

AXESS

Acquisition of Key Competences for Economic and Social Sustainability

IO2: Mapping of digital skills and competences

Country Snapshot – Slovakia

April 2018



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1. Situation in the country / State of play

1.1 List of main documents (as main sources of national information) and their characteristics (in hierarchical order) such as strategy, law, other policy documents concerning gender equality policy, adult education policy, skills for employability, digital agenda - as related to the target group.

Digital Agenda

There have been several strategic documents adopted in the area of digitalisation and information society.

The Government Manifesto 2016-2020¹ in the section on Informatization of Society and Single Digital Market deals mainly with the concept of central management (supra-sectoral approach) for the management of the informatisation issues, ICT in public administration, open data and spread of broadband internet.

The **Strategic Document for Digital Growth and Next Generation Access Infrastructure (2014 – 2020)²** defines a strategy for further development of digital services and next generation access infrastructure in Slovakia. The document particularly discusses the objective “Enhancing access to and use and quality of information and communication technologies”. The investment priorities set here comprise:

- Services to citizens and businesses;
- Effective public administration;
- Broadband connection /NGN (Next Generation Network)

The Strategic Document for Digital Growth and Next Generation Access Infrastructure (2014 – 2020) is followed upon by the **National Strategy of Informatization in public administration³**. It contains the priorities of informatisation - increase the quality of services for the public, upgrade the performance of public administration. The equal importance is given to improved access of citizens, businesses or civil servants to the e-Government environment, use of central common blocs, management of data, open data, government cloud or security.

Many strategic initiatives are contained in the programme documents for the use of European Structural and Investment Funds. The Operational Programme Integrated Infrastructure⁴ comprises Priority Axis 7 Information Society for the implementation of which the Ministry of Finance is responsible. According to the document, the information society, among others, shall contribute to reducing the number of people at risk of poverty or exclusion in Slovakia by 170 000 through the eInclusion tools, improving ICT skills of population, and public administration reform which simplifies the access to services and motivates all social layers to participation.

One of the specific objectives aims at improving the digital skills and inclusion of disadvantaged individuals into the digital market. Disadvantaged here means most people aged 55-74, low income population, unemployed, lower education or disabilities. These people have lower chance to find job, participate in social and public life. They also miss the access to large amount of information available on internet and cannot make informed decisions or build opinion. They cannot use services of eCommerce, eBusiness and eGovernment directly.

¹ Programové vyhlásenie vlády 2016-2020 / Government Manifesto 2016-2020,

<http://www.vlada.gov.sk/data/files/7179.pdf>

² Strategický dokument pre oblasť rastu digitálnych služieb a oblasť infraštruktúry prístupovej siete novej generácie (2014 - 2020) / The Strategic Document for Digital Growth and Next Generation Access Infrastructure (2014 – 2020)

<http://informatizacia.sk/strategicky-dokument/16604s>

³ Národná koncepcia informatizácie verejnej správy Slovenskej republiky / National Strategy of Informatization in public administration of Slovak Republic <http://www.informatizacia.sk/narodna-koncepcia-informatizacie-verejnej-spravy--2016-/22662s>

⁴ Operačný program Integrovaná infraštruktúra / The Operational Programme Integrated Infrastructure, <http://www.telecom.gov.sk/index/index.php?ids=169044>

Towards the end of the current programming period, the following indicators should be reached:

Percentage of disadvantaged individuals using the internet: from 52,8 % (2012) to 70 % (2020)

Percentage of individuals with intermediary to advanced computer skills: from 64,8 % (2012) to 75 % (2020).

Digital coalition - National coalition for digital skills and jobs⁵

Stakeholders in Slovakia recently initiated the launch of a national digital skills coalition involving the government, the ICT industry, and other partners. Based on the EU initiative, it mobilizes the organisations and institutions across the private, public and third sector to find common approach to overcoming the lack of digital skills. Digital coalition deals primarily with i) digital skills for all citizens to be able to function in digital economy, ii) digital skills for employed people, iii) digital skills for IT specialists, iv) digital skills in education and training. The Digital coalition takes the initiative in preparing a comprehensive national strategy in digital skills in response to the call of the European Commission.

The members of the Digital Coalition in Slovakia, mainly employers, currently call for improved digital skills education at secondary vocational schools.

At the end of 2016, a **national project of the IT Academy (2016-2020)** was launched. It aims to boost digital skills in Slovakia and to increase the numbers as well as the level of skills of ICT students. The project targets schools and universities, pupils and students and also aims at training teachers so they can use digital technology and innovative pedagogies at elementary and secondary schools in particular for subjects such as mathematics, informatics and natural sciences. One of the project activities will be setting of standards for digital literacy, personal development and communication competences at secondary schools and universities. These standards might be transferable also to the adult education sector.

Adult Education

Regarding the adult education policy in general, the relevant documents adopted after 2012⁶ are only the programme documents related to the use of European Structural Funds. Operation programme Human Resources comprises the priority axis Education. It states that the low level of participation of adult population in lifelong learning (2,9 % in 2016) is caused by several factors - accessibility of training (time, place or finance-wise), forms of training. It calls for increasing the participation, training needs foresight, career counselling, validation of results of non-formal education and informal learning.

Another priority axis that deals among others with adult education and training, is Employment. It lists various forms of assistance to the unemployed, as well as employed people, including also education, vocational training.

There is no specific mention of digital skills development of adults⁷ in neither of these documents/plans. However the Priority Axis Education cites the PIAAC survey⁸ which indicated that Slovakia is lagging behind in the area of digital skills. Due to these shortcomings and in compliance with the current needs, education in ICT and language competences will be supported at all levels of the educational system, ie in the formal school education, not in adult education.

This line of thinking is present also in the **Strategy of informatisation and digitisation of the education sector by 2020**. The document identifies the following areas of development: infrastructure and equipment of schools, development of electronic services, digital educational content, digital skills and competences. The document recognizes the digital skills as tools for lifelong learning and supports the design of Digital Education

⁵ Digitálna koalícia / Digital Coalition <http://digitalnakoalicia.sk/>

⁶ Strategy on Lifelong Learning was adopted in 2011 and the Law on Further Education was adopted in 2009 and amended several times

⁷ They do speak of increasing the level of ICT skills in schools.

⁸ PIAAC Národná správa / PIAAC National report http://www.oecd.org/skills/piaac/Slovakia_in%20Slovak.pdf Slovakia lags behind the OECD average in competences to solve problems in technically advanced environment. Slovakia is together with Italy, Poland, Korea and Spain a country where 25% of adults are computer illiterate.

Content for lifelong learning and acquisition of digital competences and digital literacy. However the main target groups are pupils and students and pedagogic/school staff, not adults in general.

Employment

The **National Employment Strategy of the Slovak Republic until 2020** among others identified the key changes that need to be implemented to achieve the target state of employment in 2020. 8 priority areas include Support for the supply side of the labour market through qualifications for better employment. Under this priority, however, digital skills are not specifically mentioned or stressed.

In these strategic documents (including the National Reform Programme 2017⁹) related to employability or adult education, no section deals specifically with digital skills

Gender equality policy

Slovakia has set up quite an effective legislative framework on gender equality. It stems from the Constitution, and comprises a specialised Antidiscrimination Act, provisions in the Labour Code and other legal acts.

There is a National Strategy of Gender Equality for 2014-2019¹⁰ and the following Action Plan 2014-2019 focus on elimination and prevention of violence. The Strategy and Action Plan are evaluated and the last General Report on Gender Equality in Slovakia was issued for 2016¹¹.

The gender equality is one of 3 horizontal principles defined for the EU funding period of 2014-2020.

Despite all steps made, the gender inequality remains in all areas of private and public sectors.

In Slovakia the women earn on average by 16,4 % less than men. These differences remain despite the fact that 46% of labour force are women. The hourly rate for women is lower and also the income of women is lower due to maternity duties, and frequently opting for part-time work. Women have typically higher education but still there are more men in higher job positions than women. 61% of Slovaks believe that the unequal treatment on the basis of gender is a widespread phenomenon. The most effective way how to help women would be to increase their pay and improve the access to children care.¹²

In the document of the Statistical Office on goals of sustainable development and Agenda 2030 in Slovakia¹³, there are two indicators mentioned for the gender equality – difference in pay and share of women in the parliament. According to it, the pay of women is 23,1% less than men, but the trend is positive, the difference is decreasing. The share of women in the parliament has not, since 1993, surpassed 20%.

Neither the strategic documents or the General Report mention measures with regard to increasing digital skills of women.

⁹ Národný program reforiem 2017 / the National Reform Programme 2017

https://old.lekom.sk/upload/Pripomienkove%20konanie/NPR_2017_MPK_VPK_narodny_program_reforiem_1491205451.pdf

¹⁰ Celoštátna stratégia rodovej rovnosti v Slovenskej republike, 2014-2019 / The National Strategy of Gender equality for 2014 – 2019 https://www.gender.gov.sk/wp-content/uploads/2014/11/Strategia-RR_final.pdf

¹¹ Súhrnná správa o stave rodovej rovnosti na Slovensku za rok 2016. / General Report on Gender Equality for 2016. http://www.gender.gov.sk/wp-content/uploads/2012/06/Sprava_RR_2016.pdf

¹² <https://www.sme.sk/c/7683298/eu-zamestnanost-zien-je-nizsia-ako-muzov.html#ixzz56WVp2geS> (Eurobarometer)

¹³ Portál štatistického úradu SR / Portal of Statistical Office of SR

https://slovak.statistics.sk/wps/portal/ext/home/lut/p/z1/hY5NC4JAEIZ_iwev7shqWrcpwg8kUopsL6Fhg6GurJv-aS6BH3M7Z33eYYhJKSEtdIQ8UxVos3qKR_Z7BQ7gbtcmgjuIIDsMOtl4SWCZNDv8ANtXwZRAMnz2QIYe-5UQAbuTZEKC_TYxpYD0Bfy4ERLGA5E_38U2py4nTBaXQhbSuMlpXSRv9QsddBjH0eBC8LowzqLR4ZNSil6R9J0kXZPC1a6HCDXtDsviEOcl/dz/d5/L0IDUmlTUSEhL3dHa0FKRnNBLzROV3FpQSEhL2Vu/

Regarding the women and their digital skills, according to the PIAAC 2013, Slovakia is a country with minimum differences between women and men in digital skills.

1.2 National definitions used in policy areas of adult education, skills for employability, digital skills, adults, low-skilled adults.

The use of terms *adult education*, *lifelong learning*, *further education*, *adult learning* is not stabilized in Slovakia. The current law uses the notion of “further education”.

According to one academic source¹⁴, *digital competence* as one of the key competences (according to the European reference framework, inter alia) comprises a set of knowledge, skills and attitudes aimed at using the information society technologies for work, free time and communication.

When looking for relevant training courses, we used various terms - *computer skills*, *informatics*, *information technologies*, *digital skills*.

The term of *low-skilled adults* is basically used only in translations of EU documents. In national documents we find “low qualification” which has different meaning in our opinion. However, we believe that our target group is partially covered by category “Disadvantaged” meaning mostly the people aged 55-74, low income population, unemployed, lower education or disabilities. This definition appears in the Operation Programme Integrated Infrastructure cited elsewhere.

1.3 National players, their role and activities / initiatives (eg trade unions) in related policy areas

Across the documents, there is a general agreement that all efforts in the area of informatisation and digitalisation must be done in cooperation across sectors.

The Strategy of Informatisation and Digitalisation of the Education Sector lists the following actors with whom the cooperation is needed and thus appear to be the main players:

Ministry of Finance and Office of Government (responsible for informatisation of the society in general)

Ministry of Economy (secondary vocational schools, transfer of innovations from the academia/research to practice)

Ministry of Interior (administrator of chapter for financing of a part of the regional schools and founder of vocational schools, specialised post-secondary schools and resort university - Academy)

Ministry of Labour, Social and Family Affairs / Labour Office (social services and work with youth, employment services - increasing qualifications, lifelong learning and digital literacy in the framework of education and training for the labour market of unemployed and employed people)

Ministry of Culture (digitisation of archives and memory institutions, audiovisual funds, museum and gallery pedagogy as potential part of DEO, Digital Education Content)

Ministry of Health Care (secondary and upper-secondary healthcare vocational schools, medical faculties and sector university, lifelong learning of health care professionals)

Ministry of Defence (specialised vocational schools and sector high school - Academy)

Ministry of Agriculture (vocational schools, lifelong learning for example of veterinary professionals), etc.

¹⁴ Informačná gramotnosť / Information Literacy http://cec.truni.sk/javorsky/informacna-gramotnost/digitlna_kompetencia_ako_socilny_fenomn.html

1.4 Interesting national bodies, subjects (topics), initiatives in related policy areas

In Spring 2017 a group of experts commissioned by the Ministry of Education drafted a document “**Learning Slovakia**” meant to become a **National programme of education and training by 2020**¹⁵. The notion of digital skills appears on several places in the document, stressing the importance of digital skills as soft skills, cross-cutting themes or transversal skills for primary, secondary and university students. It again mentions the need to build a central repository of digital contents, adequate facilities at school, trained teachers. It does not speak of adult education.

Aj Ty v IT / You too in IT is a non-profit organisation that promotes the IT career (programming and computer science) among the girls at secondary schools. The project addresses the whole ecosystem, including the teachers and parents who influence girls when deciding about their future study and career. In 2017 they start a sub-project aimed at adult women (including the women after maternity leave) and offered them a course in testing, to become junior testers.

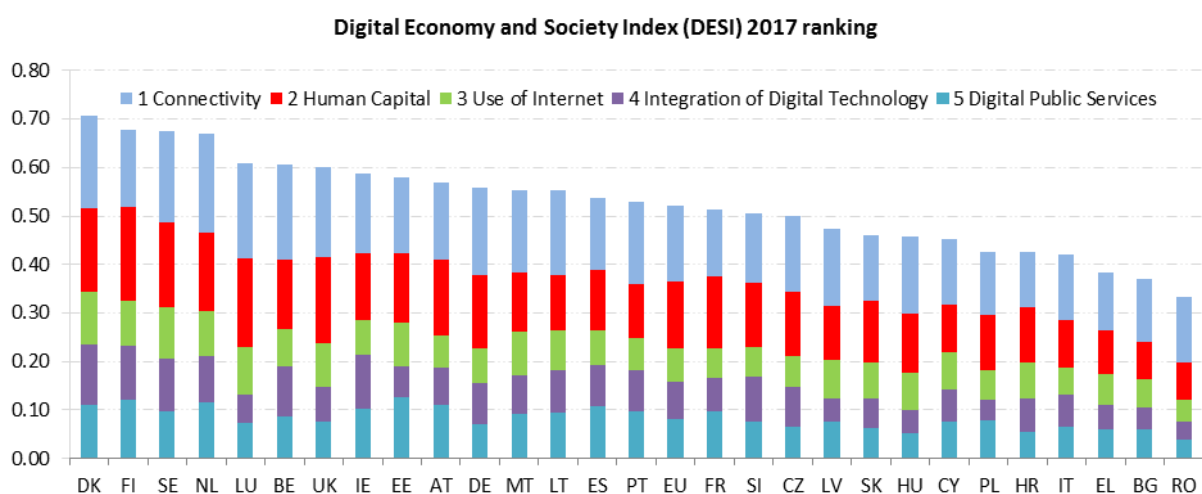
1.5 Statistical data (national statistics, from PIAAC – on digital skills in society in general, specifically for women, data on employment / skills – low skilled employed, unemployed – out of which women, DESI index Digital Economic and Social Index)

PIAAC (2012) revealed that 22 % of respondents did not have any experience in using a computer.

The women reach higher education, and more adult women participate in adult learning than men¹⁶.

The Digital Economy and Society Index (DESI) is a composite index that summarises relevant indicators on Europe’s digital performance and tracks the evolution of EU member states in digital competitiveness.

DESI 2017



In 2016 Slovakia ranked 20th on the DESI index. In 2016, all Member States improved on the DESI. Slovakia and Slovenia progressed the most (more than 0.04 as opposed to an EU average of 0.028)¹⁷.

¹⁵ The new minister (October 2017) did not take over the document as a whole, but on the basis of it drafted a new document that should now enter the legislative procedure.

¹⁶ Vybrané ukazovatele rodovej rovnosti – Vzdelávanie / Selected Indicators of Gender Equality – Education

[http://statdat.statistics.sk/cognosext/cgi-bin/cognos.cgi?b_action=cognosViewer&ui.action=run&ui.object=storeID\(%22i882872E9CEB24FE39023865ED11E24B4%2\)&ui.name=Vybran%C3%A9%20ukazovatele%20rodovej%20rovnosti%20-%20Vzdel%C3%A1vanie%20%5bra1005rs%5d&run_outputFormat=&run.prompt=true&cv.header=false&ui.backURL=%2fco-gnosext%2fcps4%2fportlets%2fcommon%2fclose.html&run_outputLocale=sk](http://statdat.statistics.sk/cognosext/cgi-bin/cognos.cgi?b_action=cognosViewer&ui.action=run&ui.object=storeID(%22i882872E9CEB24FE39023865ED11E24B4%2)&ui.name=Vybran%C3%A9%20ukazovatele%20rodovej%20rovnosti%20-%20Vzdel%C3%A1vanie%20%5bra1005rs%5d&run_outputFormat=&run.prompt=true&cv.header=false&ui.backURL=%2fco-gnosext%2fcps4%2fportlets%2fcommon%2fclose.html&run_outputLocale=sk)

Slovakia is catching up in most domains, making substantial progress except for connectivity and integration of digital technologies. Progress in connectivity was mixed, leading to a similar position (23rd) as in 2016 (22nd). The Use of Internet dimension is where Slovakia is performing best compared to other EU countries and Slovaks have a good level of digital skills. The sophistication of digital public services is expected to improve further, driven by recent initiatives in the public sector. Still, Slovakia belongs to the cluster of low-performing countries.

In the Human Capital dimension, Slovakia is making progress. The inhabitants of Slovakia are regular users of the Internet, and possess, on average, a level of digital skills comparable to the EU average. However, in view of the large importance of the manufacturing sector in Slovakia, workers need to be trained to make sure that they remain employable in an increasingly digital workplace. Addressing the shortage of certain ICT specialists remains crucial to support digital transformation. As mentioned earlier, stakeholders in Slovakia recently initiated the launch of a national digital skills coalition involving the government, the ICT industry, and other partners.¹⁸

What seems to be the biggest challenge to address within our topic?

- It seems there is no concentrated effort to promote digital skills in society at large, no awareness raising campaign
- The development of digital skills in the area of education is dealt with only informal education or with specialised education in some sectors, not in general
- Even the various individual (private) initiatives tackle students or pupils, not the adults

According to the OECD, There is a clear need to increase the efforts and support learning on job, strengthen basic and digital skills and at the same time adopt measure to support adult education.¹⁹

- In general, the percentage of adults participating in education is very low (2,9% or 3,1%).

The 2012 Council Recommendation on the validation of non-formal and informal learning encourages Member States to put in place national arrangements for validation by 2018. This has not happened yet in Slovakia.

There is no special framework on further education of teachers in digital skills.

2. Mapping of courses offered / provided according to the topics in project application (please specify in each category)

There are various courses offered by private providers. They mostly deal with specific software and MS Office programmes, as well as skills related to problem solving / project management. One part of these courses focuses on ECDL (European Computer Driving Licence).

- i. **Problem Solving** - problem solving through digital means, as well as management skills aimed at problem solving such as project management, strategic planning, analytical tools (such as logical framework matrix, SWOT analysis...)
- ii. **Digital Skills** - effective use of ICT tools and applications, according to DigComp framework²⁰ - information processing, communication (including social networking management, email marketing

¹⁷ European Commission, The Digital Economy and Society Index (DESI) <https://ec.europa.eu/digital-single-market/en/desi>

¹⁸ European Commission, Human Capital and Digital Skills <https://ec.europa.eu/digital-single-market/en/human-capital>

¹⁹ OECD, Vzdelanie a zručnosti. Posilnenie systému vzdelávania a získavania zručností v Slovenskej republike/ OECD, Slovak Republic Policy Brief: Education and skills. Strengthening the education system and acquisition of skills in Slovakia. <https://www.oecd.org/policy-briefs/Slovakia-Policy-Brief-Education-and-Skills-SK.pdf>

²⁰ Europass, Digital Competence, <http://europass.cedefop.europa.eu/resources/digital-competences>

campaigns, selling on the net and making the most of internet, how to "obtain presence in the internet", SEO²¹ and positioning), content creation, safety on internet, technological problem solving.

- iii. Cognitive Skills in Digital Age / **Sense of entrepreneurship and initiative** - according to EntreComp Framework²² there are 3 areas and 15 competences: Ideas and opportunities (Spotting opportunities, Creativity, Vision, Valuing ideas, Ethical and sustainable thinking), Resources (Self-awareness and self-efficacy, Motivation and perseverance, Mobilising resources, Financial and economic literacy, Mobilising others), Into action (Taking the initiative, Planning and management, Coping with uncertainty, ambiguity and risk, Working with others, Learning through experience)
- iv. **Civic and Social Competences in Digital Age** - Digital Citizenship : Digital citizenship can be defined as the norms of appropriate, responsible behavior with regard to technology use. Nine elements of digital citizenship²³ - **1. Digital Access:** *full electronic participation in society.* **2. Digital Commerce:** *electronic buying and selling of goods.* **3. Digital Communication:** *electronic exchange of information.* **5. Digital Literacy:** *process of teaching and learning about technology and the use of technology.* **6. Digital law:** *electronic responsibility for actions and deeds.* **7. Digital Rights & Responsibilities:** *those freedoms extended to everyone in a digital world.* **8. Digital Health & Wellness:** *physical and psychological well-being in a digital technology world.* **9. Digital Security (self-protection):** *electronic precautions to guarantee safety.*

4. Findings from interviews or questionnaires

AINova collected some data about digital training courses and training needs in Slovakia mainly in two ways – interviews at a job fair and questionnaires from members of the Union of Mothercare Centres. Yearly there is a national ProfesiaDays Fair organised in Bratislava (it happens also in other bigger cities in Slovakia). We interviewed some employers and HR agencies regarding the following target groups:

4.1 young adults: The young people need to learn how to write a good CV. Also it is good to have a LinkedIn account, one's own profile and upload the CV there.

4.2.1. employers: Most employers require as minimum digital skills the basic MS Office - Word, Excel, Power Point, Outlook and they will learn the rest on the job or during an initial training. Big companies (such as Slovak Post, Tatra banka have got also e-learning courses for their employees).

Excel was mentioned several times as an example of indispensable software/skill - which is useful for marketing, accounting, reporting.

4.2.2. entrepreneurs/free lancers: Young entrepreneurs realize they need a certain set of skills - leadership, management and communication, accounting, technical skills, digital skills - to create web pages, to organise e-shop, etc., to prepare business plans (financial analyses, feasibility studies).

Recruitment agencies have noticed that the women after a longer break need also to get self-confidence .

4.3 labour offices, offices for family affairs, etc.

The Labour Office, through some specific funding, supports unemployed people to obtain new qualification, including digital skills. A list of specific courses funded by the Labour Office does not exist, though, it is on the applicants or course providers to find/offer such courses.

²¹ SEO - Search Engine Optimisation

²² European Commission, EU Science HUB, EntraComp: The Entrepreneurship Competence Framework <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-entrepreneurship-competence-framework> , p 12

²³ <http://www.digitalcitizenship.net/nine-elements.html/>

The Labour Office currently manages two national projects, so-called RE-PAS and KOMPAS, that aim at increasing the skills of unemployed people. Other projects run by the Labour Office deal with funding of new jobs / job creation.

4.4 portal Profesia.sk

There is a portal called Profesia.sk that provides information on free job positions and provides information on the labour market, etc. According to them, the professions currently (2017/2018) most in demand are:

- Informatician (IT person)
- electrical technician
- telecom
- car industry
- industrial manufacturing

AINova and the Union of Mothercare Centers in Slovakia realised primary research through questionnaires distributed and collected by mothercare centers.

The questionnaires were distributed to 40 centres and 68 women responded, including 20 who were met personally also for interviews. The age of respondents was between 25 and 53 years, most were 30. The respondents come from 16 different districts, most answers came from Bratislava, the capital town. All of the respondents have completed the secondary education, almost half of the women have graduated from university, most from social sciences. 63% worked in the area they studied. More than 64% also completed some training on the job. Most of the training programmes were related to ICT skills, or special software skills. Out of those who started working on positions for which they did not study, 53% completed additional training, mostly focusing on management skills and digital skills. When asked who recommended the training, one third mentioned the employer, and another third that it was their personal desire. Almost half of the training was provided by the employer. Almost half of the respondents claim that the training completed helped them in their present job or in looking for a new job. 41 respondents said that the employer did not recognize the training in any way (pay increase, promotion). Answering the question whether they feel any form of discrimination in hiring for job, 41 answered in negative and 21 positive.

In the following there are answers to questions What training would you chose, especially in digital and related skills, if you could freely decide?

	Numbers
Communication with help of electronic media	5
Solving technical problems in IT	2
Work with internet	6
Work with videos and making films from photos	2
Work with Excel, Word, Powerpoint	16
Webpage design	19
Accounting software	4
Basics	1
Graphical software	13
Smartphone – applications, their downloading	4
Effective use of ICT	6
Language courses	1
Digital skills	6
Initiativeness, entrepreneurship, entrepreneurial skills	4
Civic competences in digital era – digital citizenship	3

The question What training do you think would help you to keep your job, get a job or change the job?, the respondents answered in the following way: digital skills (32), management skills for solving problems (14), sense of initiative and entrepreneurship. If the questioned women wanted to change the job, 44 of them would search the internet, 12 would study further to get a new qualification. One quarter of these respondents have experience in business as a self-employed person. These women mostly mentioned web page design and e-shop as digital skills important for their business.

5. Recommendations for course topics or course titles to be created in AXESS IO3

Based on the study of the documents and doing primary research we suggest the following topics to be dealt with in AXESS IO3:

- i. Problem Solving
 - communication skills
 - time management,
 - work in team,
 - negotiations
- ii. Digital Skills
 - advanced MS OFFICE mostly Excel,
 - creation of web pages,
 - communication via internet and social media,
 - searching for information on internet,
 - digital marketing including creation of posters (graphics);
 - accounting
- v. Cognitive Skills in Digital Age
 - answers were very general – women were not able to put concrete ideas what skills could they need as free lancers.
- iii. Civic and Social Competences in Digital Age
 - Respondents did not mention any concrete idea, they were not thinking about such issues as e-government, e-health, e-voting, etc.. Nevertheless
 - CV writing,
 - administering a LinkedIn Account,

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