ICT skills in the population, measures to improve proficiency in numeracy and literacy skills are of equally crucial importance.

Ageism is also a challenge

Ageism, i.e. the stereotyping, prejudice, and discrimination against people based on their age[8] can also be a barrier to digital and ICT learning. Negative stereotypes of older people and technology can undermine older people's confidence in gaining ICT skills, research confirms.[9]

6   OECD (2016a)

7   OECD (2016b), *Skills Matter: Further Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris.

8   World Health Organisation, https://www.who.int/ageing/ageism/en/

9   Lagacé M.et. al. (2015). How Ageism Contributes to the Second-LevelDigital Divide: The Case of Canadian Seniors. *Journal of Technologies and Human Usability*

The positive effect of ICT on work: age-friendly working environments

New technology can improve work. It can be used to make the workplace more inclusive, accessible, equal and age-friendly, as technological solutions can assist and compensate people who have functional restrictions.[10] Through ICT, the organisation and structure of work can be developed to become more flexible, innovative, and adaptable to specific individual needs and responsibilities of staff members, including specific needs of different age groups.

Most people gain their ICT skills at their workplace - an example of tailored solutions from Finland

Most people gain their ICT skills at their workplace. However, small companies often lack resources to develop the ICT skills of their staff further. Especially entrepreneurs struggle with the time and money versus benefits of a generic course on a certain topic of ICT. They would rather have customised short training sessions that respond directly to the technological challenges that they face in their daily activities.

In Finland, several projects funded by the European Social Fund, such as ICT-portti (2008-2014), ICT-portti III (2013-2014), SparkUp Portti (2014-2016), Inside the Box (2016-2018) and Hot Potato (2018-2019) have focused on developing productivity of the participant companies by the means of digitalisation. In addition to that, the aim is to enhance the wellbeing of participants by continuous learning, which leads to smoother work processes. This is an innovative, yet pragmatic, approach to digitalisation solutions, which increases growth, competitiveness, international business, work effectiveness and work satisfaction.

In the aforementioned projects, Turku University of Applied Sciences (TUAS) and University of Turku (UTU) cooperated with several hundred companies on different aspects of digitalisation. The companies operate in variety of fields of business and each pilot was created based on the needs of the customer company. The feedback from the pilot participants, especially with customised training sessions, was very good. Entrepreneurs felt that the customised training sessions helped them to do their work more efficiently and their ICT skills increased during the pilot. In addition, after the pilot project, they were motivated to use their new ICT skills and also willing to learn more.

From these experiences, a best practice service called 'Virtaa' was created. Here, any company can use these best practices when planning a pilot project – a step to digitalisation – which leads to increasing growth, competitiveness, work effectiveness and work satisfaction. Digital pilots were not only aimed at people aged 55+. However, especially in the field of digitalisation, that is something that encourages also elderly people to develop further digital skills, as well as digitalisation of their company.

Based on the experience gained in the ESF funded project in Finland, the cooperation model between universities and small entrepreneurs where learning is context oriented aka tailored to the entrepreneur's daily activities, rather than providing basics of a certain ICT related topic, seems to work really well and motivates entrepreneurs to participate in the model of continued learning. This kind of model could be adopted for wider use in Europe to enhance continued learning in the field of ICT.

Lithuania – the "Reserved for Older" project

The main aim of the project 'Reserved for older', which is and ESF funded 3-year-long project that started in 2018, is to increase the employment rate and active participation of older people in the labour market and in society. The project is built on the concept of life-course management, focusing on fostering of learning, social skills, ICT skills, initiatives and entrepreneurship skills, and involvement in volunteering. Motivation and consultations are related to the evaluation of the individual needs and strengths of the per-sons participating from the target group. Training activities are provided in small groups, depending on the topic and knowledge of the persons from the target group, for example.

10   European Commission (2010), ICT for Active Ageing at Work: Reflection Paper for the i2010 eInclusion Sub-Group, 2007, available online: https://ec.europa.eu/information_society/activities/ict_psp/documents/einc_tn_aaw.pdf

Belarus – 'Digital transformations'

In Belarus, as in most countries, there is a notable digital divide between older and younger age groups. In 2017, 89.3 percent of women aged 25-54 used the Internet compared to 46.5 percent of those aged 55-74. In turn, 84.6 percent of men aged 25-54 used the Internet as against 39.9 percent of men aged 55-74. These figures also indicate a digital gender gap between men and women across the life course, with a higher Internet use among women. The divide also exists between urban and rural older population.

While moving forward with Belarus "Digital transformation" plans (State Programme for Development of Digital Economy and Information Society 2016-2020) with an aim of a 75 per cent coverage of all administrative procedures to be carried in e-form, this digital divide between older and younger, rural and urban population needs to be addressed.

To prevent digital exclusion of older persons, access to age-friendly ICT training opportunities is important to enhance older people's access to information and services. In Belarus, there are informal learning opportunities for older people, such as IT classes provided through the education programme of MTS which has developed a volunteer-run curriculum aimed at improving the ICT literacy of older people since 2014. The curriculum refers to applications and services that can be useful to older persons in daily life. Classes are taught by university students, employees of MTS and IT companies as well as older volunteers who have already mastered the necessary ICT skills. There are currently 32 training centres in all regions of Belarus. This programme could potentially be built upon involvement of older volunteers even more to encourage peer support.

While digital inclusion should be promoted, it is also important to ensure that traditional – mail, radio, TV, etc. - communication and information channels are available for those who do not have access to, ability or interest in using computers and the Internet.

POLICY IMPLICATIONS

- Policies to support digital inclusion of older workers, with measures to ensure focus on those that risk being left behind: low-educated, low-skilled workers, as well as those unemployed.

- Lifelong learning measures need to be designed to take into account the transformative nature of jobs – ICT skills that match growing and evolving requirements of jobs need to be accessible to also older workers to ensure that they can stay in work or transfer to new jobs.

- Based on OECD findings, ensure that efforts to increase ICT go hand in hand with efforts to improve numeracy and literacy skills in countries where that is a special concern.

- Policies that boost the potential of technological progress in improving work and working conditions and making them age-friendly and inclusive.

- Policies at macro-level need to take into consideration the digital divide linked to geographical location that exists within the BSR.

- Policies that address ageism related to technology are needed, here the role of non-formal and informal learning options are of interest.