



DC4WORK
Digital Competence 4.0



LEARNING IN A DIGITAL AGE – A JOB-RELATED APPROACH

White Paper

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Content

Introduction	3
1. Premises behind the study.....	4
1.1. SMEs as a privileged context of learning	4
1.2. Employees' digital competencies: a demand for digitalisation.....	5
2. Key-results of the study.....	6
2.1. Brief characterisation of the sectors	6
a. Tourism	6
b. Commerce/Trade	6
2.2. Digital competences in tourism and trade sectors: Needs and trends.....	7
3. Business benefits	9
3.1. Prerequisites of companies.....	9
3.2. Guidelines for "Digital Competencies promoter" in SMEs.....	10
3.3. Competencies to be integrated in the training	10
3.4. Online Toolbox 4.0	11
Sources	12

Introduction

In 2018, a comprehensive study was held in Germany, Austria, Finland and Portugal aiming at knowing the policies and awareness of the SMEs of tourism and trade sectors related to their employees' digital competences. The main goal of the study was to understand the level of awareness and existent practices in SMEs of these sectors, concerning the evaluation, promotion and development of employees' digital competencies at their workplace.

The study included desk research and fieldwork¹ and contributed to identifying:

1. key-digital competencies required by SMEs of Tourism and Commerce/Trade sectors;
2. mismatches between employers' qualification/competencies and SME's needs (in these sectors) and
3. flagship initiatives of practices existent in SMEs, suitable to be used as a benchmark.

As a result of this study, two documents were structured and published:

1. ***Work-based learning in a Digital Age: a study on training needs and trends of the Tourism and Trade sector***², a final report introducing the methodology and instruments used in the study and with the main findings from the study;
2. ***Learning in a Digital Age – a Job-related Approach***, this white paper that includes the relevant information collected along the study and relevant to the SMEs of the tourism and trade sectors.

In detail, this white paper is organised in 3 main chapters:

- **Premises behind the study** - Chapter in which are introduced the two premises in which the study was structure and that SMEs of the sectors of tourism and trade need to consider when preparing their approach on workers' digital competencies.
- **Key-results of the study** - The chapter that presents a brief analysis of the results achieved by the study held in Germany, Austria, Finland and Portugal.
- **Business benefits** - In this chapter is introduced an approach to support SMEs of the tourism and trade sectors to prepare and integrate a digital strategy in their companies.

Additionally, at the end of this white paper are also available sources to get further information and supports on the topic related to the assessment and development of workers' digital competencies in SMEs.

Key-words: Workers' digital competencies; Digitalisation in tourism; Digitalisation in commerce/trade.

¹ The study was organized in four main tasks – T1.1 desk research, T1.2 collection of surveys/implementation of focus group/interviews, T1.3 identification of flagship initiatives and T1.4 recommendations.

² The full report on the findings of the study can be found [here](#).

1. Premises behind the study

Two main premises were considered when structuring and implementing the study on digitalisation and on workers' digital competencies assessment and development in SMEs of the sectors of tourism and trade:

- 1. SMEs as a privileged context of learning**
- 2. Employees' digital competencies: a demand for digitalisation**

The study and the analysis of its main results were made based on these two premises. Besides being relevant for the study, the two premises are also relevant to SMEs aiming at adapting its workplace to the demand of digitalisation.

1.1. SMEs as a privileged context of learning

Companies are learning organisations in which new and experienced workers can learn and acquire and/or update their competencies. It is crucial to promote the awareness of companies' managers to the role of the companies in the initial and continuous learning and training of their workers, essential to:

- Guarantee the management of workers' knowledge and experience;
- Identify young qualified human resources to be integrated into the company;
- Promote the competitiveness of the company in accordance with economic and social challenges and demands.

This social responsibility of SMEs is even more relevant in the current days due to the digitalisation and work transformation happening in all business' sectors, including in tourism and commerce/trade sectors. So, companies' managers need to be aware of its role as a privileged context of learning and invest in the preparation of the company to:

- successfully assess workers' digital competencies;
- design tailor-made further digital education activities;
- create learning-friendly working conditions for workplace learning ("digital workplaces");
- set up a "Digital Culture", because effective digitisation begins in the mind of the employees.

How can this be done?

It is important to structure actions and initiatives fostering the shift of the mindset of companies' managers in what concerns the role and impact of the companies at social level. Besides having as a goal, the profit-making (economic responsibility), companies have also an important role and responsibility at the social level, namely to their workers (social responsibility). This social responsibility is related to various benefits that companies can bring to their employees, such as:

- reconciliation of personal, family and professional life;
- capacity building and career guidance, fostering the continuous improvement and career progression;
- recognition and valorisation of accomplishments and success.

1.2. Employees' digital competencies: a demand for digitalisation

Companies' digitalisation is leading to the transformation of the world of work and the emergence of new job profiles, mostly to guarantee that:

- along the introduction of new devices and digital media at the workplace, companies also promote the comprehensive digital competencies of its workers;
- there is effective management of information, promoting the active social inclusion and increasing the capacity of employability of workers.

This means that it is important to:

- raise awareness of managers and prepare the companies for digitalisation;
- endow workers with the necessary knowledge and skills to accompany the companies' digital transformation.

How this can be done?

Mostly by planning and implementing a set of initiatives, including:

- awareness campaigns to raise the workers' awareness related to their role in the digitalisation process of the company;
- informal learning at the workplace using ICT, promoting the employees' digital competencies;
- strategies for the assessment of workers' digital competencies having as starting point the [European Digital Competences Framework for Citizens](#) (DigComp);
- the continuous monitoring and update of workers' digital competencies at the workplace.

2. Key-results of the study

The study allowed to better understand the sectors in analysis and its needs and trends concerning the assessment and promotion of employees' digital competencies. In this chapter a brief characterisation of the sectors is provided along with the identification of its main needs and tends.

2.1. Brief characterisation of the sectors

From the results of the study, it was possible to make a brief analysis of the sectors in Germany, Austria, Portugal and Finland, allowing the identification of some similarities between the sectors of the four countries³.

a. Tourism

In the four countries, the tourism sector is characterised by being:

- represented, in large scale, by Small and Medium Enterprises (SMEs);
- one of the sectors growing, being strategic for the boost of National economies;
- an International sector that is growing every year.

There are some differences related to the sector, in what concerns the digitalisation and the promotion of digital competencies of the workers. Nevertheless, it is clear that the development of strategies and programmes for both (industry/services digitalisation and the development of digital competencies of workers) is a growing need in all countries.

b. Commerce/Trade

This sector is also important in the four countries and widely represented by SMEs in Germany, Austria, Portugal and Finland. As in the tourism sector, commerce/trade represent an important sector in the countries and is growing as well. However, the subsector in which they are growing is different.

The digitalisation of this sector in the four countries is a demand of the customers, nonetheless, many companies are not ready to incorporate it and to invest in the promotion of workers digital competencies. This means that an investment in raising the awareness of the companies related to the impact of the digitalisation in the sector and in capacity building programmes is crucial for the continuous growth, competitiveness and innovation of the sector.

³ The full report on the findings of the study can be found [here](#).

2.2. Digital competences in tourism and trade sectors: Needs and trends

From the results of the study, it becomes clear that:

- The demand of digitalisation in tourism and trade sectors is occurring in different speeds (it is faster in tourism) and the drivers are also different (tourism: as an answer to the competitiveness of the sector; trade: as a demand of the costumers).
- Digital technologies are widely used in the companies of tourism and commerce/trade: more than half of the organisations have **Desktop PC (88,5%)**, **Smartphones (85,8%)**, **Notebooks with Web Access (69%)** and **Tablet (54,0%)**.
- Most part of the organisations display of the necessary media needed to workers perform their activities, includes the existence of: office software (98,2%), safety media and office software (93,8%), social media and networks and search engines (86,7%), communication and collaboration media (72,6%), intranet/virtual private network (69,0%), cloud services (68,1%) process software (66,4%).
- Many functions of these sectors require the use of key digital competencies, namely: communication and collaboration, safety and content creation.
- Despite companies recognise that they can benefit from having a strategy for the evaluation and development of employees' digital competencies, the reality shows that most of the companies, particularly the SMEs, don't have a strategy for this, mostly due to lack of vision, know-how, time and investment to do it.
- It is crucial to companies to know the digital potential of their workers and how they can benefit from it, however, this is not being done, mostly due to the lack of knowledge and the existence of constraints in the assessing of workers digital competencies.

Despite the demand for digitalisation and the fact that many organisations in the two selected sectors have the adequate devices and media to support employees in their daily work (more evident in the tourism sector), the results of the study indicate that:

- The generality of the companies, in particular SMEs of these sectors, don't have a structured and formal strategy fostering the acquisition and development of workers' digital competencies. This also applies to the cases in which companies recognise this strategy as being relevant.
- It seems that companies are not aware of the digital potential and competencies that their workers have, mostly because they do not know how to assess the workers' digital competencies.
- In the perspective of the organisations, their workers have the necessary competencies to use the devices and media available in the company. However, at the same time, they mention that the employees have the potential to use those devices and media in a more efficient way.

Considering this, **why are not companies investing in the development of their digital strategy and providing training to foster the acquisition and development of their employees' digital competencies?**

In accordance with the results, this is happening mostly due to the lack of the:

- Know-how of companies to assess workers' digital skills, essential to plan training to strengthen these skills;

- Expertise of companies to structure and provide specific training on digital skills;
- Vision, time and investment of the companies to do it.

So, how can SMEs overcome these gaps?

To successfully answer to the demand of Industry 5.0 and to the digitalisation of the sectors, it is important that companies think on the:

- definition, monitoring and implementation of a digital strategy, fostering the assessment and promotion of workers' digital competencies;
- identification of an employee responsible for the definition, monitoring and implementation of the company digital strategy – the "digital competencies promoter" in SMEs.

To prepare and guide SMEs of the two sectors on this, three main supports are being designed, fostering the embrace of digitalisation by SMEs (see Figure 1.):



FIGURE 1 – IDENTIFICATION OF THE THREE SUPPORTS TO BE AVAILABLE TO SMEs OF THE TOURISM AND TRADE SECTORS.

In the next chapter, some relevant information about the guidelines and online toolbox is provided.

3. Business benefits

Digitalisation is changing the way companies are organised and the way people work. These changes are increasing very fast in the last seven years and being a challenge, to SMEs' managers and workers from different European countries and sectors. Companies are, every day, more aware of the need for investing in the strengthening of workers' digital competencies along with the monitoring of companies needs related to digitalisation. However, and despite the emergence of Industry 5.0, SMEs are still struggling with the need for investing in the acquisition and development of workers' digital competencies 2.0. It is clear, that employees' capacity building in SMEs is not matching the speed of digitalisation and Industry 5.0 and that SMEs need to invest in the promotion of basic digital skills of their workers.

In this chapter are presented the SMEs prerequisites for the definition and integration of a digital approach in the human resources management, introducing also the main outcomes of the support identified in Figure 1.

3.1. Prerequisites of companies

It is time for action and VET-Business cooperation is required to bring SMEs from "Management 1.0" to "Digital Empowering Leadership", fostering an active development of digital competencies of employees at their workplaces.

First, it is important to prepare the companies at different levels, which includes:

- Design and integration of interfaces in the company (e.g. human-machine, human-human and human-object);
- Preparation of the working space for the integration and use of technology, attending to the demographic differences (e.g. ageing of the workers, integration of younger generations, multigenerational teams);
- Definition of strategies fostering the acceptance of the use of technologies and legal handling of personal data by workers;
- Definition of strategies fostering the development of digital competencies and qualification of workers, with a focus on the low-skilled workers.

Once having SMEs aware of all these aspects, it is important to raise the awareness of the company employees as a privileged context of learning, essential for them to see their company as a learning organisation, willing and prepared to:

- create digital competencies assessments of its employees;
- design tailor-made further digital education activities;
- create learning-friendly working conditions for workplace learning ("digital workplaces"); networked learning; learning on the job, experienced-based learning and to offer more specific time to learn! set up a "Digital Culture", because effective digitisation begins in the mind of the employees.

3.2. Guidelines for “Digital Competencies promoter” in SMEs

The **guidelines for “Digital Competencies promoter” in SMEs** is a document introducing the work-based learning 4.0 curricula and some recommendations on how to implement it in the companies.

Addressed to managers/employees' responsible, these guidelines will provide the necessary information to support companies in the design of the digital strategy for the assessment and development of workers' digital competencies. The use of these guidelines requires some preparation from the companies (see “Prerequisites of companies”) and some reflection around the following key questions:

1. What do I understand within digital competence in the company context?
2. Do you have a strategy to develop and evaluate digital skills of your employees?
3. Is there any need for further training for your employees relating their digital skills and competencies?
4. Do you have the willingness to invest in digital competencies training of your employees?
5. What contents/topics do you think are most important for the training?
6. How can digital skills be trained most efficiently?

After thinking and answering to these questions, you are ready to work on the definition, implementation and monitoring of the digital strategy of your company for the assessment and development of workers' digital competencies of the company.

3.3. Competencies to be integrated in the training

The starting point for the design of the work-based learning 4.0 curricula to be integrated in the **guidelines for “Digital Competencies promoter” in SMEs** is **The European Digital Competence Framework for Citizens (DigComp)**.

DigComp is organized in five key areas and 21 competences, as follows (see Figure 2.):

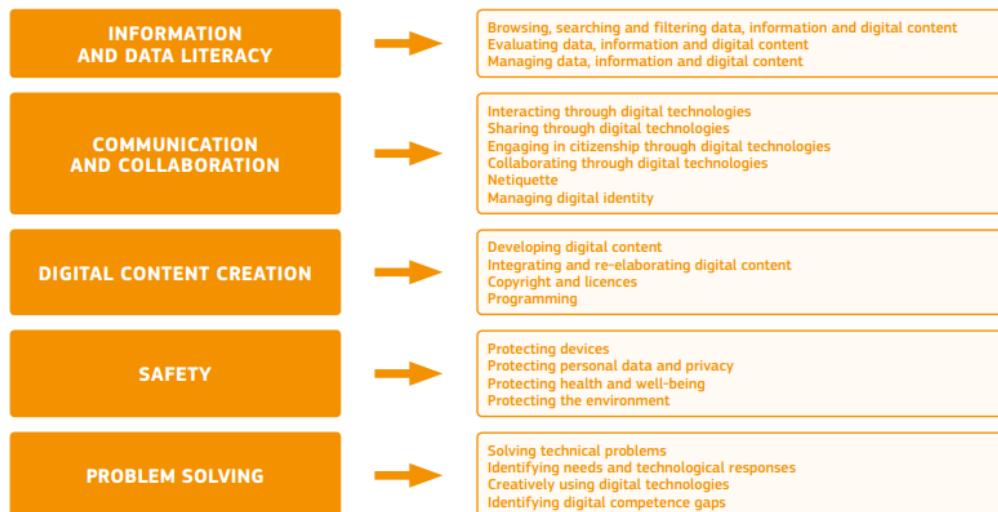


FIGURE 2 – Identification of 5 key areas and 21 competencies integrated into the DigComp4.

⁴ Image extracted from the document “The European Digital Competence Framework for Citizens”, of the European Union, available [here](#).

Thus, the curricula for the “Digital competencies promoter” in SMEs will be designed based on this framework and, additionally, will also integrate other areas and competencies related to the digitalisation of the companies, work-based learning 4.0, digital competencies applied to the tourism sector and digital competencies applied to the commerce/trade sector.

3.4. Online Toolbox 4.0

Along with the guidelines, an online toolbox 4.0 will also be designed and made available to companies of the sectors of tourism and commerce/trade. The toolbox 4.0 is aiming at:

- supporting the “Digital competence promoter” in SMEs, in the implementation and monitoring of the digital strategy;
- supporting the SMEs’ managers and/or promoter in the preparation and implementation of awareness-raising activities and capacity building initiatives in the company.

The toolbox will be available online and comprises a set of complementary tools and materials, considered essential to support companies on:

- Preparation of the company and its employee for digitalisation;
- Definition, implementation and monitoring of the strategy for the assessment and development of workers’ digital competencies;
- Raise awareness and commitment of workers in the process.

As a complement to the guidelines and toolbox, *digital competencies promoter*, managers and/or human resources managers can also have access to 30 good practices identified in Germany, Austria, Finland and Portugal. These practices are accessible [here](#) and are great opportunities for inspiration and engagement on the process of definition and implementation of the digital competencies’ strategy of SMEs.

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