WOMEN4IT
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DIGITAL JOBS PROFILES DEFINED

Work Package D: Research on Innovative Solutions

Abstract

Collection of information on characteristics that differentiate jobs and recommend most pertinent profiles. The defined profiles have been selected based on desk research as well as surveys and focus group discussions with employers' organizations, educators and job agencies in 9 partner countries. As a result, 8 jobs profiles have been identified, which will serve as input for the profiling tool development.

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Contents

Glossary - Definitions

Digital skills: a combination of behaviors, expertise, know-how, work habits, character traits, dispositions and critical understandings that enable active participation in and contribution to the digital economy[1].

Job: Consists of a group of tasks that must be performed for an organization to achieve its goals.

Position: Collection of tasks and responsibilities performed by one person; there is a position for every individual in an organization.

Job Analysis: Systematic process of obtaining information about the skills, duties, and knowledge required for performing jobs in an organization.

Job Specification: Statement of the needed knowledge, skills, and abilities (KSAs) of the person who is to perform the job.

Job Description: Statement of the tasks, duties, and responsibilities (TDRs) of a job to be performed.

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[1] Broadband Commission for Sustainable Development 2017.

1. Introduction

This report intends to summarize the key findings of the research activities carried out in the W4IT project by the partners regarding digital job profiles. Due to the scope of the research, a desk and field research approach was seen as the most appropriate because it provided useful insights into which job profiles and related digital and transferable competences need to be developed by young women in order to help them face the current labour market challenges and improve their employability.

Project Aims

The main objective of the project is to develop the digital competences of young women who are at risk of exclusion from the labour market by improving their employability through an alternative, integrated approach. The solution will upskill them, with a 'learning to learn' attitude, a sense of initiative, and the social skills necessary to find a job. Conducting needs assessments will help reaching this outcome since through the systematic review and study of multi-sourced data the identification of gaps between current and desired/required knowledge, skills, behaviour and practice will be revealed.

To close the loop, the system will consult with employment services. A new participative alliance and adaptable tools will make the proposed solutions sustainable and transferable to different territories and target groups.

Purpose of Digital Jobs Profiles Defined

Today, companies are faced with increasing competitive pressures to improve the quality of their products and services. One mechanism to improve quality is through improvements in the digital skills of the employees. To build this digital expertise, W4IT project will develop specific training pathways for selected job profiles that are needed in the labour market according to an extensive and multidimensional desk and field research on needs assessment in 7 participating countries. The purpose of this study is to prepare young women, beneficiaries of this project, for occupying specific job positions in the 7 piloting countries.

But, a critical issue with any training program is the successful transfer of the trained tasks to the job which is more than a function of the quality of the training program. Studies have shown that one job factor that seems particularly relevant for the transfer of skills is the extent to which the trainee is given the opportunity to perform trained tasks on-the-job, which is correlated to how closely these match the organizational, workgroup, or individual factors that might lead to differences in the opportunity to perform trained tasks on the job. For this reason, a systematic job analysis has been performed on selected job profiles which is described in the following sections.

Outline of the Study

After this introduction, Section 2 provides a short review of job analysis, purpose, methodology and outcomes.

Section 3 describes the steps taken for the job analysis performed in this study in order to finalize the digital jobs profiles.

Section 4 presents key restrictions and findings regarding the job profiles identified including length of training considerations and target group characteristics.

 Section 5 presents and analyses the selected profiles according to their mission, typical work activities, competencies required for their execution and attitudes that job occupant must possess.

In closing, Section 6 presents a summary of the activities and approaches leading to job analysis results.

References
This section presents the literature sources and the websites reviewed for the development of this study.

2. Job Analysis

What is Job Analysis

Job analysis is a systematic breakdown of a job into its component parts such as: job duties, job requirements including also the relative importance of these duties for a given job. The emphasis in job analysis is on the job not the person, thus, although job analysis data may be collected from job occupants through interviews or questionnaires, the product of the analysis is a description or specifications of the job, not a description of the person.

Two are the major outcomes of job analysis: **job description** and **job specification**.

Job Description is a statement of job contents in the form of duties and responsibilities to reveal the nature and type of job. It includes such information as:

1. Title of job and location
2. Objectives of the job and summary
3. The nature of duties and operations to be performed in that job
4. The nature of authority- responsibility relationships
5. Relationship of that job with other jobs
6. The provision of physical and working condition or the work environment required in performance of that job including equipment/machines/tools.

Job Specification is a statement on the minimum acceptable human qualities necessary to perform a job. Job specification translates the job description into human qualifications so that a job can be performed in a better manner. It includes such information as:

1. Job title
2. Educational qualifications for that title
3. Level of experience
4. Physical (including sensory demands), emotional, technical and communication skills required to perform a job
5. Responsibilities and abilities such as adaptability, flexibility, values and ethics, manners and creativity
6. Maturity and dependability

Overall, the purpose of job analysis is to establish and document the '*job relatedness*' of employment procedures and has a practical usefulness for training and identification of training needs, selection and recruitment, compensation schemes, and performance appraisal.

More analytically, job analysis can be used to:

Determine Training Needs

Job Analysis can be used in training/"needs assessment" to identify or develop:

- training content
- assessment tests to measure effectiveness of training
- equipment to be used in delivering the training

- methods of training (i.e., small group, computer-based, video, classroom...)

Develop Compensation schemes

Job Analysis can be used in compensation to identify or determine:

- skill levels
- compensable job factors
- work environment (e.g., hazards; attention; physical effort)
- responsibilities (e.g., fiscal; supervisory)
- required level of education (indirectly related to salary level)

Select and Recruit Personnel

Job Analysis can be used in selection and recruitment procedures to identify or develop:

- job duties that should be included in advertisements of vacant positions;
- appropriate salary level for the position to help determine what salary should be offered to a candidate;
- minimum requirements (education and/or experience) for screening applicants;
- interview questions;
- selection tests/instruments (e.g., written tests; oral tests; job simulations);
- applicant appraisal/evaluation forms;
- orientation materials for applicants/new hires

Review Performance

Job Analysis can be used in performance appraisal to identify or develop:

- goals and objectives
- performance standards
- evaluation criteria
- length of probationary periods
- duties to be evaluated

Aim of job analysis

The goal of job analysis in this study is to produce a list of job profiles comprised of tasks required to perform the particular job, and then for each task, to identify the skills and competencies needed to perform the task. This will provide a solid foundation to inform the design of the training in the next phases of project implementation. Information from job analysis will be used to decide what to include in the training and determining the standards for performance.

Job Analysis and Training Requirements

The following diagram shows the steps and the contribution of job analysis to the development of the training.
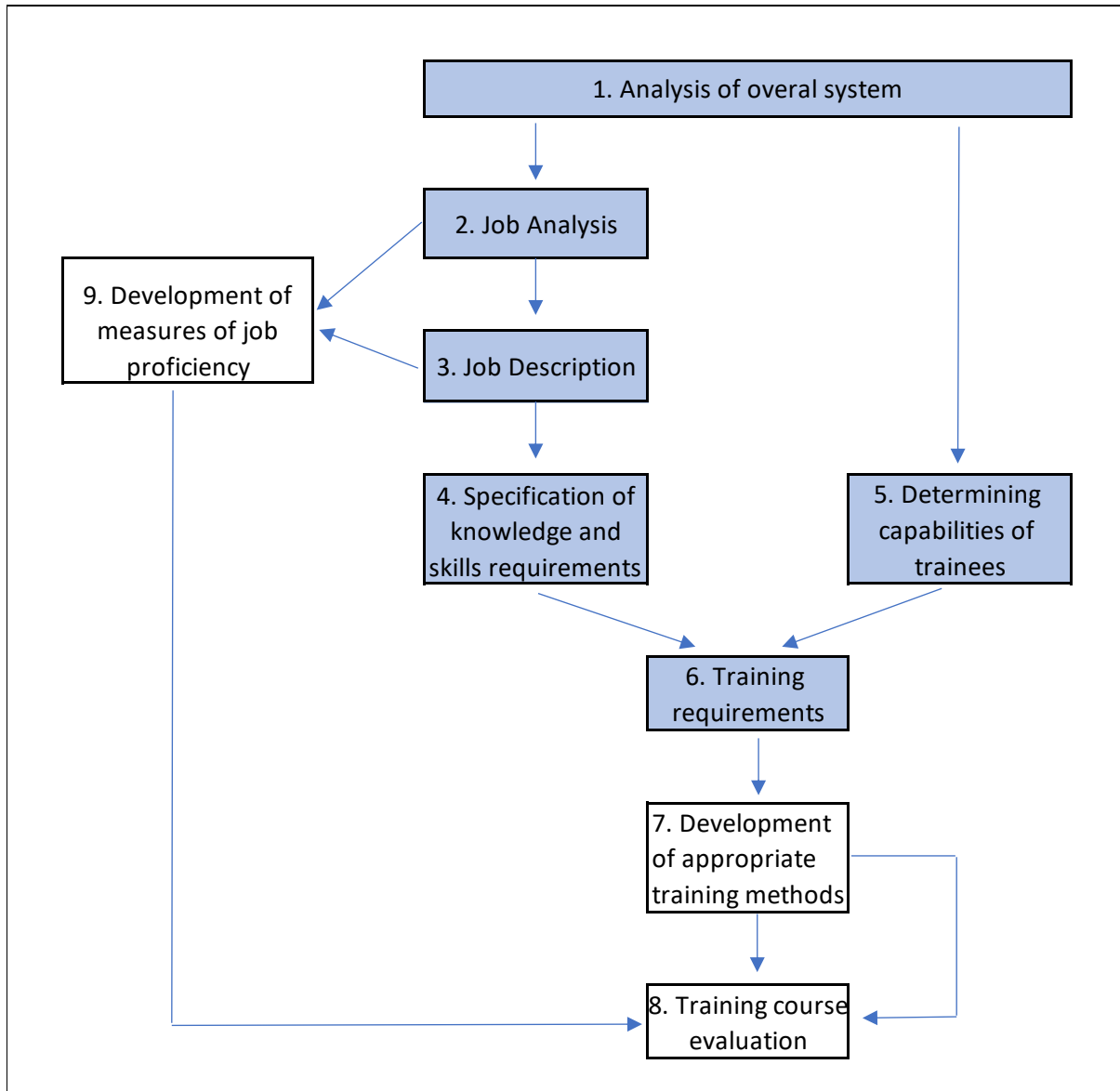

Figure 1: Job analysis contribution in training

1. Analysis of the overall system: The job for which the training will be provided is examined in the context of its position to the organization.

2. Job analysis: A careful description of the job. This type of analysis goes into detail, specifying how the job is done and it includes also the type of learning (and, consequently, training) required.
3. Job description: The overt behaviour required and the establishment of criteria for successful performance.
4. Specification of knowledge and skills requirements. This is the product of the previous steps, and it itemizes the performance requirements of the job.
5. Determining the capabilities and characteristics of trainees. Trainee needs that should be taken into consideration.
6. Training requirements. The gap between the current capabilities of the trainee and the performance requirements of the job. Bridging this gap is the purpose of the training.
7. Development of appropriate training methods. The choice of the best method of imparting the knowledge and skills required.
8. Training course evaluation. Measure of the effectiveness of training. This also includes some criteria which are derived from job analysis and description and are included in step 9 (Development of measures of job proficiency).

The work presented in this report focuses on steps 1-5, aiming to provide input for step 6.

3. Job Analysis Methodology

Job analysis was performed by collecting information from desk research, subject matter experts and job occupants through interviews, focus groups, workshops and surveys. The final output is eight (8) job profiles, which include a description of the mission, typical work activities, attitudes and competences required to perform a given task (functional competences and behavioural competences).

The process of Job Analysis included the following stages, which are also shown in Fig.2:

1. Planning Job Analysis
a. Identify the objectives of job analysis

2. Introducing Job Analysis
a. Identify jobs and methodology
b. Review existing job documentation

3. Conducting Job Analysis
a. Gather data
b. Review and compile data

4. Develop Job Descriptions and Job Specifications
a. Draft job descriptions and job specifications
b. Review job descriptions and job specifications

5. Finalize Job Profiles
a. Periodically review/update jobs

Figure 2: Job Analysis process

Stage 1: Planning Job Analysis.

The objective of the job analysis is to provide the necessary data to inform the design of the training in the next phases of the project.

Stage 2: Introducing Job Analysis

The literature review, included in the report "WP D: Needs Assessment Desk Research" provided input for mapping digital skills needs and the identification of, initially, 10 digital jobs. These jobs were reviewed by project partners and, in order to get an international overview of the digital jobs needed by the labor market, a survey was carried out on employers in the 7 piloting partner countries, resulting in 203 responses. In addition, these jobs were also discussed in 7 focus groups and national forums in partner countries, and were reviewed by 150 experts and stakeholders, (Fig 3).
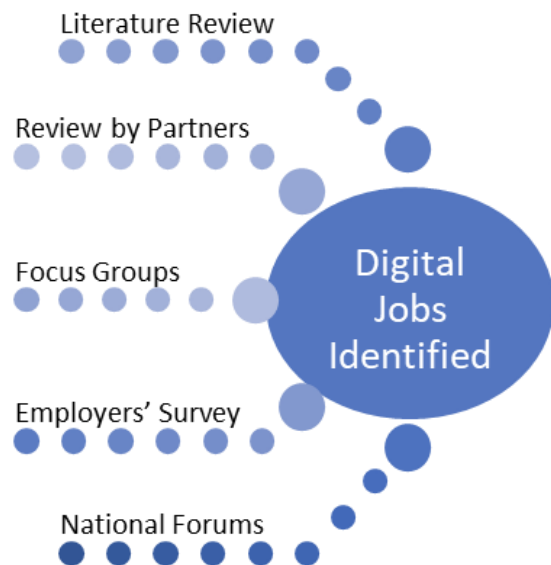
Figure 3:Identification of Digital Jobs

Stage 3: Conducting Job Analysis

After digital jobs were identified, information was collected about the content of jobs. This information was obtained by interviewing employers and jobholders, from existing Job Descriptions, EU frameworks, organization charts, partners' workshops, etc.

Stage 4: Develop Job Descriptions and Job Specifications

This stage included the analysis and the organization of the information collected. Jobs were break down into their key components and job profiles were developed in a systematic manner.

Stage 5: Finalize Job Profiles

Based on the results from the previous stages, 8 digital job profiles have been identified: Digital Media Specialist, Customer Service Support Representative, Personal/Project Assistant, Tester - Quality Assurance, Data Protection Specialist, Graphic Designer, Data Analyst and Junior Web Developer. In Fig. 4 below, the job profiles selected by each piloting partner is shown.

Job Profiles	Countries						
	Latvia	Lithuania	Greece	Ireland	Romania	Spain	Malta
Digital Media Specialist	●	●	●	●	●	●	●
Customer Service Support Representative	●	●		●			●
Personal/Project Assistant	●	●	●	●		●	●
Tester - Quality Assurance	●				●		●
Data Protection Specialist	●		●		●		
Graphic Designer		●	●	●	●	●	
Junior Web Developer		●	●	●	●	●	●
Data Analyst						●	

Figure 4: Selection of Profiles by Country

4. Key Restrictions and Findings

Key findings have been gathered from the desk research and field research in the seven piloting countries carried out by LIKTA in Latvia, PLAN in Spain, CRETHIDEV in Greece, MCA in Malta, BETI in Lithuania, ICS in Ireland and EOS in Romania. Field research included employers' survey and focus groups, as regards to the mapping of future digital jobs needs, and interviews with national forum members to provide more insight on research findings and validate proposed suggestions.

The mapping aimed at improving the understanding of the present situation at the local labour markets, as well as identifying future trends in employability, to prepare project beneficiaries for the work challenges ahead. The target groups of the project are young women aged 20-29, long term unemployed, unemployed but educated, and women with disabilities (visual impairment), who are expected to receive a 3 months training. Thus, while it was agreed that there is significant demand for highly skilled IT professionals in areas such as robotics, AI, etc. it was recognised that the skills gap in these areas are unlikely to be off-set by this project given such restrictions as the level of training required. And so, the job profiles were demand driven, but selected to fit the characteristics of these groups, namely entry and middle level digital jobs for tech newcomers, for which it would be feasible to provide training within the timeframe of the project. In addition, since no specific sector was selected, these job profiles could accommodate different national settings, company sizes and sectors.

Some of the proposed digital job profiles have been characterized as **pink-collar jobs**, for example the "Digital Media Specialist", following the tradition of feminization of clerical work and the production of gender relations in the white-collar workplace (England & Boyer, 2009)[2]. For this job profile, it was reported that often the "advertisements include **bias in the language used to source female candidates**"[3], Duffy and Schwartz, (2017). In fact, some focus group participants stressed the use of language in the job title to attract female trainees in specific jobs. Thus, "Assistant" was suggested to be replaced from "Personal/Project Assistant" job profile tittle as it could demotivate candidates with the limited career opportunities it implies, while others suggested to refrain from using too technical terms e.g. "Web Developer" so as not to put off young women. These suggestions will be considered in the next phases of training.

Because the proposed job profiles were selected with a "fit-all" approach, meaning be flexible and adaptable to **skills gap faced in many national settings, by both larger firms and SME's** on a daily basis, as is the case with "Digital Media Specialist", since every company needs to promote its online presence. In addition, there seems to be a "correlation between workers or job seekers who have **digital skills with mobility**" and taking into consideration the fact that traditional jobs are being transformed, and new forms of work are being created, such as virtual freelance work for clients through online platforms, job profiles include **e-lancer's jobs** such as "Graphic Design". This **flexibility of digital jobs** also allows target group beneficiaries to combine paid work with household and caregiver responsibilities, which was a repetitive theme of concern among research participants.

[2] England, K and Boyer, K. (2009). Women's Work: The Feminization and Shifting Meanings of Clerical Work. Journal of Social History, Volume 43, Number 2, pp. 307-340

[3] Duffy, B.E and Schwartz, B. (2017). Digital "women's work?": Job recruitment ads and the feminization of social media employment. New Media and Society, Volume: 20 issue: 8, page(s): 2972-2989.

Most of the proposed jobs can be considered as steppingstones for a career, which includes lifelong learning. Due to the entry and middle level nature of the proposed jobs and the forecasts for job losses primarily in middle- skilled routine tasks, many field research respondents pointed out the need to cultivate a **life-long learning** attitude in young women. One more reason supplied in favour of continuously learning and updating knowledge was that "the economy is growing at a fast rate and sectors keep expanding, so it seems as if, there is not enough time for training".

5. Job profiles

One of the objectives of the W4IT project research was to identify the potential digital job profiles in demand by employers that could facilitate the introduction of young women into the digital workplace and which would be best suited to the scope of this project, taken into consideration local labor market demands in partner countries, the characteristics of the target groups as well as the length of the training. In order of priority, the majority of respondents argued that the most important digital job profiles for this project are: Digital Media Specialist, Customer Service Support, Personal/Project Assistant, Tester - Quality Assurance, Data Protection Specialist, Data Analyst, Junior Web developer and Graphic Designer.

ICT based jobs can be performed in offices or other standard workplaces, but they can also be performed remotely, either by staff members or by individuals as subcontractors. The flexibility afforded by these jobs renders them attractive to the target audience (e.g. young mothers) and create a greater number of possibilities for employment. But, new work organizations are necessary, which necessitate new skills. Career paths within organizational hierarchies are not so clearly defined as they move away from set boundaries into more on-demand and project-based activities, increasing internal mobility. Thus, resilience, adaptability and the ability to identify early signals of change and respond with agility are considered necessary skills.

Some representatives of the local support community for IT professionals in Romania made a very interesting outline of the local eco-system of IT-related jobs and how this relates to the global market and the outsourcing practices. From their perspective it is important for the local community to rise the aspirations beyond outsourced professions and to "grow" local professionals with skills on a larger spectrum in the life of a digital product or service and emphasizing also a continuous learning attitude. Lifelong learning or a learning to learn attitude was reported as important by participants in all 7 countries as well as that job profiles must be analyzed from the perspective of skills portfolios to facilitate a common understanding and the development of a more precise competence evaluation system to save time and money in training.

Some of the most in demand positions now (e.g. Customer Support) were reported as requiring very strong soft skills (learning skills, communication, analytical thinking) along with a basic understanding of ever-changing technology. The value of soft skills such as communication skills were also described as important when working in groups, in-house or remotely, including the ability to explain one's opinion and leadership skills, especially since it is expected that teams in the future will organize themselves.

New work arrangements seem also to affect traditional job authority. As research participants noted some people might be concerned that IT can make them "redundant" or less indispensable. The participants cited examples of having workers who viewed their job / tasks as their "territory" and who became uncomfortable with the situation that other colleagues had access to the system and could carry out their tasks, while they (the persons normally responsible for this task) were away on leave.

Digitalization makes the switch to skill-based self-employment or even to hybrid employment (combining traditional and independent work) much easier, but autonomy and control over work

requires self-determination and, thus, persistence and self – confidence, a competence that women need to cultivate further as well as to become competent self-promoters with the ability to articulate their skill-set effectively.

Digitization and automation seem to be placing a premium on not just technical skills, but also creativity and initiative, which, recent research suggests, are becoming less correlated with formal education, paving new career paths for women and NEETs.

However, some respondents pointed out that, although work organization changes and new trends such as self-employment and e-lancers are emerging in all digital jobs, it is impossible for young people to understand the essence of the work in a 3-months course and be ready to perform effectively on their own. They suggest training to be supplemented with some form of in-house work experience to reach a certain level of professionalism, before starting work remotely or on their own.

Regarding specific job profiles, some experts noted that **Digital Media Specialist** requires marketing and editorial skills, and although this job profile is very important as it focuses on the online presence of a company and the development of brand loyalty, it is usually associated with women, entry-level postings and calls for internships, and for this reason remuneration is lower, while job occupants take on responsibility for an increasingly important distribution channel. Often, it is a contract position.

Customer Service Support Representative is a frontline employee on the customer service team responsible for reaching out to existing and potential customers with product offers, information about the company, and general updates. Their work is more proactive because it aims to solve problems before the customer recognizes them and typically work in offices or call centers and report to a customer service manager. This is considered as an entry-level position, however, since customer service is still a relatively new field, the significance of this position may vary for each company. Remote customer service support representatives have the same responsibilities as customer support representatives, although their job is more reactive than proactive and can work away from the office, having more freedom to take care of families, work other jobs, etc.

A **Personal/Project Assistant** carries out a variety of liaison, coordination and administrative tasks for an individual, team or organization, but their tasks are not very well defined, and some experts argued that the skills required for this position are probably covered in the ECDL and ECDL advanced. However, this position was also reported as relying heavily on the communication and organizational skills of job occupant.

Tester - Quality Assurance employees test software, applications or services, following test plans. They can work from home or at the office. Although, in the previous years, career prospects were not very promising, nowadays as more enterprises adopt agile development methodologies, job occupants can decide to follow a more technical or business path.

Data Protection Specialist's function is to monitor the company's overall compliance with local and European data protection rules and assist the company to work towards data protection compliance building also a culture of data protection awareness. Companies may designate an internal or external individual as the DPO, provided that the individual is free from any conflict of interests. In some companies, especially smaller, IT managers can occupy this role too, although there is the risk of conflict of interest.

Graphic Designer works on a variety of products and activities, such as websites, computer games, product packaging, corporate communications and corporate identity. Job occupant has to work with the client to understand his/her needs before decide on the design, with the creative director or account manager, and will develop appropriate creative ideas and concepts taking into consideration the client's objectives. Work can be performed part-time, but several years of experience and established professional contacts are needed before self-employment. It involves learning on the job, except for formal training in industry-specific software.

Data Analyst represents business challenges through mathematical models. Data analysts import, inspect, clean, transform, validate, model, or interpret collections of data regarding the business goals of the company. Data analysis is a highly transferable skill and can open the door to many interesting jobs across the private and public sector. Almost every industry imaginable has a need for data analysis; the fields of sales, marketing, and healthcare tend to have the most jobs available for these professionals at any given time. Most data analysts work on teams and the work can be done from home or from a remote office.

Junior Web Developers develop, implement, maintain and update web accessible software based on the designs provided. They align the client's web presence with its business strategy, troubleshoot software problems and issues and look for ways to improve the application. A junior web developer may work full or part-time in a technology department or may choose to conduct business at home. Junior web developers can work as a freelancer for several organizations or as an independent contractor.

In the following sections, each job profile, see Fig. 5 below, is analysed in detail.
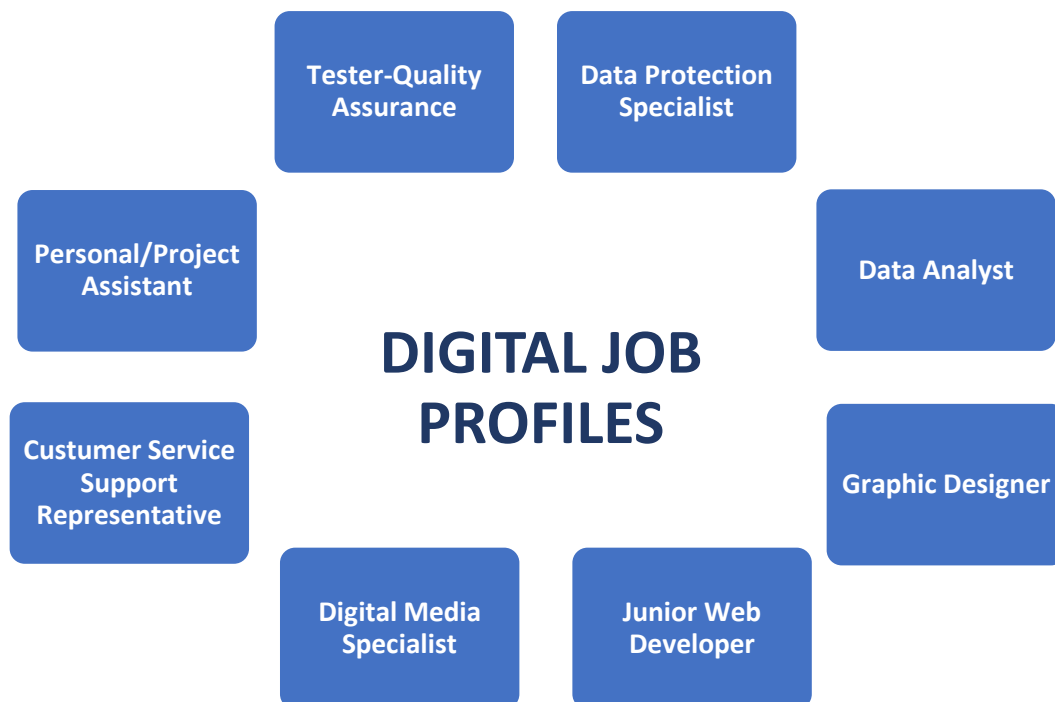

Figure 5: Digital Job Profiles

1	**DIGITAL MEDIA SPECIALIST**

2	**ROLE SUMMARY**

One sentence description*:*	Digital media specialists are responsible for creating and managing digital-related projects for their organisation.
	They use e-mail, Internet and social media in order to promote and market goods, brands and messages.
Level of autonomy:	Digital media specialists can be self-employed, can work as part of a team in a large enterprise or be solely responsible for digital media within a small to medium enterprise.
Use of ICT:	Most of the time, digital media specialists work on a personal computer, using content management and social media applications, and multimedia software to manipulate digital images, video and sound.
Mission:	Digital media specialists creatively handle various online marketing tools, use new media and digital tools to promote an organisation and increase its client engagement.

3	**TYPICAL WORK ACTIVITIES**

1	Organise digital resources for media campaigns.
2	Generate digital media that increases brand loyalty such as creating online ads, seasonal content, newsletters and press releases.
3	Maintain web-related media and resources such as websites, blogs, podcasts.
4	Liaise with another team to ensure brand consistency.
5	Monitor and analyse campaign results using key performance indicators.
6	Present ideas and progress reports to others.

4	**COMPETENCES**

F	**FUNCTIONAL COMPETENCES**	**Mapping to DigComp 2.1 – competence and level**	**Mapping to e-CF – competence and level**
1	Apply customer engagement strategies	3.2 Integrating and re-elaborating digital content L8 5.2 Identifying needs and technological responses L8 2.1 Interacting through digital technologies L8 2.2 Sharing through digital technologies L8 5.3 Creatively using digital technologies L8	D.12 Digital Marketing e-2

2	Perform market research.	1.1 Browsing, searching and filtering data, information and digital content L8 1.2 Evaluating data, information and digital content L8	
3	Perform image editing.	3.2 Integrating and re-elaborating digital content L8 5.3 Creatively using digital technologies L8	
4	Perform video editing.	3.2 Integrating and re-elaborating digital content L8 5.3 Creatively using digital technologies L8	
5	Perform copywriting	3.2 Integrating and re-elaborating digital content L8 5.3 Creatively using digital technologies L8 3.1 Developing digital content L8	
6	Use content management software to compile and integrate media and text content into online systems, such as websites, platforms, applications and social media, for publishing and distribution.	3.2 Integrating and re-elaborating digital content L8 5.2 Identifying needs and technological responses L8 5.3 Creatively using digital technologies L8 2.1 Interacting through digital technologies L8 2.2 Sharing through digital technologies L8	
7	Know and comply with copyright regulations and publication formats.	3.3 Copyright and licences L8	
8	Perform online data analysis.	1.1 Browsing, searching and filtering data, information and digital content L8 1.2 Evaluating data, information and digital content L8	D.12 Digital Marketing e-3
9	Understand data protection and privacy issues.	4.2 Protecting personal data and privacy L8	D.12 Digital Marketing e-2
9	Use a variety of communication tools such as email, messaging, online meetings to communicate with colleagues, managers, clients and stakeholders.	2.1 Interacting through digital technologies L7 2.2 Sharing through digital technologies L7 2.4 Collaborating through digital technologies L7	

B	BEHAVIOURAL COMPETENCES
1	Collaborate with other professionals, teamwork
2	Exchange information verbally
3	Communicate ideas and messages in written and graphical format
4	Think strategically

5	Adapt to changes in marketing strategies

A	ATTITUDES (*You are…*)
1	Creative
2	Imaginative
3	Passionate
4	Adaptable
5	Open-minded
6	Goal-oriented

1   CUSTOMER SERVICE SUPPORT REPRESENTATIVE

2   ROLE SUMMARY

One sentence description:	Customer service representatives provide information to customers about a company's or organisation's services, products and policies. They resolve product and service problems and provide assistance to customers interacting with the company's online presence.
Level of autonomy:	Customer service representatives generally work as part of a team reporting to a team leader, in either the customer service department of a large company or at dedicated call centre company.
Use of ICT:	Customer service representatives work on a personal computer, in an office environment, using email, chat and phone software to connect with customers, and CRM software to check customer records and log customer interactions.
Mission:	The customer service representative provides a value-added service to a company's or client's customer base.

3   TYPICAL WORK ACTIVITIES

1	Identify the nature of the customer's call such as technical issue, service problem, complaint or query.
2	Attract potential customers by answering product and service questions; suggesting information about other products and services.
3	Create new customer records and maintain existing customer records.
4	Provide user level support to a customer by walking them through a process or interaction with the company online system/s.
5	Diagnose the cause of a product or service problem, identify a solution and take action to resolve it.
6	Escalate issues to the relevant colleague, manager or department.
7	Follow up on open issues or queries until they are resolved to the customer's satisfaction.

8	Generate service reports, customer feedback surveys or call summaries for a team leader/manager.

4 COMPETENCES

F	FUNCTIONAL COMPETENCES	*Mapping to DigComp 2.1 – competence and level*	*Mapping to e-CF – competence and level*
1	Locate, retrieve and verify customer records.	1.1 Browsing, searching and filtering data, information and digital content L5 1.2 Evaluating data, information and digital content L5 1.3 Managing data, information and digital content L5	
2	Create new and maintain existing customer records.	1.2 Evaluating data, information and digital content L5 1.3 Managing data, information and digital content L5	
3	Use a variety of communication tools such as email, messaging, VOIP to communicate with customers, colleagues and managers.	2.1 Interacting through digital technologies L7	
4	Keep records of customer interactions.	1.3 Managing data, information and digital content L5	
5	Generate service reports.	1.2 Evaluating data, information and digital content L5 1.3 Managing data, information and digital content L5	
5	Resolve product or service issues.	5.2 Identifying needs and technological responses L6 5.1 Solving technical problems L6 2.1 Interacting through digital technologies L7 2.4 Collaborating through digital technologies L6	C.1 User Support e-1 C.3 Service Delivery e-1

B	BEHAVIOURAL COMPETENCES
1	Manage large amounts of incoming calls
2	Active listening
3	Exchange information verbally
4	Exchange information in written format

5	Work methodically to meet deadlines
6	Multi-task, prioritise, manage time effectively
7	Establish customer rapport

A	ATTITUDES (*You are…*)
1	Systematic in your approach
2	Engaging
3	Patient
4	Attentive
5	Adaptable
6	Resilient
7	Results-oriented

1	PERSONAL/ PROJECT ASSISTANT

2	ROLE SUMMARY

One sentence description:	Personal assistants carry out a variety of liaison, coordination and administrative tasks for an individual, team or organisation.
Level of autonomy:	Personal assistants work under direction from a manager, team leader or management team.
Use of ICT:	Most of the time, personal assistants work on a personal computer, in an office environment, using office applications, and internal business platforms.
Mission:	Personal assistants support a manager and/or help a team, division, office or organisation run smoothly.

3	TYPICAL WORK ACTIVITIES

1	Perform routine office tasks
2	Maintain diaries, schedule appointments, arrange travel
3	Set up meetings – in person and remotely
4	Event planning and logistics
5	Perform project support tasks such as managing project assets
6	Assist in the preparation of budgets, monitoring expenditures, drafting contracts and purchasing or acquisition orders.
7	Carry out research and present findings.

| 8 | Liaise with clients, suppliers, customers, partners and stakeholders. |
| 9 | Promote the company and its activities through social media channels |

4 COMPETENCES

F	FUNCTIONAL COMPETENCES	Mapping to DigComp 2.1 – competence and level
1	Use a word processing application to create, edit and save documents.	3.1 Developing digital content L6 3.2 Integrating and re-elaborating digital content L6
2	Use a spreadsheet application to create, edit and save financial and/or statistical information.	3.1 Developing digital content L5 3.2 Integrating and re-elaborating digital content L5
3	Use a variety of communication tools such as email, messaging to communicate with colleagues, managers, teams, clients and stakeholders.	2.1 Interacting through digital technologies L5 2.2 Sharing through digital technologies L5
4	Set up and manage online meetings.	2.1 Interacting through digital technologies L5 2.2 Sharing through digital technologies L5
5	Conduct online research.	1.1 Browsing, searching and filtering data, information and digital content L4 1.2 Evaluating data, information and digital content L4
6	Use a presentation tool to present findings and prepare slide decks for meetings.	3.1 Developing digital content L4 3.2 Integrating and re-elaborating digital content L4 5.3 Creatively using digital technologies L4
7	Manage, save, organise and retrieve correspondence, documentation, project assets.	1.3 Managing data, information and digital content L4
8	Post on social media through company accounts, create blog or news items for company websites.	2.1 Interacting through digital technologies L5 2.2 Sharing through digital technologies L5

B	BEHAVIOURAL COMPETENCES
1	Collaborate with other professionals
2	Exchange information verbally
3	Communicate ideas and messages in written format
4	Apply organisation techniques
5	Apply listening techniques
6	Learning to learn

A	ATTITUDES (*You are…*)
1	Open-minded
2	Emotionally intelligent

3	Adaptable
4	Systematic
5	Focused on detail

1 TESTER – QUALITY ASSURANCE

2 ROLE SUMMARY

One sentence description:	Testers test software, applications or services, following test plans. Testers sometimes design these test plans.
Level of autonomy:	Testers typically work as part of a team within the IT department of large organisations or in Tech sector companies.
Use of ICT:	Testers work on a personal computer, in an IT department, using common office applications but also may access specialised test software.
Mission:	Testers ensure that applications function properly before delivering them to internal and external clients.

3 TYPICAL WORK ACTIVITIES

1	Execute software tests.
2	Perform software unit, module and end-to-end testing.
3	Write software testing documentation.
4	Replicate customer software issues.
5	Report test findings.

4 COMPETENCES

F	FUNCTIONAL COMPETENCES	Mapping to DigComp 2.1 – competence and level	Mapping to e-CF – competence and level
1	Performs simple tests according to detailed instructions. (e-CF Testing)	1.2 Evaluating data, information and digital content L6	B.3 Testing e-1
2	Know and implement the appropriate techniques and tools to be used in the testing process.		B.3 Testing, K1
3	Organise test programmes and build test scripts.	3.4 Programming	B.3 Testing e-2
4	Records and reports outcomes providing analysis of results.		B.3 Testing e-2
5	Use a variety of communication tools such as email, messaging, online	2.1 Interacting through digital technologies L7	

		2.2 Sharing through digital technologies L7	
	meetings to communicate with colleagues, managers, clients and stakeholders.	2.4 Collaborating through digital technologies L7	

B	**BEHAVIOURAL COMPETENCES**
1	Work independently
2	Address problems critically
3	Exchange information in written format
4	Employ a systematic approach
5	Follow a plan

A	**ATTITUDES** (*You are…*)
1	Focused on detail
2	Logical
3	Analytical
4	Results-oriented
5	Problem-solver
6	Open-minded

1 DATA PROTECTION SPECIALIST

2 ROLE SUMMARY

One sentence description:	Data Protection officers ensure that an organisation processes the personal data of its staff, customers, providers or other individuals in compliance with the applicable data protection rules.
Level of autonomy:	Data Protection officers work as a member of staff within an organisation of any size but there are strict rules around supporting the data protection officer in performing his/her duties independently.
Use of ICT:	Data Protection officers work on a personal computer, in an office environment, using common office applications to carry out their work.
Mission:	Data Protection Officers can help an organisation demonstrate compliance with GDPR legislation and are part of the enhanced focus on accountability.

3 TYPICAL WORK ACTIVITIES

1	Inform and advise the organisation and its employees about their obligations to comply with the GDPR and other data protection laws.

	2	Assist in the development of the organisation's data protection and privacy policies and other statements.
	3	Monitor compliance with the GDPR and other data protection laws, and with the organisation's data protection polices, including raising awareness of data protection issues, training staff and conducting internal audits.
	4	Advise on, and monitor, data protection impact assessments.
	5	Be the first point of contact and cooperate with the national data protection authority.
	6	Keep up to date with latest EU GDPR developments.

4

COMPETENCES

F	FUNCTIONAL COMPETENCES	Mapping to DigComp 2.1 – competence and level
1	Expert knowledge of EU GDPR and National Data Protection legislation	4.2 Protecting personal data and privacy L8
2	Evaluate, monitor and make recommendations around the organisation's data processing procedures.	1.2 Evaluating data, information and digital content L8 5.2 Identifying needs and technological responses L8
3	Analyse risk, prioritise accordingly.	
4	Explain legal terms and concepts in everyday language to a diverse audience.	
5	Coordinate with data processors and controllers.	2.1 Interacting through digital technologies L6 2.2 Sharing through digital technologies L6 2.4 Collaborating through digital technologies L6
10	Use a variety of communication tools such as email, messaging, online meetings to communicate with colleagues, managers, customers and data protection authorities.	2.1 Interacting through digital technologies L6 2.2 Sharing through digital technologies L6 2.4 Collaborating through digital technologies L6

B	BEHAVIOURAL COMPETENCES
1	Collaborate with other professionals, teamwork
2	Exchange information verbally
3	Communicate information in written format
4	Problem solve
5	Show leadership

A	ATTITUDES (*You are…*)

1	Detail oriented
2	Patient
3	Responsible
4	Ethical

1 GRAPHIC DESIGNER

2 ROLE SUMMARY

One sentence description:	Graphic designers create text and images to communicate ideas. They make visual concepts by using computer software, intended for publishing in paper or online media such as advertisements, websites, and magazines and other interactive media.
Level of autonomy:	Graphic designers can be self-employed, can work for a graphic design/print services company reporting to a creative director or be solely responsible for graphic design within a small to medium enterprise.
Use of ICT:	Graphic designers work on a personal computer, in an office environment, or sometimes at home, and use graphic design software to carry out their work.
Mission:	Through the creation of graphics, graphic designers help an organisation or client to more effectively communicate a message, campaign, or promote the organisation, its brand/s and product/s.

3 TYPICAL WORK ACTIVITIES

1	Interpret a client's requirements.
2	Perform market research.
3	Prepare rough drafts and present ideas through sketches, idea boards etc.
4	Create and update graphic designs such as logos, photos and illustrations.
5	Develop layout and production design for advertisements, brochures, websites, product packaging and corporate reports.
6	Test graphics across various media
7	Adhere to a graphic design process and/or project plan.
8	Liaise with copywriters, creative directors, clients and stakeholders.

4 COMPETENCES

F	FUNCTIONAL COMPETENCES	Mapping to DigComp 2.1 – competence and level

1	Translate requirements concepts into visual design.	3.2 Integrating and re-elaborating digital content L8 5.2 Identifying needs and technological responses L8 5.3 Creatively using digital technologies L8
2	Perform market research.	1.1 Browsing, searching and filtering data, information and digital content L8 5.2 Identifying needs and technological responses L8
3	Use stock image libraries.	1.1 Browsing, searching and filtering data, information and digital content L8 3.2 Integrating and re-elaborating digital content L8
4	Know and comply with copyright regulations and publication formats.	3.3 Copyright and licences L8
5	Use graphic design software to create graphics and images.	3.2 Integrating and re-elaborating digital content L8 3.1 Developing digital content L8 5.3 Creatively using digital technologies L8
6	Know and use typography in designs.	3.1 Developing digital content L8 5.3 Creatively using digital technologies L8
7	Use desk top publishing software to create page layouts.	3.2 Integrating and re-elaborating digital content L8 3.1 Developing digital content L8 5.3 Creatively using digital technologies L8
8	Create prototypes and gather client feedback.	5.2 Identifying needs and technological responses L8 2.4 Collaborating through digital technologies L7 2.2 Sharing through digital technologies L7
9	Follow a graphic design process.	5.2 Identifying needs and technological responses L8 1.1 Browsing, searching and filtering data, information and digital content L8 3.2 Integrating and re-elaborating digital content L8 3.1 Developing digital content L8 5.3 Creatively using digital technologies L8
10	Use a variety of communication tools such as email, messaging, online meetings to communicate with colleagues, managers, clients and stakeholders.	2.1 Interacting through digital technologies L7 2.2 Sharing through digital technologies L7 2.4 Collaborating through digital technologies L7

B	**BEHAVIOURAL COMPETENCES**
1	Collaborate with other professionals, teamwork
2	Exchange information verbally
4	Communicate ideas and messages in sketch and graphical format
5	Work methodically to meet deadlines
6	Multi-task

A	**ATTITUDES** (*You are…*)
1	Focused on aesthetics and detail
2	Passionate
3	Creative
4	Adaptable

5	Resilient
6	Results-oriented

1	**JUNIOR WEB DEVELOPER**

2	**ROLE SUMMARY**

One sentence description:	Web developers develop, implement, maintain and update web accessible software based on the designs provided. They align the client's web presence with its business strategy, troubleshoot software problems and issues and look for ways to improve the application.
Level of autonomy:	Junior web developers typically work as part of a team, under direction, in a large organisation, but can hold sole responsibility for the company's web presence in a small or start-up enterprise.
Use of ICT:	Junior web developers work on a personal computer, in an IT department or office environment, or sometimes at home, using web development and programming software and access to the organisation's back-end IT systems.
Mission:	Junior web developers, as part of team, design, develop and maintain websites that drive the business growth of the client/organisation.

3	**TYPICAL WORK ACTIVITIES**

1	Interpret a client's requirements.
2	Create web pages based on a provided design specification.
3	Create new website and individual web pages.
4	Update existing websites with new content, create new concepts.
5	Keep existing websites functional.
6	Liaise with clients, suppliers, customers, partners and stakeholders.

4	**COMPETENCES**

F	**FUNCTIONAL COMPTENCES**	**Mapping to DigComp 2.1 – competence and level**	**Mapping to e-CF – competence and level**
1	Translate requirements concepts into visual design.	5.1 Solving technical problems L8 5.2 Identifying needs and technological responses L8 5.3 Creatively using digital technologies L8	A.6 Application Design L2

2	Implement front-end website design.	5.3 Creatively using digital technologies L8	B.4 Solution Deployment L3
3	Use software libraries.	3.2 Integrating and re-elaborating digital content L8	B.1 Application Development L3
4	Write code using web programming techniques.	3.4 Programming L8 5.2 Identifying needs and technological responses L8	B.1 Application Development L3 B.3 Testing L2
5	Use web editors or web authoring tools.	3.1 Developing digital content L8 3.4 Programming L8	B.1 Application Development L3
6	Know and apply style sheets languages.	3.4 Programming L8	B.1 Application Development L3
7	Follow user experience guidelines.	5.2 Identifying needs and technological responses L8	A.6 Application Design L2
8	Follow a content development process.	5.2 Identifying needs and technological responses L8	Solution Deployment L3
9	Create prototypes and gather client feedback.	5.1 Solving technical problems L8 5.2 Identifying needs and technological responses L8 2.4 Collaborating through digital technologies L8	B.1 Application Development L3 B.3 Testing L2
10	Monitor websites check for software updates.	5.2 Identifying needs and technological responses L8	
11	Identify issues, modify web pages to resolve issues.	5.1 Solving technical problems L8 5.2 Identifying needs and technological responses L8	C.4 Problem Management L3 B.4 Solution Deployment L3
12	Use a variety of communication tools such as email, messaging, online meetings to communicate with colleagues, managers, clients and stakeholders.	2.1 Interacting through digital technologies L7 2.2 Sharing through digital technologies L7 2.4 Collaborating through digital technologies L7	
13	Write technical documentation.	3.1 Developing digital content L7 1.3 Managing data, information and digital content L8	B.5 Document Production L3

B	BEHAVIOURAL COMPTENCES
1	Collaborate with other professionals, teamwork
2	Exchange information verbally
3	Communicate ideas and messages in written format
4	Problem solving
5	Logical thought
6	Multi-task

A	ATTITUDES (*You are…*)
1	Open-minded
2	Passionate
3	Creative
4	Adaptable
5	Resilient
6	Results-oriented

1 DATA ANALYST

2 ROLE SUMMARY

One sentence description:	Represents business challenges through mathematical.
Level of autonomy:	Data analysts import, inspect, clean, transform, validate, model, or interpret collections of data with regard to the business goals of the company.
Use of ICT:	Data analysts typically work in an office environment or in the IT department of a company. They collaborate with IT staff, marketeers, executives and salespeople, presenting results to internal clients such as business unit managers and/or the senior management team.
Mission:	Data analysts work on a personal computer using various software as demanded by the situation and the current data, from common spreadsheet applications up to business intelligence and specialised data analytical tools. These tools are used to prepare reports in the form of visualisations such as graphs, charts, and dashboards.

3 TYPICAL WORK ACTIVITIES

1	Analyse big data
2	Apply statistical analysis techniques
3	Collect ICT data
4	Define data quality criteria
5	Establish data processes
6	Execute analytical mathematical calculations
7	Handle data samples
8	Integrate ICT data
9	Interpret current data
10	Perform data cleansing

	11	Perform data mining	

4 COMPETENCES

F	FUNCTIONAL COMPETENCES	Mapping to DigComp 2.1 – competence and level	Mapping to e-CF – competence and level
1	Gather internal and external knowledge and information needs	1.2 Evaluating data, information and digital content L8	
2	Translate /reflect business behaviour into structured information		D.10 Information and Knowledge Management e-5
3	Formalise customer requirements		D.11 Needs Identification e-4
4	Ensure that IPR and privacy issues are respected	4.2 Protecting personal data and privacy	
5	Capture, storage, analyse, data sets, that are complex and large, not structured and in different formats	1.2 Evaluating data, information and digital content L8 3.4 Programming L4	D.10 Information and Knowledge Management e-5 E.1 Forecast Development e-4
6	Deliver visual presentation of data	3.1 Developing digital content L7	
7	Report analysis results		E.1 Forecast Development e-4
8	Use a variety of communication tools such as email, messaging, online meetings to communicate with colleagues, managers, clients and stakeholders.	2.1 Interacting through digital technologies L7 2.2 Sharing through digital technologies L7 2.4 Collaborating through digital technologies L7	

B	BEHAVIOURAL COMPETENCES
1	Work independently
2	Address problems critically
3	Communicate effectively – verbal and written formats
4	Employ a systematic approach
5	Use creative means to mine data

A	ATTITUDES (*You are…*)
1	Focused on detail
2	Innovative
3	Analytical

	4	Results-oriented
	5	A problem-solver
	6	A team player

Conclusions

As globalization and digitalization transform jobs, shortages in professional, technical and scientific occupations are created due to a low number of graduates in science, technology, engineering and mathematics (STEM), but also because formal education cannot adapt to the rapid changes and demands for new skills. So, the impetus for getting skills right is growing. People, especially those belonging to vulnerable groups such as women, will need a well-rounded set of skills (functional and behavioral) as well as specific attitudes, such as learning agility and motivation, to be able to utilize the benefits of the new technologies.

Job Analysis is the systematic process of obtaining information about the skills, duties and knowledge required for performing jobs in an organization. This information was used in the current report to develop job profiles to inform the training and career development of project target groups.

Eight digital job profiles have emerged from desk and field research aiming to improve the employability of young women by providing them with those skills that are needed by the labor market. The job profiles are: Digital Media Specialist, Customer Service Support, Personal/Project Assistant, Tester - Quality Assurance, Data Protection Specialist, Data Analyst, Junior Web developer and Graphic Designer. To meet some of these jobs' requirements, e-CF competences, and DigComp competences, that are complementary to the e-CF ones were included in the description to facilitate the development of training pathways.

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