Digitization and Culture for new generations - DiCultYouth

Di Cult Youth

Cooperation for innovation and the exchange of good practices
KA205 -
Strategic Partnerships for youth

CY02 Youth Board of Cyprus

24 Months (started 01/11/2018)

Partners 5 countries: Cyprus, Greece, Luxembourg, Bosnia and Herzegovina and Serbia

DiCultYouth project and Intellectual Outputs

- One of the main **objectives of DiCultYouth project** is to investigate how culture and technology can work together to drive young people's employability, boost the capability of cultural organizations and unleash the creative potential of technology leading to better accessibility to culture.

Map Digital Skills in Cultural sector - comparative analysis

Gamifying culture

On line training course DiCultYouth for a European digital economy

Trends in technology and culture

- **Digital competencies often pose a significant limitation**, both from the side of potential end-users and from the side of cultural providers

- 44% of Europeans lack basic digital skills necessary for everyday life and 37% lack digital skills for work (Filippaios & Benson, 2019).

The notion of digital culture

- In the digital era we live in, it is worth noting that **70% of 15-24-year-olds around the world are linked to the Internet** (ITU, 2019).
-
- At the same time, **ICT prevalence also reshapes the understanding of the role of a cultural institution in the digital era**.

- Most importantly, **there is a need to equip a growing young workforce with skills required for the jobs of the future**, not to mention re-equipping the current workforce with the skills required to keep up with a changing world.

Roadmap to comparative analysis

- Project investigated **digital maturity level and digital behaviours** of **youth and culture organizations** in five countries and explored their demands and required skills in the cultural heritage sector. Defined ***digital skills needed for employability and entrepreneurship of youth in the cultural sector.***

Comparative analysis

- To reach the aim of this study a **mix of qualitative and quantitative methods** were used. Qualitative work with expert interviews in National Reports, a quantitative analysis of the interviews and questionnaires distributed (by e-mail and mobile) and then a qualitative method for analysing and presenting the results.

- **The identified groups** included representatives from youth and representatives from cultural organizations.

Digital literacy of youth related to cultural sector - Methodology

The questionnaire consisted of five parts.

- **The first part** included socio-demographic characteristics of respondents
- **The second part** of the questionnaire was related to the respondents' basic computer literacy / using IT where respondents evaluated their proficiency in using some basic software, frequency of using certain digital devices, smartphone apps, social media.
- **The third part** focused on the evaluation of their specialized IT skills: their competence in using specialized software.
- **The fourth part** evaluated advanced digital skills of respondents and their applicability for digital entrepreneurship.
- The fifth part **of the questionnaire intended to explore the respondent's preferences towards** digital learning.

Digital skills of youth relevant for employability in the cultural sector

Table 1. Digital skill of youth relevant for employability in the cultural sector

Level of digital skill	Description
Basic digital skills	Related to basic computer literacy that refers to simple hardware, software and online operations.
Specialized digital skills	Allow youth to critically evaluate technology or create content, software or they are specific job-ready skills.
Advanced skills	Related to specialists in ICT professions and digital entrepreneurships.

Digital skills of youth relevant for employability in the cultural sector

SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS

The target group of respondents for this research were from 18 to 40 years old. The data were collected from March to September 2019. Complete comparative results are shown in the Table 1.

Table 1. Socio-demographic profile of respondents

	BA	CY	GR	LU	RS
Gender (%)	male - 31.7 female - 68.3	male - 48.1 female - 51.9	male - 41.5 female - 58.5	male - 52 female - 48	male - 19.1 female - 80.9
Age (mean)	23.21	25.97	28.08	28.08	22.3
Working status (%)	student - 55.8 employed -31.7 unemployed -12.5	student -36.1 employed- 44.4 unemployed - 19.4	student - 31.1 employed - 45.3 unemployed - 23.6	student - 54.1 employed - 32.7 unemployed - 13.3	student - 86.1 employed - 11.3 unemployed - 2.6
Current level of education (%)	HS - competed - 14.4 HS - not completed - 16.3 college/bachelor - 54.8 master/PhD -14.4	ES – 0.9 HS – completed -11.1 HS - not completed - 5.6 college/bachelor - 55.6 master/PhD - 26.9	HS – completed - 7.5 HS - not completed - 0.9 college/bachelor - 55.7 master/PhD - 35.8	ES – completed - 1 HS – completed - 10.2 HS - not completed - 8.2 college/bachelor - 59.2 master/PhD - 21.4	HS – completed - 21.7 HS - not completed - 0.9 college/bachelor - 63.5 master/PhD - 13.9
Is your education vocationally related to the culture? (%)	yes completely - 18.3 yes partly - 56.7 not at all - 25	yes completely - 33.3 yes partly - 43.5 not at all - 23.1	yes completely - 23.6 yes partly - 46.2 not at all - 30.2	yes completely - 32.7 yes partly - 50 not at all - 17.3	yes completely - 39.1 yes partly - 48.7 not at all - 12.1
Person with disability (%)	Yes - 1.9 No -98.1	Yes - 1.9 No - 98.1	Yes - 1.9 No - 98.1	Yes - 3.1 No - 96.9	Yes - 0.9 No - 99.1
Migrant status (%)	no such status - 98 migrant - 1 refugee - 1	no such status - 86.1 migrant - 12 refugee - 0.9 temporarily displaced person - 0.9	no such status - 90.6 migrant - 8.5 temporarily displaced person - 0.9	no such status - 88.8 migrant - 11.2	no such status - 98.3 migrant - 0.9 refugee - 0.9

Basic digital skills - results

- The results indicate that they youth evaluate themselves with ***higher level of proficiency mainly in using text processing software, software for presentations and web browsing and email, while more should be done in improving skills related to spreadsheets software and scanning image and text documents.*** In this matter, youth form Cyprus and Luxembourg evaluate themselves much better than other three countries.
- In general, on a daily, weekly and monthly basis ***ICT devices are usually most used in Luxembourg, Greece and Cyprus.***

Basic digital skills

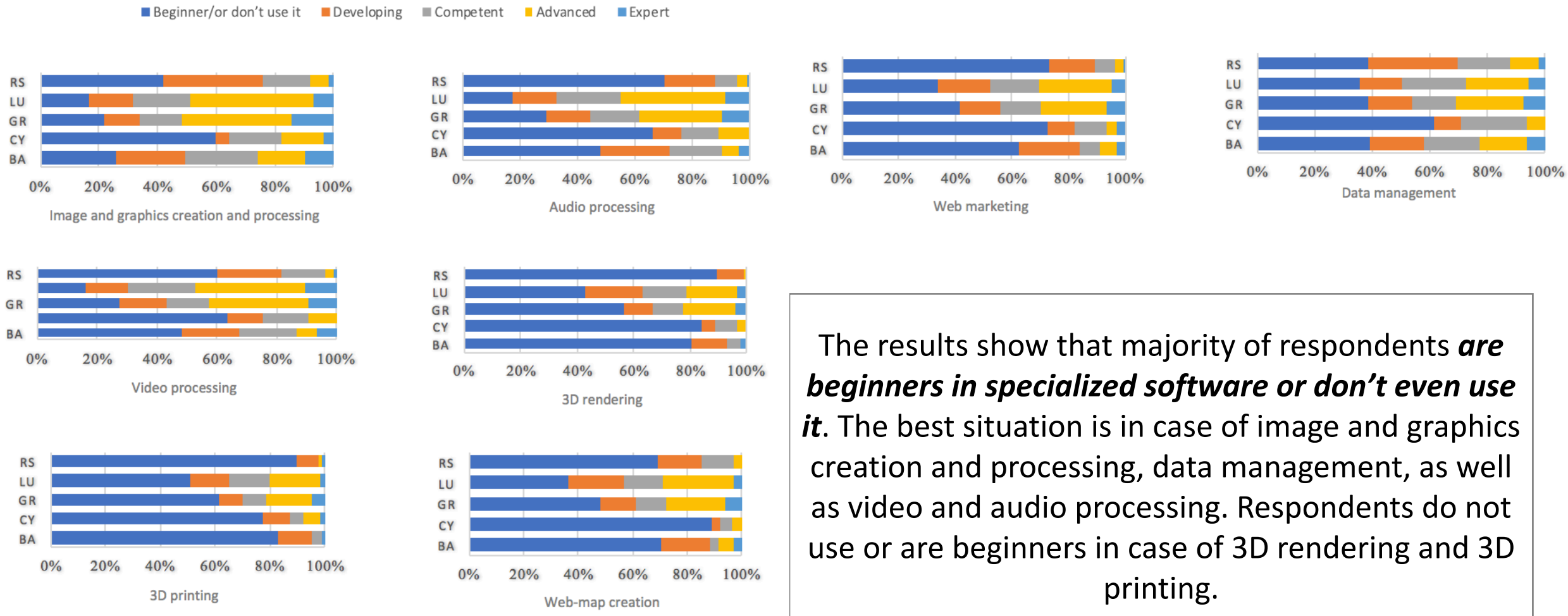
Facebook*, *YouTube,* and *Instagram showed to be the most popular social media by young respondents.

Predominantly, youth use ***digital tools and social media for communication, publishing images, finding news and networking.***

Among different aspects of digtial behaviour youth put an emphasis on ***protecting personal data and privacy, protecting devices, protecting health and well-being and using proper grammar.***

Specialized digital skills - Results

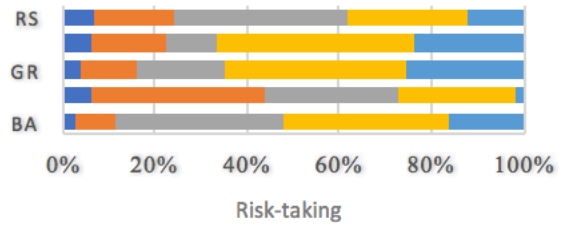
Chart 4. Self-evaluation of proficiency in specialized software

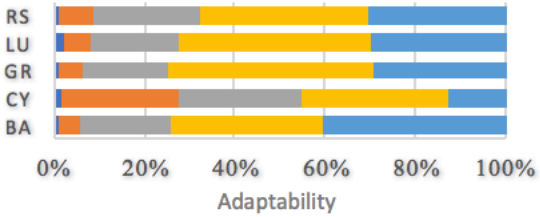


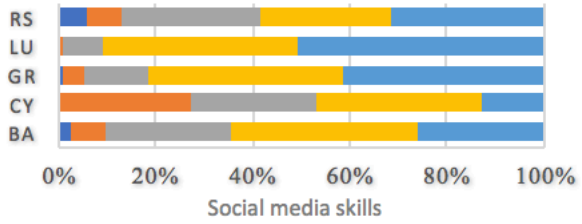
The results show that majority of respondents ***are beginners in specialized software or don't even use it***. The best situation is in case of image and graphics creation and processing, data management, as well as video and audio processing. Respondents do not use or are beginners in case of 3D rendering and 3D printing.

Advanced digital skills - Results

Chart 5. Self-evaluation of knowledge and skills that can be used for digital entrepreneurship



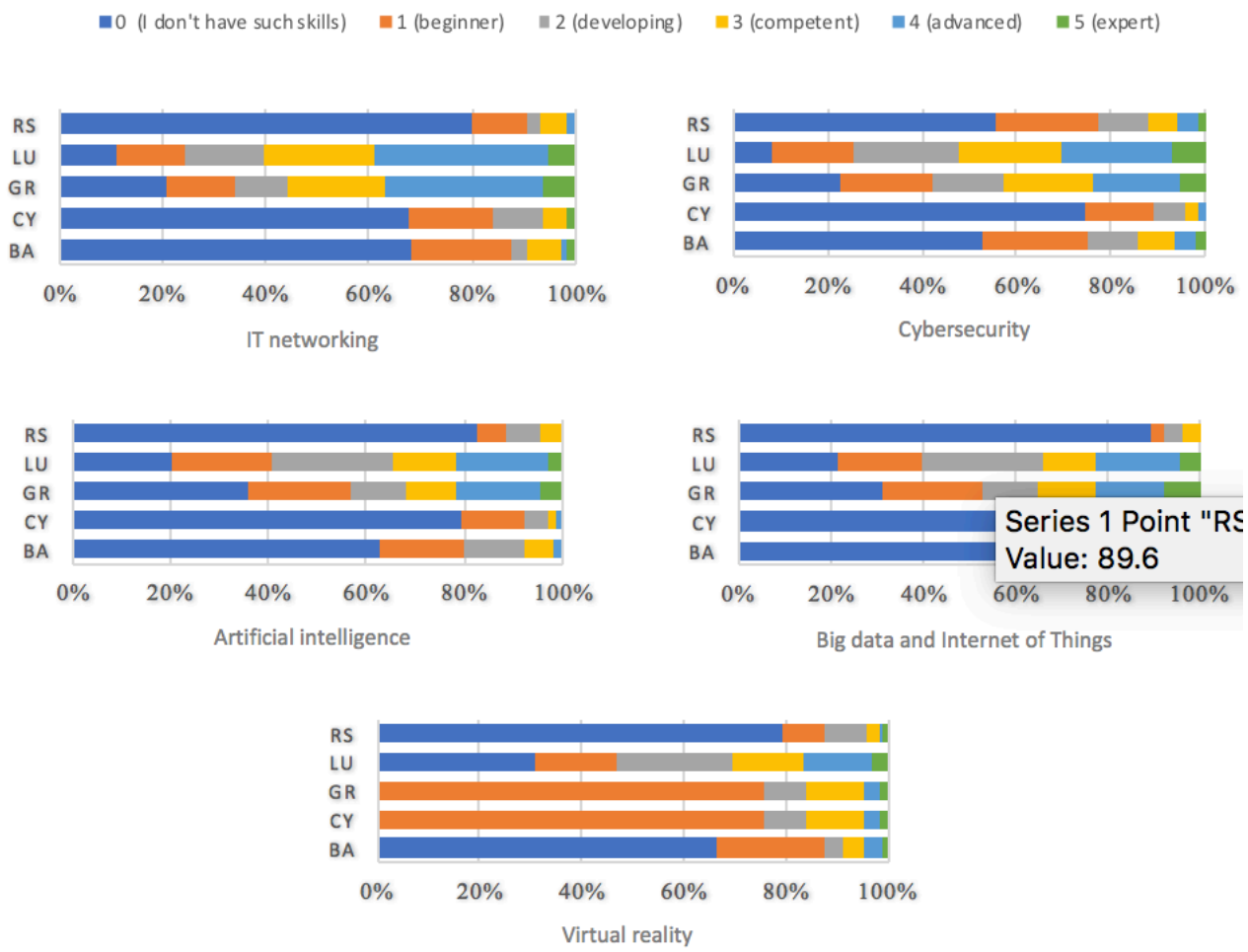




Communication and social media skills related digital entrepreneurship is highly evaluated by the youth. Other personal-related skills, such as consumer handling, foreign language, adaptability, etc., are also highly rated. Finance and marketing skills have the highest frequency of lower level.

Advanced digital skills - Results

Chart 6. Self-evaluation of advanced digital skills



As expected, ***advanced digital skills do not have majority of respondents***. The ratio between different advanced digital skills and between countries are almost the same, with the exception of VR, where none of the respondents declared that they do not possess such skill.

Further Info

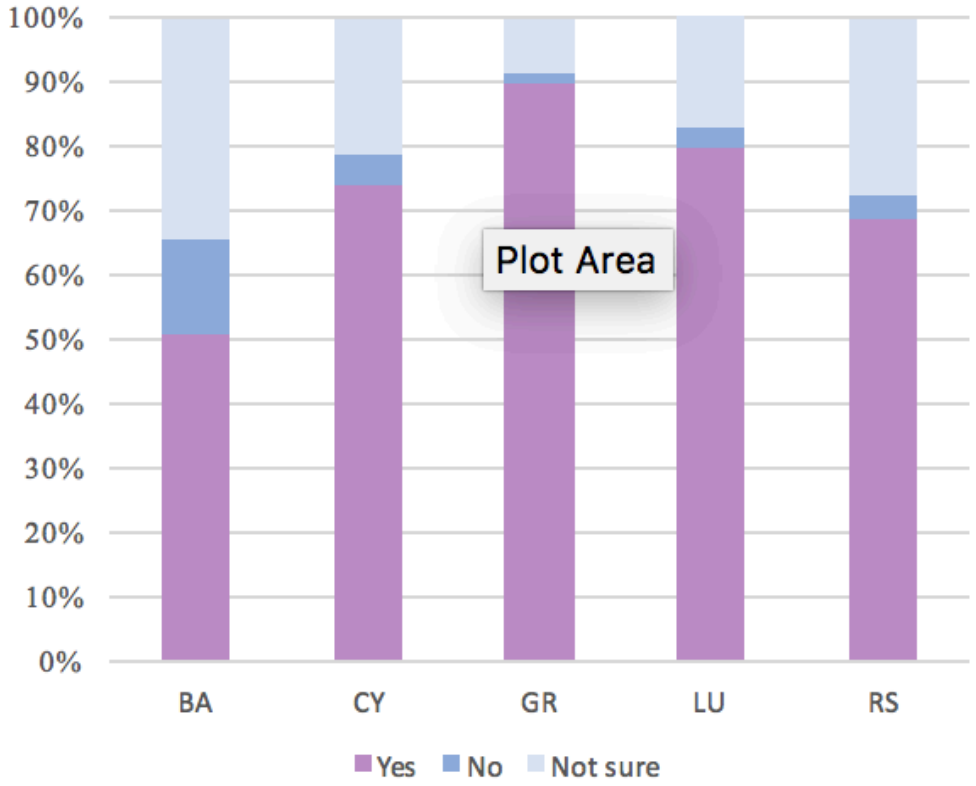
Table 5. Preferences for acquiring new digital skills

Country	BA	CY	GR	LU	RS
Formal education	47.10%	46%	62%	44%	58%
Face to face training sessions	56.70%	53%	50%	44%	70%
E-learning or webinars mentoring	40.40%	66%	66%	65%	38%
Informal peer to peer support	10.60%	20%	17%	18%	10%
More support from my existing job manager	17.30%	20%	18%	14%	16%
By volunteering position in cultural organizations	47.10%	33%	41%	42%	50%

In terms of preferences for acquiring new digital skills youth prefer e-learning or webinars mentoring, as an emerging form of education, but also face to face training session and formal education

Further Info

Chart 7. Willingness to work in the cultural sector or pursue a career in the cultural heritage sector



According to expressed ***willingness to work in the cultural sector*** or pursue a career in the cultural heritage sector highest interest is Greece, Luxembourg and Cyprus. Youth from Serbia express slightly less interest, while lowest level of interest is recorded in Bosnia and Herzegovina.

Further Info

Table 6. Digital skills important for working in culture

BA	CY	GR	LU	RS
• Marketing and promotion (24.04%)	• Social media management (28%)	• Marketing and promotion (36%)	• Social media management (39%)	• Marketing and promotion (37%)
• Data presentation (24.04%)	• Marketing and promotion (20%)	• Social media management (33%)	• Marketing and promotion (23%)	• Communicativeness (28%)
• Social media management (23.08%)	• Social media communication and promotion (20%)	• Email communication (15%)	• Mobile application creation (18%)	• Text, images and sound procession (22%)
• Text, images and sound procession (19.23%)	• Text, images and sound procession (19%)	• Graphical design (14%)	• Networking (18%)	• Digitalization of cultural heritage (18%)
• Virtual tour creation (19.23%)	• Mobile application creation (18%)	• Networking (14%)	• Email communication (17%)	• Social media communication and promotion (13%)
• Communicativeness (15.38%)	• Basic computer literacy (17%)	• Video editing and processing (14%)	• Web site creation (12%)	• Basic computer literacy (13%)
• Digitalization of cultural heritage (12.50%)	• Video editing and processing (17%)	• Web site creation (10%)_	• Video editing and processing (12%)	• Social media management (8%)
• Basic computer literacy (10.58%)	• Web site creation (15%)	• 3D processing (9%)	• Virtual tour creation/Virtual reality (11%)	• Data creation and processing (6%)
• Data security maintenance (10.58%)	• Email communication (13%)	• Digital storytelling (7%)	• 3D processing (9%)	• Data presentation (4%)
• Mobile application creation (9.62%)	• Communicativeness (8%)	• Text, images and sound procession (5%)	• SEO (9%)	• Graphical design (4%)
• Internet search (9.62%)	• 3D processing (8%)	• Mobile application creation (5%)	• Graphical design (7%)	• Virtual tour creation (4%)
	• Digital storytelling (7%)	• Blogging (4%)	• e-commerce (6%)	• Mobile application creation (3%)
• Data creation and processing (3.85%)	• Digitalization of cultural heritage (6%)	• Virtual tour creation (3%)	• Google analytics (5%)	• Data security maintenance (3%)
• Team organization (3.85%)	• Graphical design (6%)		• Big Data (5%)	• Team organization (3%)
• Social media communication and promotion (2.88%)	• Cloud service (5%)		• Cultural heritage digitalization (5%)	• Internet search (2%)
• Graphical design (2.88%)	• Gamification (4%)		• Data management (4%)	• Financial management (2%)
	• Virtual tour creation (3%)		• Digital archiving (4%)	
			• Cybersecurity (3%)	

In most cases youth identify ***marketing and promotions, social media management and communication skill as the most important***. This is followed with skills that are related to ***digital cultural content creation***, while some advanced digital skills are less often mentioned.

Area	Issues	Solutions/actions
Basic digital skills	• The majority of youth find themselves mainly as advanced and expert of basic skills. This goes in line with the fact that majority of youth use digital technologies, both in terms of different types of hardware and software, the Internet and social media on a regular basis (ITU, 2019). However, this is primarily related to the high use of laptops and desktop computers.	• Insist on developing skills for spreadsheet processing, as an important sill of data management.
	• The use of more specific devices, such as VR goggles and 3D printers, that are often associated with the presentation and interpretation of cultural heritage, is quite rarely (Rossi & Barcarolo, 2019). This can be explained by the fact that those devices are still scarce within daily life use, however the lack of tablet use, came as a surprise.	• Provide the access, materials and content, as well adequate guidance, to the less accessible devices with prospect use in cultural sector, such as VR goggles and 3D printers.
	• Youth are frequent users of most popular social media sites, such as *Facebook* and *YouTube*, while more specific one, such as *Twitter*, *LinkedIn* or photo sharing sites are less frequently used (Božić & Jovanović, 2017; Jovanović, Božić, Bodroža, & Stankov, 2019).	• Cultural sector could not significantly change digital behaviour of youth. Instead, the use of common media channels is needed to promote, educate and include youth into sector of digital culture.
	• Employees of cultural institutions skilled in basic digital knowledge are needed in most of job positions, however, in terms of digital transformation; their contribution could be limited to basic operation (service delivery, assistance, data gathering, etc).	• Explicit information on digital skills needed for current and future digital sector should be provided to the youth interested in engagement with digital sector.
Specialized digital skills	• Specialized IT skills related to proficiency in professional software that will allow youth to critically evaluate technology or create content, showed less existing competence, comparing to basic skills. Here, work skills in specific software for 3D rendering or 3D printing are less known.	• Invest in further development of specialized digital skills as diverse cultural sector will need these skills, both in absolute and relative numbers. The majority of job positions in cultural sector require specialized digital skills in the process of content creation, marketing, business transactions and this is relevant for many types of cultural institutions.
	Vertical (Value) Axis e processing skills and gether with skills for work in software for audio and video processing.	
Advanced skills	• Despite the rise in popularity of technology-related formal and informal education diffusion of the advanced specialized digital skills, such as big data analytics or cybersecurity, are quite rare to detect. These specific skills are still left to be found at a higher level of formal education.	• Promote cultural sector to youth involved technology related disciplines
	• In case of general knowledge and skills related to digital entrepreneurship, youth mainly highly evaluate themselves, with the expectation of marketing and finances skills.	• Leverage youth involved in managerial education, capable of making meaningful connections between cultural and technology sector. While advanced digital skills can be imported from external sources, higher management still must be able to "see the bigger picture" and create the competitive cultural offer.
Supporting information	• Youth equally prefer e-learning or webinars mentoring, and traditional also face to face training session and formal education as a way to lean new digital skills. • Youth mostly associate digital skill related to cultural sector marketing, promotion, social media and communication.	• Provide the choice in preferable way for leaning digital skills for cultural sector. • Inform the youth on different job positions in the very diverse cultural sector with the specifics of each job.

RECOMMENDATIONS

CURRENT STATE AND NEEDS OF CULTURAL INSTITUTIONS IN THE FIELD OF DIGITAL TECHNOLOGY

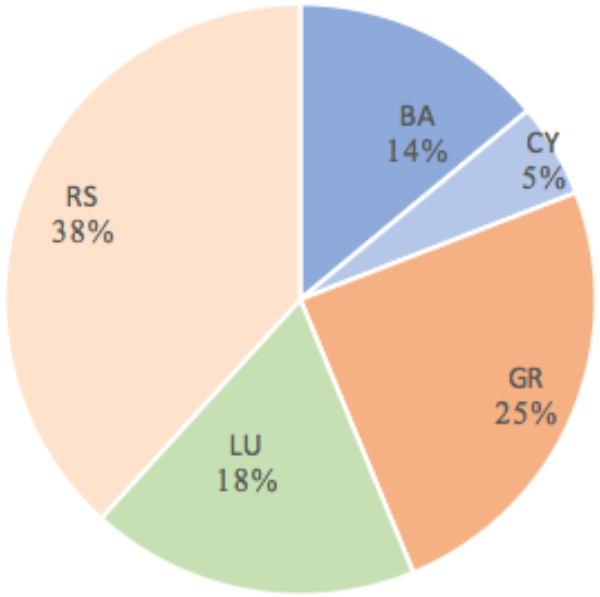


Chart 8. The structure of the sample of cultural institutions by country.

The online Google doc survey has been distributed to more than ***500 cultural institutions and organizations*** in Bosnia and Herzegovina, Cyprus, Greece, Luxemburg and Serbia in the period from March to September 2019. A total of 272 valid answers have been collected. The highest number of cultural organizations and institutions are from Serbia, Greece, Luxemburg, Bosnia and Herzegovina and Cyprus

Table 8. The existence of strategic approach towards digital technologies in cultural institutions

Type of an approach	BA	CY	GR	LU	RS
We use digital technologies but don't have a strategic approach	31.6	42.9	46.3	46.9	37.7
About to start on digital transformation	15.8	7.1	6.0	12.2	23.1
We have been through digital transformation and embedded it in everything we do	21.1	21.4	9.0	14.3	11.5
Thinking about developing a digital strategy	10.5	50.0	7.5	14.3	7.7
Struggling to access basic digital tools (e.g. website, social media)	18.4	14.3	29.9	6.1	7.7
We have an online marketing strategy	0.0	0.0	25.4	26.5	7.7
We have a digital strategy but not embarked on a transformation	2.6	21.4	23.9	34.7	4.8

The survey results clearly indicate that the highest percentage of cultural institutions use digital technologies but they ***don't have a strategic approach***. However, a significant portion of cultural institutions have been through digital transformation and embedded it in their activities, while others are also ***thinking about developing digital strategies or are about to start digital transformation.***

CURRENT STATE AND NEEDS OF CULTURAL INSTITUTIONS IN THE FIELD OF DIGITAL TECHNOLOGY

Table 9a. Core activities

Results presented clearly indicate that ***vast majority of cultural institution rate digital technologies as important or essential to their core activities***.

CURRENT STATE AND NEEDS OF CULTURAL INSTITUTIONS IN THE FIELD OF DIGITAL TECHNOLOGY

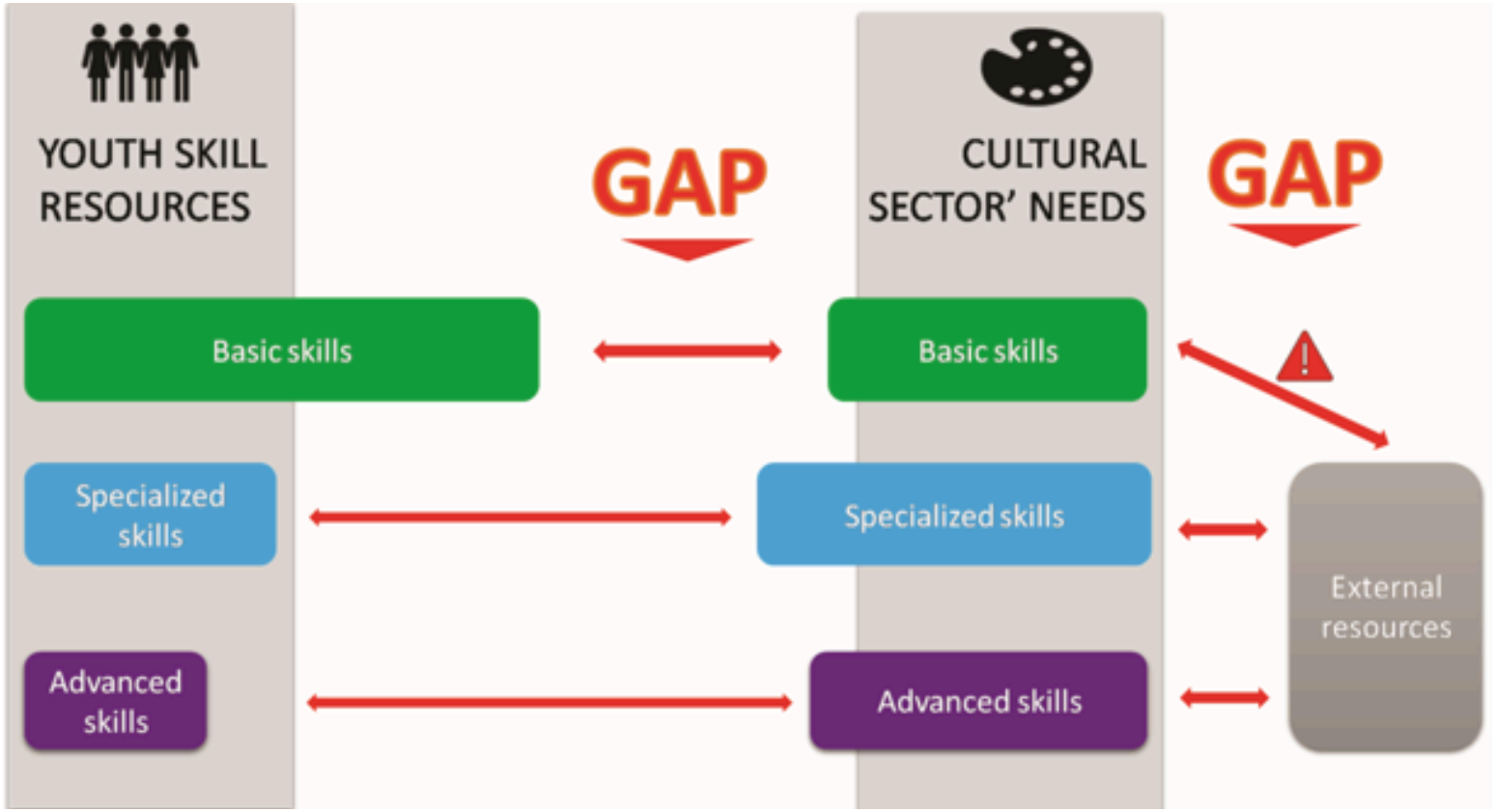
Table 11. Evaluation of potential barriers for organization's aspirations for digital technology

The results show an extensive list of potential barriers for cultural organization's aspirations for digital technology. On average lack of expert advice, IT systems/infrastructure, in-house staff time are marked as a potential barrier. However, ***the largest identified barrier in all countries is lack of funding to allocate to digital projects.***

DIGITAL SKILLS IMPORTANT FOR WORKING IN CULTURE IDENTIFIED BY THE CULTURAL ORGANISATIONS

BA	CY	GR	LU	RS
• Analytical data processing skills	• Knowledge of how to create and update a webpage (not Facebook page),	• Website development	• Search engine marketing	• Screening, analytics, designing
• Strategic planning skills	• Digital production	• Social media management	• Digital production	• Basic digital knowledge and skills
• SEO	• Teaching through simulations/augmented reality, micro-learning skills, research skills	• Digital design	• Social media advertising	• Skills for analysis and research
• Coding	• Visual communication skills	• Digitization of art work,	• Data protection and copyrights management	• Creating databases; training for SPSS;
• Development of web-based and android applications,	• Software development skills	• image/video/audio editing,	• Multimedia resources editing	• Data management
• Cloud management,	• IT Skills	• Creation of digital portfolios	• Web tools for promotion	• Coding, "big data"
• Use of adequate applications and photo processing tools and design tools	• Data analysis	• Digital production), digital restoration, livestreaming and podcasts	• Data analysis,	• Digital archiving
• Planning, project writing	• Coding	• Digital archiving	• Digitalisation of archives	• Digital strategy and planning
• Data analytics	• Data analytics	• Copyrights protection,	• Coding, processing tools	• Planning, Coordination
• Education, seminars, practice	• Good knowledge of project planning tools.	• Digital marketing	• Multimedia design	• Knowledge of multimedia design and digital marketing.
• Web Design	• Creation of virtual reality tools	• Virtual exhibitions and livestreaming events	• Digitization of exhibits	• Project management and strategy
• Graphic design	• Digital Strategy and planning,	• E-books production, digitization of printed books	• Livestreaming software	• Digital marketing
• Security	• Cloud computing,	• App development	• Virtual reality tools	• Sound and images processing
• Skills related to Photoshop, web design and databases	• Multimedia design	• Digital transformation and planning	• Digital writing and publishing	• Knowledge of IT resources, analytics, technological literacy
• GIS	• Creating digital content,	• Gamification	• Development of digital strategy	• VR and 360-degree spherical photography,
• Word processing, spreadsheets, creating presentations, etc.	• Digital advanced analytic tools of data	• Cybersecurity	• E-commerce	• 3D modelling
• Big data	• Digital archiving	• Big data analytic, Google ads	• Digital transformation of cultural institutes	• Working with SKL databases
• Social network management		• Google AdWords, Google Analytics, Facebook, Facebook Ads	• Big data analytic	• Digital signal management
• Virtual reality			• Excellent knowledge of SEO	• Managing and updating the site and placing materials on social networks
• Web optimization			• Data analytics, Google AdWords • Blogging	• Programming
• Data based fundraising;				• Digitization of cultural heritage
• Digital archiving				• Cloud computing
• Understanding QR code; understanding how augmented reality works				• Livestream
• 3D animation, video editing illustration, etc.				• creating digital content, security
• Office365 work				• Photography and video production
• Designing, data analysis				• Python programming language, Blender cubes, and working in the Unity program
• Multimedia design				• Site maintenance and placement of materials on digital platforms,
• Video posts, live posts, administration chat				• Photogrammetric training

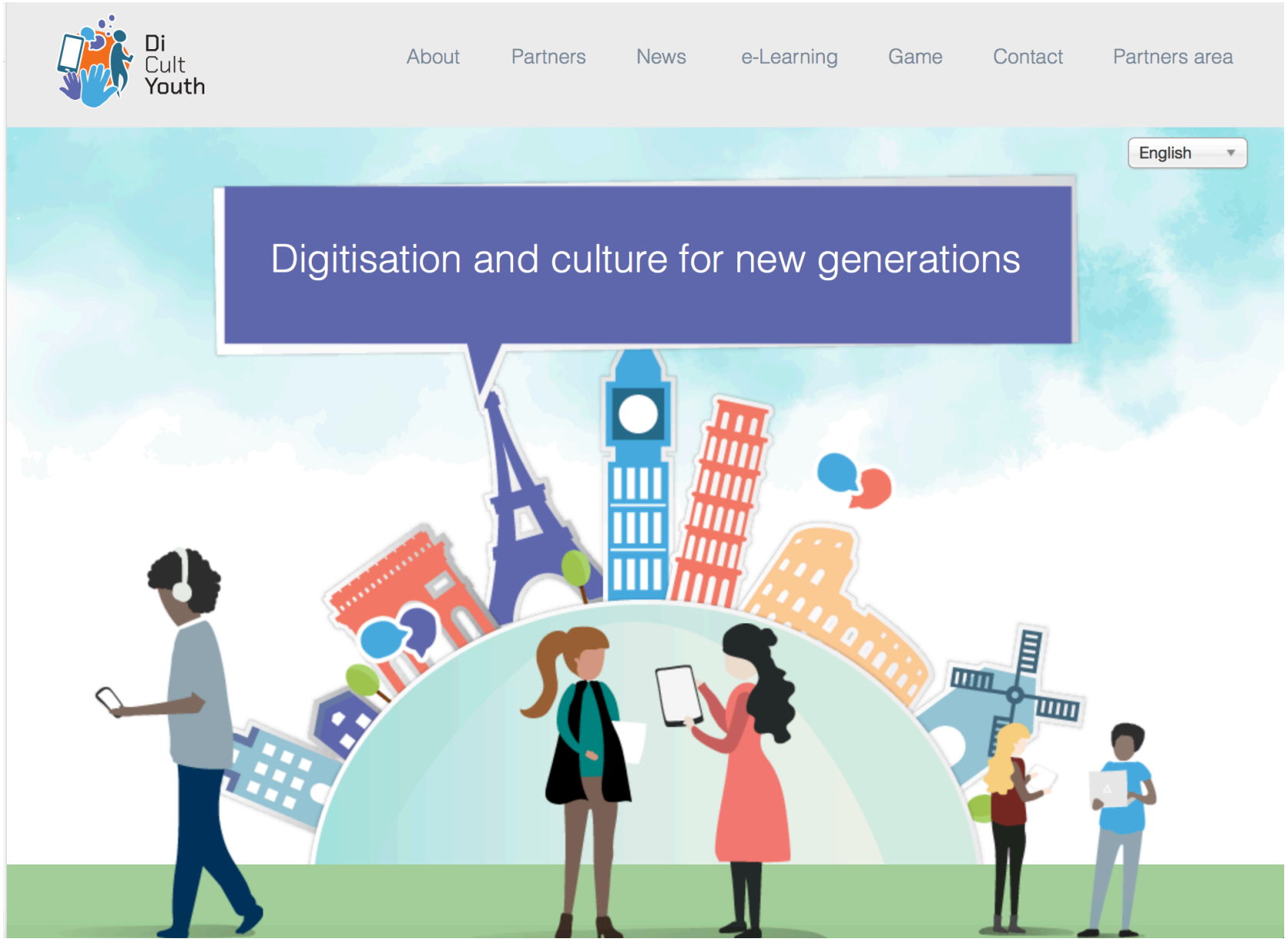
THE GAP BETWEEN YOUTH DIGITAL SKILLS AND CULTURAL SECTOR'S NEEDS



This comparative report revealed the ***significant gap between cultural sectors' need and youth skills resources in terms of advanced and specialized digital skills***. This indicates that the cultural sector is facing the challenges of the digital era which brings new requirements and competence much faster than education currently follows.

This report showed some expected and some surprising results for the non-EU countries, such as ***Serbia and Bosnia and Herzegovina that currently hold a position below EU average in term of ICT usage, comparing to EU countries – Cyprus, Greece and Luxembourg.***

DICULTYOUTH GAME



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Luxembourg

Bosnia and Herzegovina

Cyprus

Serbia

Greece

Module 1: Introduction to digitalisation in the Cultural sector

Co-funded by the
Erasmus+ Programme
of the European Union

Area 1: Introduction to digitalization in cultural sector

Skills:

- Spreadsheet processing for data management
- Scanning image and text documents
- Basics of audio-video processing
- Cloud computing skills
- Access to digital cultural databases

Area 2: Cultural heritage management

Skills:

- Critical evaluating news, information on products
- Managing professional digital identity
- Creating awareness on the use of native language online, and the promotion of national culture, arts, values, customs, etc.
- Web marketing
- Social media management
- Basic financial skills related to cultural sector institutions and crowdsourcing on the Internet

Area 3: Practical training in new digital technologies

Skills:

- The use of immersive technologies
- The use of 3D printers
- Geolocation services and geo-visualisation
- IT networking and cyber security
- Big Data analysis and Machine learning
- Mobile application development

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