TechCMS

Technology-enhanced
Career Management Skills for Adults

Work Package2: Mapping of existing practices, best practices and Needs' Assessment (D2.1. Mapping of existing CMS practices in participating countries)

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Introduction

In this deliverable we attempt to present the reflection regarding CMS in a "virtual" environment. In order to make this possible, a brief reference will be made to the project itself and its goals, requirements and challenges. In this context, reference will be made to the general definitions of CMS and to the new needs arising within the EU framework for Career Management Skills. The above aim is not only to make a simple presentation of the literature but also to present a reasoning on the basis of which we were led to lists of skills suitable for the quantitative field research carried out. The purpose of this report is to present the most important works/projects Implemented in recent years in the field of CMS. Emphasis will be placed on identifying the selected "points of view" in order to capitalize on past experience in creating a 'List of Skills' necessary for the participation (of individuals and institutions) in a virtual environment.

This list of skills will provide us the basis for developing the questionnaire used in D.1.3 "Needs Assessment Report".

Our study begins with the presentation of the field of Tech CMS project. We then continue with the analysis of current situation of Career Management Skills in EU focusing on specific flagship policies and practices. We proceed with defining the framework for adopting skills for the TechCMS project taking into account the specific conditions in the countries of the consortium followed by an analysis of the priorities and limitation we have to consider within the context of our project. We complete our study with the major conclusion and with two lists of specific skills for individuals and professionals respectively cited in the annexes.

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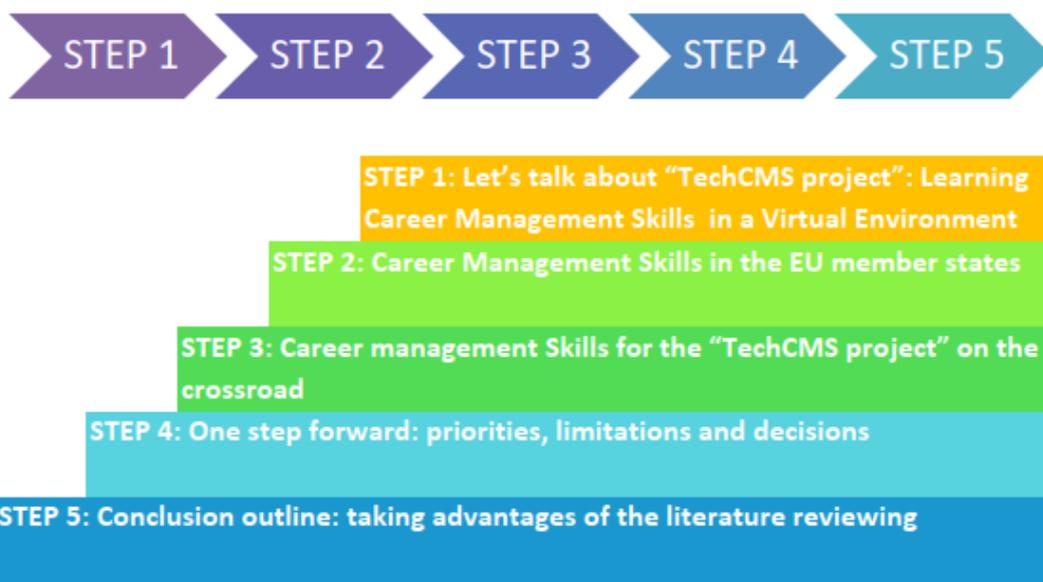
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1. Let's talk about "TechCMS project": Learning Career Management Skills in a Virtual Environment

Background and concept of "TechCMS project"

The main aim of the TechCMS project is to develop and deliver an innovative Virtual Career Guidance and Learning Centre and an on-line Self-Assessment Tool, in order to enhance the capacity of careers workers, through training, to provide CMS guidance to individuals and empower the latter's CMS through the use of technology. TechCMS project directly addresses Priority 3 - Promoting innovative technology in the field of providing career guidance, by implementing a carefully designed grid of inter-connected activities, at the core of which, needs-oriented content, user-centred practice and evidence-based policy, intersect. TechCMS develops innovative career guidance services and innovative tools for career management for individuals, through the delivery of a Virtual Career Guidance and Learning Centre and an on-line Self-Assessment Tool, of the TechCMS Catalogue and Learning Model and training material to be utilized in the delivery of capacity building training for careers professionals and by the provision of career guidance and learning services to individuals.

More specifically, the specific objectives of the project, as corresponding to the overall call's objectives as well as the Priority 3 ones, are:
1. To establish a multi-stakeholder transnational partnership in the area of technology-enhanced CMS, comprising of Chambers of Commerce and Industry, Confederations of professionals, European Association of Career Guidance, adult and vocational training and career guidance centres, and ICT and research companies, thus supporting transnational cooperation and mutual learning on forward-looking issues among key stakeholders, empowering those key stakeholders in developing and mainstreaming policy innovation, and promoting innovation in education and training fields through European cooperation at both policy and practice levels.

2. To deliver high-quality, in-depth research and analysis products on the current situation in CMS in the participating countries, on good and best practices in the field in the EU and internationally, and on the needs of the target-groups, though the implementation of WP2 tasks, thus facilitating the collection and analysis of evidence to substantiate innovative policies and practices.

3. To translate research and analysis findings of WP2 into concrete practice contributing to national and EU-level policy-making, through the development of the TechCMS Catalogue and Learning Model, which: a) is a catalogue of skills clearly described in terms of knowledge, skills and attitudes with each skill mapped to differing levels of proficiency, b) provides the roadmap for the design and development of the training content addressed to i)careers workers and ii)individuals, as well as the corresponding practice to follow in WPs 5 and 6, thought capacity-building training for the former and career guidance and learning for the latter, c) provides the context for the design and development of the TechCMS Virtual Career Guidance & Learning Centre and the TechCMS Self-Assessment Tool. In particular,

with reference to the Tool, the TechCMS Catalogue, constitutes the reference framework for the self-assessment of the users, and d) constitutes by itself a contribution of major importance to national policy-making in the participating countries (participating countries either lack a comprehensive national CMS framework – Catalogue, or weakly implement an existing one) and, thus to EU policy claims for an EU-wide CMS framework.

4. To develop and deliver an innovative Virtual Career Guidance and Learning Centre and an on-line Self-Assessment Tool, to design and develop innovative training material to be utilized in the delivery of capacity-building training for careers professionals and in the provision of career guidance and learning services to individuals, thus developing innovative career guidance services and innovative tools for career management for individuals.

In conclusion, the main aim and specific objectives of the TechCMS project are directly and fully addressing the Call General and Specific Objectives, as well as Call Priority 3 - Promoting innovative technology in the field of providing career guidance. Moreover, the TechCMS project fully addresses the three priorities defined by the New Skills Agenda, in response to the contemporary challenges of improving skills acquisition and development, reducing skills mismatches, and embracing the digital transformation of the economy:

> 1. Improving the quality and relevance of skills formation, through the enhancement of technology-enhanced CMS skills, the quality and relevance of which is widely acknowledged by relevant research and policy in national and EU levels
>
> 2. Making skills and qualifications more visible and comparable, though the development of the TechCMS Catalogue and Learning Model (WP3)
> 3. Improving skills intelligence and information for better career choices, though the development of the TechCMS Virtual Career Guidance & Learning Centre and the TechCMS Self-Assessment Tool (WP4), the TechCMS Training for professionals, and the TechCMS Guidance & Learning Services Provision for individuals .

Finally, TechCMS is in full line with the Strategic Framework for European Cooperation in Education and Training (ET2020), which is an integral part of the Europe 2020 Strategy, and the 2015 Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020).

Let's see closer: "TechCMS project" an effort with special requirements
European Policy promotes the development of CMS, and technology-enhanced career guidance aiming at widening citizens' access and employability, through lifelong learning, as means of contributing to the achievement of ET2020 targets. On the other hand, a specific implementation like TechCMS seems to have very specific specifications that should be taken into account.

"TechCMS project": one more digital platform or an answer to the contemporary challenges ("it's not the one without the other")

The Industrial 4 and the Future of Work

The contemporary World of Work is characterized by intense complexity and constant change. Finding and maintaining a job is a serious concern and anxiety for a large part of the population, as professional stability and permanence has been reduced. We are now moving away from a form of linear career in which the individual begins to work in a profession and continues in the same profession for a long time, and moves on to new forms of career often referred to as "unpredictable", "multifaceted", "unstable". "," Cyclical "and" transitional "(Hearne, 2010). The labor market no longer offers fixed "paths" on which employees can plan their careers (Savickas, 2001). As a result, the modern worker is called upon to take responsible initiatives, and to show greater personal responsibility in order to direct his life and effectively manage his career (Hall, 2004). At the same time, an issue that is constantly emerging today is the development of a "resilient" professionally human workforce, which requires continuous training and reconstruction (Council of The European Union, 2008. Field, 2010).

This seems to have serious implications for the professional development of the individual, as it makes career issues more complex and far-reaching than in the past and possibly more substantial. In particular, they become more complicated because the issue of career choice, which was a dominant component of professional development in the early 20th century, has been replaced in modern times by the ability of the individual to identify opportunities that are considered beneficial to himself (Guichard et al., 2012).

In order to answer these questions, the individual needs to develop an introspection ability, set life priorities, and redefine these key elements throughout his or her life (Sultana, 2011). Additionally, career issues seem to become more substantial, as they cannot be considered in isolation from personal ones. Each person, in order to interact effectively with others, needs to interpret himself and his actions in his own personal way and to determine the basic elements that give meaning and direction to his life (Guichard et al., 2012). Dealing with these issues is an important development project for one's life. This means that career is a matter of life planning (Savickas et al., 2009) and becomes a broader challenge.

Under the SARS-COV-2 era, TechCMS looks more relevant than ever

According to European Commission, "the current COVID-19 pandemic has shown how important digital assets has become to our economies and how networks and connectivity, data, AI and supercomputing as well as basic and advanced digital skills sustain our economies and societies by allowing work to continue, tracking the spread of the virus and accelerating the search for medications and vaccines" (EC, DESI index, 2020).

Therefore, the issue of formulating terms and procedures for exploring skills and needs for career management on an online level seems more relevant than ever.

Career learning pathways and lifelong learning

According to CEDEFOP1 flexible education systems enable learners to move within and across education, training and employment. Flexibility means that young people can adapt their learning pathway as they go along, to suit their interests and abilities.

The demand for a more flexible career has an impact on the future of a business. Executives must think about how they design people's workload and the way they work within the business, and with each other. Emerging technologies such as artificial intelligence and automation will create an environment of continuous learning. These digital tools will enable greater efficiency within the organization allowing employees to identify new roles and responsibilities that didn't exist before. As a result, with technology continuing to evolve, people can jump back into work at any point in their 'multi-stage life cycle' as there will always be a new skill that needs to be learnt or a new role that requires a human to fulfil it.

According to Jeffrey J. Selingo (2017), the world of work is undergoing a massive shift. Entire occupations and industries are expanding and contracting at an alarming pace, and the skills needed to keep up in almost any job are churning at a faster rate. The total amount of information in the world is increasing and the human knowledge is increasing as well Average human knowledge is doubling every 12 months (David Russell Schilling, 2013), and IBM predicts that in the next couple of years, the volume of information will double every 11 hours.

There are two simultaneous forces unset-tling workers who are wondering if there will be enough jobs in the future to gainfully employ them. First, automation and artificial intelligence threaten to displace not only blue-collar workers performing routine jobs, but white-collar employees in knowledge industries. Second, the emergence of the gig economy is reshaping the traditional employer-employee relationship as more contractors fill roles once reserved for full-time workers. Despite this demand for renewable learning (that's ongoing, self-driven or in-the-moment), college degrees continue to dominate the hiring process, while formal learning on-the-job or in the classroom often demands more time than learners have at critical moments in their lives and careers. Against this backdrop, we're witnessing the emergence of a new learning ecosystem that offers individuals at any stage of life more accessible, less expensive pathways to skills acquisition and higher wages. Rather than a higher education system that requires prospective students enroll in full-time programs to earn a degree, workers are demanding "plug and play" platforms that enable access to smaller bites of just-in-time education throughout their careers. No matter who supplies the renewable learning experiences, workers also need better guidance about various learning pathways. And as more workers become detached from traditional employers and make the move into the gig economy, they will have even more pressure to self-direct their own learning and decide what knowledge they're missing, where to acquire it, and how to fit learning into daily routines. Not just personalized learning, but personalized career pathing will fast become the new normal.

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[1]   https://www.cedefop.europa.eu/hr/toolkits/vet-toolkit-tackling-early-leaving/intervention-approaches/flexible-education-and-training-systems

Conclusion

The concept of lifelong learning is at least three decades old, becoming a popular concept in the 1960s and 1970s and reemerging the 1990s. As John Field observed, lifelong learning in the 1960s and 1970s was a humanistic and even radical concept, but since the 1990s, it has become increasingly based on economic needs and conservative in its implications. Since the 1960s, many industrialized countries have seen a continued increase in adult participation in lifelong education, and in some cases, the participation has increased faster than participation in formal education programs. The objective of lifelong learning is to help adults build the skills and knowledge to help them adapt to life stages and changes. Adult continuing education is an essential and popular part of lifelong learning;

It's a popular belief amongst many professionals that lifelong learning should be reserved for people who have reached a certain age and who need to learn new skills to stay employed. But, that's a misperception as lifelong learning can benefit everyone. This is especially true if you are interested in career development; lifelong learning could ensure professional development. That is why many people continue their education for personal development and fulfillment, while others see it as a significant step toward career advancement. And it is true also that the continuation of education can provide the benefit to an individual or the professional in multiple ways so that they can acquire new skills.

Various researches have been conducted which shows that the lifelong learning strengthens the overall economy, as the people can also continue their further education after they are recruited and hired somewhere. An individual can develop greater amount of skills, ability and the knowledge so that the organization could increase the greater capacity level in regards with the organizational economy.

CMS empower individuals to identify the skills they have and the ones they need to develop, to help them realize their potential at any stage in their life. Moreover, a workforce with CMS supports economic growth by putting the right people in the right jobs connecting the needs of people and businesses.

2. Career Management Skills in the EU

Career Management Skills: definitions and challenges ("Different languages, common understanding")

"The skills, knowledge and self- awareness to develop aspirational career aims and the confidence to take actions in one's life time and again as career opportunities arise and as work and learning options change".

The world of work is changing fast. New opportunities pop up every day. And these days, you're unlikely to be in a job for life. So, it's important to be ready to face unexpected changes. Having the right information, or knowing how to get it, helps when making decisions about what to do. That's where Career Management Skills (CMS) come in. In this changing world, the first step in taking control of your career management is developing the self-awareness to know your strengths and preferences, to understand your work values and future goals. They help us to understand ourselves and the world around us, and take control of our career with all its potential opportunities. There are many successful people who are extremely unhappy. Even though self-awareness — knowing who we are and how we're seen — is important for job performance, career success, and leadership effectiveness, it's in remarkably short supply in today's workplace. That means that there are employees who despite their success, their "hearts" just aren't in the work that they do. At the same time, there are many bright and talented people who never find the success they deserve. They can't seem to overcome some limiting weakness or they get stuck in a role that doesn't tap into their real abilities and they can't figure out what to change.

A number of careers and work areas require very specific skills. For example: Professionals like doctors, lawyers and accountants have to take professional exams, and may study for many years to develop their professional knowledge. On the other hand, practical work like plumbing or electrical installation may require specialist skills that can only be acquired through practice, training or an apprenticeship. But, in a few words, the competency is career management, the ability to strategically and proactively plan and run your own career.

Fifty years ago, most people expected to leave school or university, join an employer and stay there for most of their working life. Now, however, working life is much more flexible and few expect to have a 'job for life'. At the same time, recognition has grown that individuals have to do far more to manage their own working life, and their career. Generally, people no longer need skills to rise through a single employer. Instead, they need skills to create a meaningful, fulfilling career for themselves, and plan their own personal and career development. These are often known as career management skills. Career management skills are all the skills needed to control and manage your career journey, to plan your career, to set goals and to evaluate the progress of the achievement of the objectives set

This process of career planning and management is likely to be familiar to anyone who has ever done any kind of formal learning, especially involving a personal development element. It is a fairly standard process, but it is also important.

For the European Parliament Career Management Skills refer to a range of competences which provide structured ways for individuals and groups to gather, analyze, synthesize and organize self, educational and occupational information, as well as the skills to make and implement decisions and transitions. They are therefore of value to the individual in terms of constructing and implementing a life project in which work [...] occupies a central place."[2] The approach of the European Lifelong Guidance Policy Network (ELGPN) is in the same direction:[3] "Career management skills refer to a whole range of competences which provide structured ways for individuals and groups to gather, analyze, synthesize and organize self, educational and occupational information, as well as the skills to make and implement decisions and transitions". Also, "career management skills (CMS) are competencies which help individuals to identify their existing skills, develop career learning goals and take action to enhance their careers".[4]

Challenges for a comparative study on Career management Skills
Career management skills (CMS) are increasingly touted as necessary for all citizens, young and adult, particularly given the realities of employment and self-employment in a knowledge-based society, where 'protean', 'portfolio' careers are expected to increasingly become the norm, and lifelong career guidance an entitlement of all citizens.
In recent years, conducting cross-national comparative research has become one of the major directions of academic research. While this type of research has the potential to lead to fresh and deeper understanding of issues that are of central, it is not always easy to refine since it has many unique salient pitfalls that researchers must deal with.
Different terminology, different experiences, different institutions and mentalities, different institutional environments, and so on. Even in this task of identifying "good practices" a number of factors are involved that make research difficult.

EU framework for Career Management Skills: A priority for European Union

As already highlighted the European Policy promotes the development of CMS, and technology-enhanced career guidance aiming at widening citizens' access and employability, through lifelong learning, as means contributing to the achievement of ET2020 targets. In this content, career management skills (CMS) are competencies which help individuals to identify their existing skills, develop career learning goals and take action to enhance their careers. To enable careers professionals and other educators to help people to develop their career management skills a number of countries have developed CMS frameworks. These

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[2] EUROPEAN PARLIAMENT SKILLS DEVELOPMENT AND EMPLOYMENT: THE ROLE OF CAREER MANAGEMENT SKILLS , p. 13
[3] https://www.ncge.ie/sites/default/files/ncge/uploads/DrVuorinen_presentation_NFG.pdf
[4]
https://www.thecdi.net/write/AC2017/Keynote/SiobhanNeary_From_Matching_to_Constructing.pdf

frameworks provide a way to define the skills and attitudes which support individuals to effectively manage their careers and to progress through life.

Career Management Skills *in act: mapping existing practices*

The purpose of this chapter is to present the most important works/projects Implemented in recent years in the field of CMS. Emphasis will be placed on identifying the selected "point of view" in order to capitalize on past experience in creating a 'List/Catalogue of Skills' necessary for the participation (of individuals and institutions) in a virtual environment.

Career guidance is an essential component of modern education and training systems to (re-)orientate younger and older generations towards the acquisition of 21st century skills. Lifelong guidance has been receiving increasing attention at both European and national levels. Two Resolutions of the Education Council (in 2004 and 2008) have highlighted the need for strong guidance services throughout the lifespan to equip citizens with the skills to manage their learning and careers and the transitions between and within education/training and work. The Resolutions drew attention to four priority areas:

      1. the development of career management skills (CMS);

      2. accessibility of services;

      3. quality assurance and evidence base for policy and systems development;

      4. co-ordination of services.

Member States were invited to take action to modernise and strengthen their guidance policies and systems. The Erasmus + project (2014-2017) called: LE.A.DE.R. – Learning and Decision Making Resources aims of the project was a) to identify and develop teaching and learning approaches, methods and resources that effectively support the development of CMS as transversal key competences, b) to develop assessment and evaluation methods and practices that improve the quality of learning of Career Management Skills and c) identify and develop the integration of the European dimension in teaching and learning. This project has resulted in a very interesting CMS list which can inspire TechCMS without implying that it will be used as is.

LIST OF CAREER MANAGEMENT SKILLS ACCORDING TO ERASMUS + PROJECT (2014-2017) CALLED: LE.A.DE.R. – LEARNING AND DECISION MAKING RESOURCES

PERSONAL EFFECTIVENESS

I know who I am and what I am good at

I'm able to reflect on my strengths and address my weakness

I make effective decisions relating to my life, learning and work

I remain positive when facing setbacks

I make use of appropriate technologies to develop my career

I generate ideas that help me to achieve my goals

I can review my skills in relation to what employers are looking for

MANAGING RELATIONSHIPS

I can find and use information and the support of others for my career

I interact confidently and effectively with others

I build professional relationships and networks

I use social media networks

I understand the need to use social media to network for my career

FINDING AND ACCESSING WORK

I learn throughout life (engage in ongoing learning and ensure you have the skills, knowledge to remain employable)

I can find work and learning opportunities that are right for me

I seek new opportunities to build my career

I can develop skills which will help me to get what I want out of work

I develop the skills which will enable you make informed choices about available information

I can cope with changes in the world of work

MANAGING LIFE AND CAREER

I can make decisions and set career goals for myself within appropriate timescales

I manage my goals, my time and personal finances in a way that supports my career building

I am innovative and creative in my thinking about work that is right for me

I maintain a balance in life, learning and work that is right for me

I can cope with challenges and change which take place in life

UNDERSTANDING THE WORD

I understand how changes in society relate to my learning work

I understand how life, learning and work change over time

I can make a positive impact on society

I can make the most of opportunities I came across

I am open to opportunities including those in the other countries

Another case in the work of the Skills Development Scotland (SDS). The SDS[5] was asked by Scottish Government to establish a framework to help people to Scotland to develop career management skills. This framework sets out an approach to support the development and use of skills that best enable individuals to plan and pursue life, learning and work opportunities. The Skills Development Scotland has presented a particularly interesting classification of CMS (see, below).

Career Management Skills

Self	Strengths
Knowing who you are and how you fit into society	Knowing what you are good at, and how to make the most of those strengths
• I develop and maintain a positive self-image. • I maintain a balance that is right for me in my life, learning and work roles. • I adapt my behaviour appropriately to fit a variety of contexts. • I am aware of how I change and grow throughout life. • I make positive career decisions.	• I am aware of my skills, strengths and achievements. • I build on my strengths and achievements. • I am confident, resilient and able to learn when things do not go well or as expected. • I draw on my experiences and on formal and informal learning opportunities to inform and support my career choices.
Horizons	Networks
Knowing where you could go in life and how to get there	Knowing how to build relationships, ask for help and make the most of your social and professional network
• I understand that there is a wide variety of learning and work opportunities that I can explore and are open to me. • I know how to find and evaluate information and support to help my career development. • I am confident in responding to and managing change within my life and work roles. • I am creative and enterprising in the way I approach my career development. • I identify how my life, my work, my community and my society interact.	• I interact confidently and effectively with others to build relationships. • I use information and relationships to secure, create and maintain work. • I develop and maintain a range of relationships that are important for my career journey.

Source: Skills Development Scotland, Career Education Standard 3-18 Learning Resource 3: Introduction to Career Management Skills

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[5]https://www.skillsdevelopmentscotland.co.uk/media/34749/career_management_skills_framework _scotland.pdf

According to this classification the most important Career Management Skills are the following:

LIST OF CAREER MANAGEMENT SKILLS OF SDS

SELF

I develop and maintain a positive self-image

I maintain a balance that is right for me and my life

I adapt my behavior appropriately to fit a variety of contexts

I am aware of how I change and grow throughout life

I make positive career decisions

STRENGHTS

I am aware of my skills, strengths and achievements

I built on my skills and achievements

I am confident, resilient and able to learn when things do not go as well as expected

I draw on my experiences and on formal and informal learning opportunities to inform and support my career choices

HORIZONS

I understand that's a wide variety of learning and work opportunities that I can explore and are open to me

I know how to find and evaluate information and support to help my career development

I am confident in responding to and managing change within my life and work roles

I am creative and enterprising in the way I approach my career development

I identify how my life, my work, my community and my society interact

NETWORKS

I interact confidently and effectively with others to built relationships

I use information and relationships to secure, create and maintain work

I develop and maintain a range of relationships that are important for my career journey

In addition, a very interesting case is that of Portugal's CMS Framework[6] which emphasized to the following CMS:

> **LIST OF CAREER MANAGEMENT SKILLS**
>
> **Develop a positive self-concept**
>
> Adopt strategies that enhance an adequate self-concept which promotes a solid identity
>
> **Interact effectively**
>
> Adopt strategies for positive interaction in different contexts of life
>
> **Manage information**
>
> Adopt strategies for autonomous information management on the economy, society and opportunities for learning and working
>
> **Manage change**
>
> Adopt strategies to facilitate transitions in the various contexts of life as an agent of change
>
> **Make decisions**
>
> Adopt positive strategies of decision-making
>
> **Access the labour market**
>
> Adopt adequate strategies to integrate and stay within the labour market

Last but not least is the framework of the European Parliament[7] that is particularly valuable and is characterized by its simplicity and easy adoption by most Member States.

> **LIST OF CAREER MANAGEMENT SKILLS**
>
> **personal management**
>
> self-knowledge of one's capacities and interests,
>
> social skills etc. and applying this to career planning and other life situations
>
> **learning management**
>
> understanding the relationship between self and learning opportunities,
>
> the requirements of learning pathways and links to the labour market,
>
> applying this to career planning and other life situations
>
> **career management**
>
> sourcing, evaluating,
>
> analyzing information about occupations, sectors, labour market opportunities,

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[6] http://www.eucen.eu/images/posts/elgpn_resource_kit_2011-12_web.pdf
[7] ttps://www.europarl.europa.eu/RegData/etudes/BRIE/2017/607359/IPOL_BRI(2017)607359_EN.pdf

the requirements of learning pathways and links to the labour market,

applying this to career planning and other life situations

career management

sourcing, evaluating,

analyzing information about occupations, sectors, labour market opportunities,

relating this information to one's self-knowledge and learning acquisitions and applying this to career planning and other life situations

The literature review led us to suggest the following lists concerning CMS as the best examples in order to be used for the survey. Of course, the appropriate adjustments will be made so that the final list to meet the needs of the "TechCMS" project (see, Annex).

3. Career management Skills for the "TechCMS project"

When Psychology, Social Theories, Learning Theories and everyday life meet together to describe Career Management Skills

The field of Vocational Guidance, with Vocational Assessment, Guidance and Counseling, and Career Management Skills is a distinct area of knowledge, which is characterized by impressive development, both at scientific / research level and at implementation level.

Vocational Guidance is "related" to an interactive relationship with other scientific fields, among which Psychology, Social Theories and Learning Theories. Career selection and reorientation is essentially a decision-making process, more general or more specific, about which direction an individual will follow in terms of their professional paths and career. This process contains both the cognitive and the emotional element: The individual, in other words, gathers information, is informed (in various ways), uses criteria based on his general attitudes towards life and his values, apprentices (sometimes, if he has this possibility) and finally decides on what he considers best / most suitable for him / her in terms of his relationship with work (cognitive element). On the other hand, this whole process is influenced by - but also leads to - emotions. How one feels about a profession / occupation / job, both before choosing it and after making the relevant decision, is a key element in one's relationship with others and - most importantly - with oneself.

In addition to the obvious consequences of choosing a profession and practicing it in everyday life, this choice has a variety of consequences on human behavior and, in particular, on how a person feels in relation to both himself and others. A successful choice is reasonable to associate with increased feelings of self-fulfillment, self-esteem, and personal well-being. All of the above are ultimately valuable elements of mental health for the individual. An adequate level of mental health, in turn, is a prerequisite for good relations of the individual with persons around him. A teenager / young adult / adult satisfied with his choice promotes his / her integration - and function - in the group of peers more easily and moves forward with more confident steps in the relationship as a person with a sense of stable identity.

Preparing to be a professional and - at least – at the first stages of practicing it is a process governed by the "laws of how some learns how to learn" and of course Learning Theories. The person is required to acquire knowledge and skills, in order to demonstrate the best possible performance in his professional occupation and / or to improve and promote his career. The same happens when someone wants to change profession / occupation, in which the individual will need - most likely - the learning of new skills (reskilling or / and upskilling) and knowledge to apply them in a new work environment. In all the above cases, this process is fully described by the Psychology of Learning and includes factors / variables, such as, motivations, attitudes and values of the individual, characteristics of the environment, and characteristics of the work (type, difficulty). The relationship between profession and Psychology has a clear evolutionary dimension, which permeates all the

elements presented above for this relationship. In other words, choosing and pursuing a profession is a constant "demand" from adolescence to late adulthood, and not just because one may need to reconsider one's initial choices or be forced to change employment. Even if one does not change profession, changes will occur and adjustments will be required for at least two reasons: (a) Changes in the individual as a result of age, which entails differences in roles, motivations, attitudes and values (b) Changes in the environment, work and in general (economic, political and technological changes) and (c) socio-cultural and family changes which dictate corresponding adaptations to the individual and his relationship with the profession.

Challenges for the transition to a Virtual Centre for the Career Management Skills: Italy, Greece and Cyprus: countries' digital skills according to DESI index

Alongside, "TechCMS" project introduces innovations that need to be taken into account and studied separately. A CMS service in a virtual environment requires the user not only to have the positive attitudes to participate but mainly the possession of digital skills. Digital skills are not only necessary for such participation. They are a prerequisite for the best use of the services provided.

As already mentioned, partners from three countries (Italy, Greece and Cyprus) participate in the consortium of TechCMS project. As the main ambition of the project is to transfer of a "career management skills" service in a virtual environment form accessible from anyone, that means that the users of this service, in order to make use the most of it, must have at least a good level of digital skills. For this reason, in this section we will examine, the state of digital skills in the countries participating in the project using data form the Digital Economy and Society Index (DESI). The European Commission has been monitoring Member States' digital progress through the Digital Economy and Society Index (DESI) reports since 2014. The DESI reports include both country profiles and thematic chapters. In addition, an in-depth telecoms chapter is annexed to the reports for each Member State. The DESI country reports combine quantitative evidence from the DESI indicators across the five dimensions of the index with country-specific policy insights and best practices.

ITALY

Italy ranks 25th out of 28 EU Member States in the 2020 edition of the Digital Economy and Society Index (DESI). Data prior to the pandemic shows that the country has a good ranking in terms of 5G preparedness, as all the pioneer bands were assigned and the first commercial services were launched. There are significant gaps as regards Human Capital. Compared to the EU average, Italy records very low levels of basic and advanced digital skills. The number of ICT specialists and ICT graduates is also well below the EU average. These gaps in digital skills are reflected in the low use of online services, including digital public services. Only 74% of Italians are regular internet users. Although the country ranks relatively high in its offer of e-government services, public take-up remains low. Similarly,

Italian enterprises lag behind in the use of technologies such as cloud and big data, as well as in the uptake of e-commerce (EU, Italy Country Reports, 2020, p. 3).
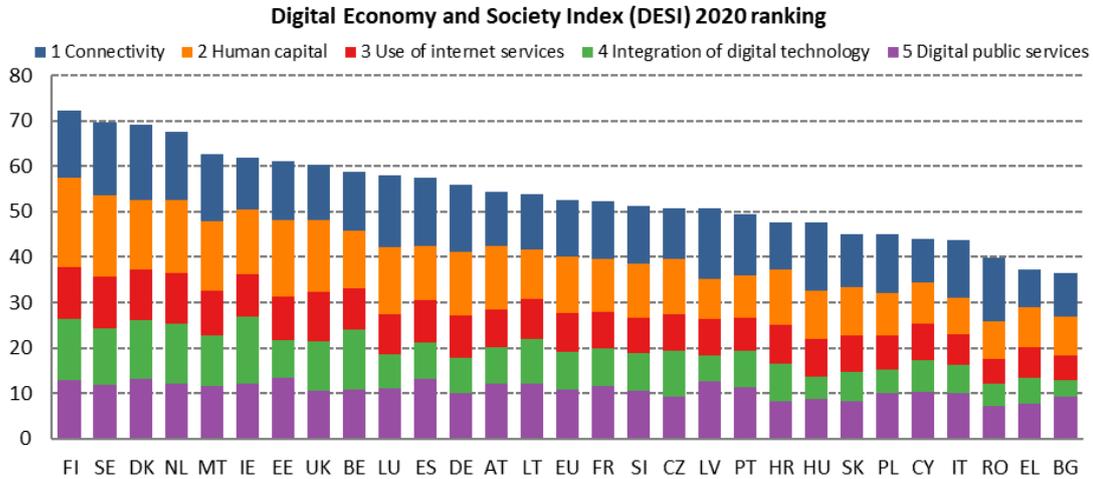
Digital Economy and Society Index (DESI) 2020 ranking
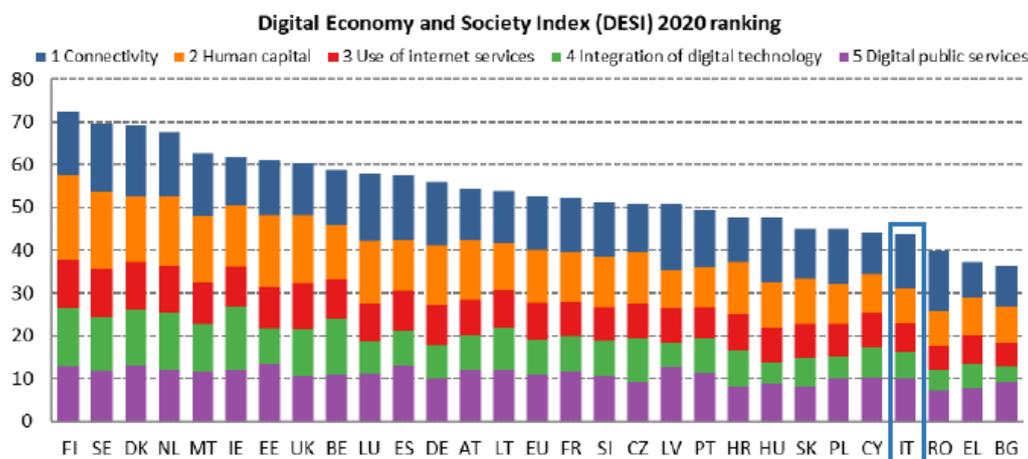
On the other hand, the pace of implementation of major projects to help digitise the public administration increased significantly in 2019. A new 'Three-Year Plan for Information Technology in Public Administration' set out a comprehensive list of targets for the next few years, with the objectives of promoting the digital transformation of the Italian administration and driving the uptake of digital technologies (p. 3).

In 2019, Italy dropped two places and now ranks last in the EU on the Human Capital dimension. Only 42% of people aged 16-74 years have at least basic digital skills (58% in the EU) and only 22% have above basic digital skills (33% in the EU). Although the percentage of ICT specialists in Italy increased to reach 2.8% of total employment, it is still below the EU average (3.9%). Italy's share of graduates holding an ICT degree remained stable compared to DESI 2019 (on the basis of 2016 data). Only 1% of Italian graduates are ICT graduates (the lowest in the EU), while female ICT specialists are 1% of all female employees (slightly below the EU average of 1.4%) (p. 3).

GREECE

Greece ranks 27th out of the 28 EU Member States in the European Commission Digital Economy and Society Index (DESI) 2020 (p. 3).

Digital Economy and Society Index (DESI) 2020 ranking

■ 1 Connectivity ■ 2 Human capital ■ 3 Use of internet services ■ 4 Integration of digital technology ■ 5 Digital public services

Source: European Commission, DESI Index, Greece. Country Report, 2020

Based on data prior to the pandemic, over the last year, despite an increase in its overall score, Greece shows limited improvement of its performance in the DESI dimensions measured. However, Greece improved its scores on the human capital chapter making progress in almost all of the related indicators. For the first time, the percentage of individuals with at least basic digital skills is over 50%. On connectivity, Greece is progressing at a very high pace in fast broadband (NGA) coverage showing a substantial progress of 15 percentage-point over last year, but remaining below the EU average. However, it is expected to improve since the Commission has approved the ambitious ultra-fast broadband infrastructure project, which will contribute to achieving Greece's digital ambitions. Overall, the country made the most progress compared to the previous year on the Digital Public Services chapter, but still scores well below the EU average.

Following the elections in July 2019, the new Ministry of Digital Governance gained strategic importance and was given the mandate to design, coordinate and implement the strategy for digital transformation of the country. The ministry is responsible for providing digital services to citizens and businesses based on simplified administrative procedures. It is also responsible for ensuring the interoperability of processes with all other ministries and government agencies. The objective is to transform Greece into 'digital by default' by 2023. The government therefore, revised its national digital strategy 2016-2021. The new strategy, the 'Digital Transformation Bible' is expected to be launched in the first half of 2020. It builds on the five chapters in the DESI report, combined with a strong governance model to coordinate implementation with all entities concerned. It also plans the coordinated implementation of major IT projects, some over the short term, the so-called 'Quick-win' projects; others will need a longer-term preparation.

Greece performs well below the EU average on the human capital chapter, though it continues to make progress. In 2019, 51% of individuals between 16 and 74 had at least

basic digital skills (58% in the EU), a good 5 percentage-point increase in one year, well above the average 1 percentage-point rise in the EU. The percentage of individuals with at least basic software skills is also rising well, from 52% in 2018 to 56% in 2019, rising faster than the EU average. The share of ICT specialists in total employment continues to improve at the same pace as the last three years but remains low (1.8%) compared to the EU average of 3.9%. The share of women ICT specialists in total female employment remains very low at 0.5% compared with the EU average (1.4%), though it did rise slightly by 0.1%, an improvement since it had stagnated over the previous three years.

Greece placed the development of digital skills for citizens at the core of the new digital transformation strategy coordinated by the Ministry of Digital Governance. The objective is to facilitate the use of public services by all citizens, and to equip them with the skills needed for future jobs (p. 9).

CYPRUS

Cyprus ranks above the EU average on mobile broadband take-up but well below the EU average on the take-up of fast broadband. Almost an eighth of Cypriots have never used the internet, and half lack basic digital skills. Despite growing demand in the labour market, the supply of ICT specialists is still below the EU average.
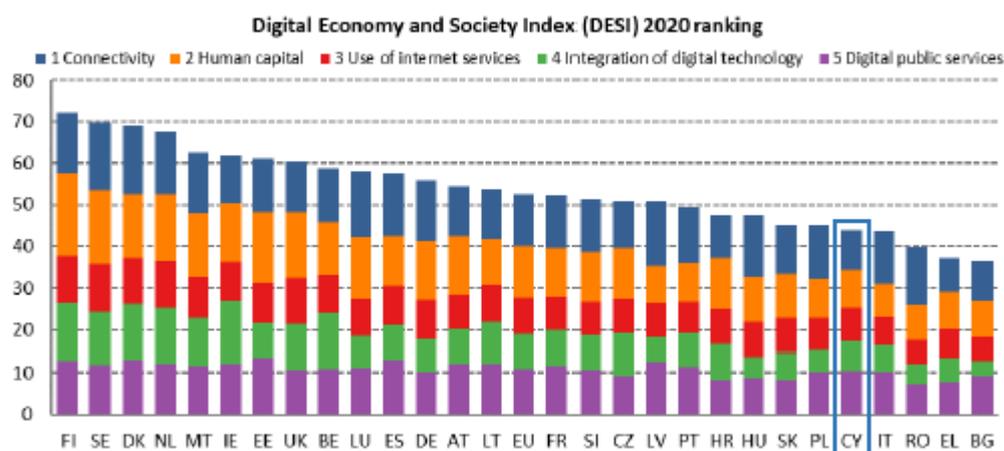
Source: European Commission, DESI Index, Cyprus. Country Report, 2020

The current 'Digital Strategy for Cyprus, which started in 2012 and was updated in 2015 and in 2018, is in line with the objectives and measures proposed in the 'Digital Agenda for Europe', and is set to contribute substantially to economic growth and productivity. The strategy focuses on digital literacy for all businesses and unemployed people, on involving all citizens in lifelong learning programmes and on promoting digital education by using ICT to upgrade and reform the educational process. It also covers e-inclusion issues, digital entrepreneurship and public use of broadband and ICT services. The new digital strategy, which is in the process of being developed, aims to achieve the digital transformation of the public sector, to promote the digital transformation of the private sector, and to promote innovation in line with the country's level of digital maturity. Cyprus plans to publish the strategy in the second half of 2020. Cyprus has a cybersecurity strategy in place since

2012(3). The Digital Security Authority has proposed a new cybersecurity strategy, which is pending final approval from the Ministry of Communication and the Council of Ministers.

The 'Cyprus National Reform Programme', published in 2015 and updated in 2018 and in April 2019, is in line with the Commission's 'Annual Growth Survey'. A 'Competitiveness Report' will provide an analytical tool to make a comprehensive assessment of Cyprus' performance, facilitate dialogue between public and private sectors and help drive the agenda for reform to boost competitiveness. The Council of Ministers adopted the new 'Cyprus Industrial Strategy Policy' for 2019-2030 in May 2019, and it is currently in the process of being implemented.

According to the analysis of the data of DESI INDEX, the three countries that consist the partnership are placed below the European average in terms of their position in the parameters that design the DESI index. For these countries, both basic and advanced digital skills are in the process of being acquired by the majority of their citizens.

Comparing the partners of TechCMS according the DESI INDEX (general)

	ITALY		GREECE		CYPRUS		EU
	rank	score	rank	score	rank	score	score
DESI 2020	25	43,6	27	37,3	24	44,0	52,6
DESI 2019	23	41,6	27	35,1	24	41,5	49,4
DESI 2018	25	36,2	28	32,3	23	39,4	46,5

Source: European Commission, DESI Index (elaboration IME GSEVEE)

Comparing the partners of TechCMS according the DESI INDEX (human capital)

Human capital	ITALY		GREECE		CYPRUS		EU
	rank	score	rank	score	rank	score	score
DESI 2020	28	32,5	25	34,8	23	35,8	49,3
DESI 2019	26	32	25	32,7	24	34,6	47,9
DESI 2018	27	31,6	25	31,9	22	36,2	47,6

Source: European Commission, DESI Index (elaboration IME GSEVEE)

Human's capital Digital Skills for Italy, Greece and Cyprus

Italy: at least basic digital skills 42% of the individuals (58% is EU DESI value)
Italy: Above basic digital skills 22% (33% is EU DESI value)

Greece: at least basic digital skills 51% of the individuals (58% is EU DESI value)
Greece: Above basic digital skills 23% (33% is EU DESI value)

Cyprus: at least basic digital skills 45% of the individuals (58% is EU DESI value)
Cyprus: Above basic digital skills 25% (33% is EU DESI value)

What to take into account: Sociological facts about learning career management skills

In most cases a number of sociological factors, which often have a major impact on the success or failure of certain policies, are unfortunately overlooked. Gender, area of residence, nationality, educational level, professional specialty, employment status and even this social background, cultural background affect:

> ➢ the desire to seek services for the improvement or development (reskilling and upskilling) of skills but also the necessary motivation
> ➢ the ease of finding the right information and how to use it
> ➢ the already existing skills and the way someone cultivates and develops them
> ➢ the ecessary pre-existing skills (basic language skills, digital skills, etc.)

Indicatively, we mention that students from higher socio-economic environments through the extra - curricular activities provided by their schools acquire them with important soft skills necessary for the labor market.

Conclusion

A number of factors need to be considered in order to formulate a sound proposal, and not just a research one, for the development of a CMS Center in virtual form. Thus, the lack of digital skills by the human resources can prevent the utilization of tools such as a "virtual" CMS center. Additionally, sociological factors play an important role both in the utilization of such services and in the way one will understand them.

What to keep in mind

> ➕ For Italy, Greece and Cyprus both **basic and advanced digital skills are in the process of being acquired by the majority of their citizens**. That means that **building a "TechCMS" service, upgrading digital skills of the users is a key part of the effort.**
> ➕ **Social, cultural and educational inequality affect the way a service is utilized.**
> ➕ Preparing for a profession and - at least - the first stages of practicing it is **a process governed by the "laws of how some learns how to learn" and of course Learning Theories**.

4. One step forward: priorities, limitations and decisions

LIMITATIONS: What we keep and what we leave behind

Though career planning helps an organization (PES or/ HR Departments) or an individual in numerous ways. But it has a few limitations that undermine the importance and relevance of career planning, such as:

a) time factor (because career planning is usually a long-term and time-consuming process)

b) unsuitable for a large workforce (It may not be possible for organizations with a large workforce to develop individual career plans breach and every employee of the organization. This is because the career planning process requires an in-depth analysis of each employee's strengths and weaknesses on a sustained basis.),

c) external interventions (regulations or/and legislation can also affect the career planning options of an organization),

d) uncertain and changing situations (drastically changes of labor market, COVID19)

e) difficulty in measuring career success (since career success is an abstract concept, it is interpreted differently by different persons, some may consider a good performance on the job as career success, no one is able to guarantee a successful outcome).

At the same time, an on line skill assessment tool emphasizing in CMS is an added value to the prior limitations mostly for its flexibility giving a dynamic career planning programs, giving motives, supporting and empowering .

DECISIONS AND PRIOTITIES: Career Management Skills for TechCMS project

The scientific field of professional counseling is not new. Both the employment services (public and private) of the various countries and the academic and research community have significant experience in this. According to the above there was at the disposal of the research team of IME GSEVEE a multitude of studies and reports (agencies, international organizations, groups) that we could use both for the understanding of the subject and for the design of the research for the field work.

But the abundance of information at the same time can be a handicap and lead to a form of "cognitive overload" that will be more disorienting and less helpful. The main distinguishing element of this huge bibliographic material was decided to be based on specific criteria:

- ■ Firstly, the objectives of the particular program as they were described to initial proposal.
- ■ Secondly, the European Commission's policy priorities and proposals regarding Career Management Skills
- ■ Thirdly, the need to move to a virtual form of CMS service
- ■ Fourthly, the design specifications in order to design (e.x., research tools as the questionnaires) and to conduct a research on CMS, and

Finally, the selection of specific studies being at the core of the reflection on CMS and they were the key "best practices" (see, chapter 2.3.) in the configuration of CMS lists that would meet all the above conditions.

Last but not least, when we talk about Career Management Skills and TechCMS we are actually talking about two (or even three) things at the same time and one thing as a hole. But what does this mean; It means that according to the psychological and sociological theories, learning theories, theories about counselling for CMS, the requirements that an individual needs in order to be able to use a service in its virtual form should be taken into account. As the three countries participating in the particular project (Italy, Greece, Cyprus) according to the analysis of the data of the DESI index their position in the hierarchy of the countries of the European Union in terms of digital skills are extremely low, in the research that will be carried out the investigation of the situation of the digital skills will have a distinct and discreet position.

4.1 Conclusion

Self-assessment emphasizing to CMS is a process that helps an individual in assessing his/her skills, potential, strengths, and ability to fulfill his aims. As the name of the step suggests, a person assesses himself and then based on his analysis and keeping his strengths and weaknesses in mind he will draft a future plan. By drafting future plan we mean that executing this step helps the persons to finalize the profession and career path he wants to choose.

CMS are one more key ingredients for career management but it is not the only one. A number of parameters should be considered consultants, feedback about career progress, equal accesses and opens enrollment, etc.

5. Conclusion outline: taking advantages of the literature review

Writing this deliverable, European Union and the planet is facing a pandemic due to a virus called COVID19. Our social and professional life, the educational and training systems, the public services are becoming more and more on line due to new the conditions. "TechCMS" project seems more relevant than ever. The purpose of the Technology-Enhanced Career Management Skills / TechCMS project is to develop and deliver an innovative Virtual Career Guidance and Learning Centre and an on-line Self-Assessment Tool, in order to enhance the capacity of careers workers, through training, to provide CMS guidance to individuals and empower the latter's CMS through the use of technology. European Policy promotes the development of CMS, and technology-enhanced career guidance aiming at widening citizens' access and employability, through lifelong learning, as means contributing to the achievement of ET2020 targets. On the other hand, a specific implementation like TechCMS seems to have very specific specifications that should be taken into account.

Career management skills (CMS) are competencies which help individuals to identify their existing skills, develop career learning goals and take action to enhance their careers. Also, to enable careers professionals and other educators to help people to develop their career management skills a number of countries have developed CMS frameworks. These frameworks provide a way to define the skills and attitudes which support individuals to effectively manage their careers and to progress through life.

In the present deliverable an attempt was made to present not only a basic overview of the relevant literature on CMS but more to develop an analytic strategy of approach to the subject. In addition, to present the reasoning on which the "lists of CMS" were identified.

Flexible education and training systems enable learners to move within and across education, training and employment. Flexibility means that individuals can adapt their learning pathway as they go along, to suit their interests and abilities. CMS empower individuals to identify the skills they have and the ones they need to develop, to help them realise their potential at any stage in their life. Moreover, a workforce with CMS supports economic growth by putting the right people in the right jobs connecting the needs of people and businesses.

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ANNEX I: LIST OF CAREER MANAGEMENT SKILLS FOR THE "TechCMS PROJECT"

FOR THE INDIVIDUALS

MAIN CATEGORY (variable):
Self-knowledge of my capacities and interests ("know thyself") – Reflexivity
MODALITY:
- ➤ I'm able to reflect on my strengths and address my weakness
- ➤ I am aware of my skills, strengths and achievements
- ➤ I am aware of how I change and grow throughout life
- ➤ I identify how my life, my work, my community and my society interact

MAIN CATEGORY (variable):
Personal effectiveness & being innovative
MODALITY:
- ➤ I make effective decisions relating to my life, learning and work
- ➤ I generate ideas that help me to achieve my goals
- ➤ I built on my skills and achievements
- ➤ I manage my goals, my time and personal finances in a way that
- ➤ supports my career building
- ➤ I am innovative and creative in my thinking about work that is right for me
- ➤ I can make a positive impact on society
- ➤ I can make the most of opportunities I came across

MAIN CATEGORY (variable):
Career management
MODALITY:
- ➤ I can review my skills in relation to what employers are looking for
- ➤ I make positive career decisions
- ➤ Entrepreneurial skills
- ➤ I can analyze information about occupations, sectors, labour market opportunities
- ➤ I understand that's a wide variety of work opportunities that I can
- ➤ explore and are open to me
- ➤ I know how to find and evaluate information and support to help my career development
- ➤ I am able to work autonomous
- ➤ I seek new opportunities to build my career
- ➤ I can make decisions and set career goals for myself within
- ➤ appropriate timescales

- ➢ I make use of appropriate technologies to develop my career
- ➢ I am creative and enterprising in the way I approach my career development
- ➢ I maintain a balance in life, learning and work that is right for

MAIN CATEGORY (variable):
Lifelong learning management
MODALITY:
- ➢ I draw on my experiences and on formal and informal learning
- ➢ opportunities to inform and support my career choices
- ➢ Understanding the relationship between self and learning opportunities
- ➢ I understand that's a wide variety of learning opportunities that I can
- ➢ explore and are open to me
- ➢ I can develop skills which will help me to get what I want out of work
- ➢ I develop the skills which will enable you make informed choices about available information
- ➢ I understand how changes in society relate to my learning work

MAIN CATEGORY (variable):
Resilience & flexibility – cosmopolitan ethos
MODALITY:
- ➢ I can work in international and intercultural environments
- ➢ I can cope with challenges and change which take place in life
- ➢ I can cope with challenges and change which take place in life
- ➢ I am aware of the climate change issues and its impact to our lives and works
- ➢ I am open to opportunities including those in the other countries
- ➢ I remain positive when facing setbacks
- ➢ I can cope with changes in the world of work
- ➢ I am resilient and able to learn when things do not go as well as
- ➢ expected
- ➢ I am confident in responding to and managing change within my life and work roles
- ➢ I adapt my behavior appropriately to fit a variety of contexts
- ➢ I am open to opportunities including those in the other cities in my country
- ➢ I can adopt strategies for positive interaction in different contexts of life

MAIN CATEGORY (variable):
Networking – interaction – managing relationships

MODALITY:

➢ I can build respectful relationships and being collaborative

➢ I interact confidently and effectively with others to build relationships

➢ I develop and maintain a range of relationships that are important for my career journey

➢ I can find and use information and the support of others for my career

➢ I understand the need to use social media to network for my career

➢ I build professional relationships and networks

➢ I can operate well in a group setting in the workplace to effectively accomplish tasks

FOR THE PROFESSIONALS / SPECIALISTS

MAIN CATEGORY (variable):
Importance of specific Career Management Skills
MODALITY:
- Generating ideas that help to achieve someone's goals
- Someone Being aware of his/her skills, strengths and achievements
- Understanding how someone's life, work, community and society interact
- Making positive career decisions
- Acquiring entrepreneurial skills
- Analyzing information about occupations, sectors, labor market opportunities
- Understanding that there is a wide variety of work opportunities that someone can explore and are open to him/her
- Know how to find and evaluate information and support to help his/her career development
- Being able to work autonomously
- Making decisions and set career goals within appropriate timescales
- Making use of appropriate technologies to develop his/her career
- Discovering learning opportunities to inform and support career choices
- Developing skills which will enable someone to make informed choices about available information
- Understanding how changes in society relate to someone's learning activities
- Ability to work in international and intercultural environments
- Coping with challenges and changes
- Being open to opportunities including those in other countries
- Remaining positive when facing setbacks
- Coping with changes in the world of work
- Being confident in responding to and managing changes in life and work roles
- Adopting strategies for positive interaction in different contexts of life
- Building respectful relationships and being collaborative
- Interacting confidently and effectively with others to build relationships
- Developing and maintaining relationships that are important for my career path
- Finding and using information and support of others for career development
- Understanding the need to use social media to network for his/her career
- Understanding the importance of professional relationships and networks and how to build them
- Operating well in a group in the workplace to effectively accomplish tasks

MAIN CATEGORY (variable):

Views regarding a list of Career Management Skills

MODALITY:

- ➢ They are a critical factor for a sustainable career
- ➢ They are part of a wider range of skills that modern man must have in the world of work
- ➢ Studying and qualifications determine to a greater extent someone's career paths
- ➢ They are a managerial factor in the transition between professions and career pathways
- ➢ They are an important part of understanding ourselves and our potential anyway
- ➢ To a large extent, their greater or lesser possession is influenced more by the family environment in which one grows up

ANNEX II. DIGITAL SKILLS (using EUROPASS) FOR THE "TechCMS PROJECT"

- ➢ I can look for information online using a search engine
- ➢ I can save or store files or content (e.g. text, pictures, music, videos, web pages) and retrieve them once saved or stored.
- ➢ I can communicate with others using mobile phone, Voice over IP (e.g. Skype) e-mail or chat – using basic features
- ➢ I can take basic steps to protect my devices (e.g. using anti-viruses and
- ➢ passwords). I know that not all online information is reliable
- ➢ I can produce simple digital content (e.g. text, tables, images, audio files) in at least one format using digital tools.
- ➢ I know how to solve some routine problems (e.g. close program, re-start computer, re-install/update program, check internet connection).
- ➢ I can use advanced features of several communication tools (e.g. using
- ➢ Voice over IP and sharing files).
- ➢ I can use collaboration tools and contribute to e.g. shared documents/files someone else has create
- ➢ I can use some features of online services (e.g. public services, e- banking, online shopping)
- ➢ I pass on or share knowledge with others online (e.g. through social
- ➢ networking tools or in online communities)
- ➢ I can produce complex digital content in different formats (e.g. text, tables, graphs, images, audio files) and formatting it
- ➢ I have installed security programs on the device(s) that I use to access the Internet (e.g. antivirus, firewall).
- ➢ I use different passwords to access equipment, devices and digital services and I modify them on a periodic basis
- ➢ I can identify the websites or e-mail messages which might be used to scam
- ➢ I can solve most of the more frequent problems that arise when using digital technologies
- ➢ I regularly update my digital skills.
- ➢ I can use cloud information storage services
- ➢ I can produce or modify complex, multimedia content in different formats, using a variety of digital platforms, tools and environments
- ➢ I can use several programming languages
- ➢ I know how to design, create and modify databases with a computer tool
- ➢ I am able to use teleworking tools and platforms