



**Ulisse**  
Soft Skills for Employability

# SOFT SKILL LEXICON



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## Intellectual Output 1 - Soft Skills Report

### Authors:

Donata Gabelloni, Riccardo Apreda, Tommaso Pavanelo, Giovanni De Santis, Dario Brugnoli, Elena Coli, Matteo Chelli, Alessandro Guadagni, Andrea Mazzoni, Giovanni De Santis (ERRE QUADRO)

### Contributors:

Antonella Magliocchi, Gualtiero Fantoni, Filippo Chiarello, Rossano Massai, Chiara Pasca, Mariangela Barbarito (UNIFI); Diana Aguiar Vieira, Isabel Ardionis, Manuel Salvador Araujo, Viviana Meirinhos, Paula Carvalho (PPORTO); Fernando Vidal Gimenez, Domingo Galiana Lapera, Dolores Lopez Martinez, Abel Torrecillas Moreno (UMH); Anda Paegle, Lasma Saimena (LU)

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*For anyone interested in the detailed outputs of this report, such as: a specific phase of the research process, or detailed findings, the project consortium can provide the additional information required. Please contact us at: [info@ulisseproject.eu](mailto:info@ulisseproject.eu)*

## Table of Contents

INTRODUCTION .....	4
THE ULISSE PROJECT .....	4
THEORETICAL BACKGROUND AND OBJECTIVES .....	4
1. METHODOLOGY.....	5
1.1 DATA PRE-PROCESSING .....	6
1.1.1 DATA COLLECTION.....	6
1.1.2 DATA COLLECTION.....	6
1.1.3 DATA CONVERSION .....	7
1.1.4 DATA TRANSLATION .....	7
1.1.5 DATA STRUCTURING.....	7
1.2 DATA MINING .....	8
1.3 DATA LABELLING.....	10
1.3.1 LABEL LIST DEFINITION .....	10
1.3.2 FIRST SKILL LABELLING .....	12
1.3.3 INTEGRATED LABEL LIST DEFINITION .....	12
1.3.4 SECOND SKILL LABELLING .....	13
1.4 DATA FILTERING .....	15
1.4.1 REMOVING WRONG EXTRACTIONS.....	15
1.4.2 EXTRACTING SKILLS FROM SENTENCES .....	16
1.4.3 REFINING INCOMPLETE EXTRACTIONS .....	16
1.4.4 REMOVING DUPLICATE VALUES .....	16
1.4.5 COMMENTS ON THE DATA EXTRACTION PROCESS.....	16
2. THE SOFT SKILL LEXICON .....	17
2.1 THE LEXICON .....	17
2.2 ANALYSES .....	48
2.2.1 CLUSTER ANALYSIS: JOB OFFERS VS ABSTRACTS.....	48
2.2.2 COMPARISON OF SKILL OCCURRENCES IN DIFFERENT DATA SOURCES .....	52
2.2.3 MANUAL CHECK OF AMBIGUOUS FORMULATIONS .....	59
TECHNICAL ANNEX .....	61
BIBLIOGRAPHY .....	64

## Index of Figures

Figure 1: <i>The Workflow of IO1</i> .....	5
Figure 2: <i>The Workflow of Data Pre-Processing phase</i> .....	6
Figure 3: <i>The Workflow of Data Mining phase</i> .....	8
Figure 4a: <i>Example of the search for already known skills into a set of representative sentences to extract new clues.</i> .....	9
Figure 4b: <i>Example of the projection of the already known clues to a set of representative sentences to extract new skills.</i> .....	8
Figure 5: <i>The Workflow of Data Labelling phase</i> .....	10
Figure 6: <i>The Workflow of Data Filtering phase</i> .....	15
Figure 7: <i>Clustering of skills, co-occurrences on Job Offers</i> .....	46
Figure 8: <i>Clustering of skills, co-occurrences on Abstracts</i> .....	47
Figure 9: <i>Distribution of Personal and Interpersonal skills on Abstracts, Papers and Job Offers</i> .....	49
Figure 10: <i>Distribution of labels on Papers</i> .....	50
Figure 11: <i>Distribution of labels on Job Offers</i> .....	51
Figure 12: <i>Distribution of labels on Abstracts</i> .....	52
Figure 13: <i>Distribution of cluster on Partner's Papers. Only the main results are shown</i> .....	56
Figure 14: <i>Distribution of cluster on Job Offers. Only the main results are shown</i> .....	54
Figure 15: <i>Distribution of cluster on Abstracts. Only the main results are shown</i> .....	55
Figure 16: <i>Example of NER application</i> .....	58
Figure 16: <i>One illustrative representation of a cluster graph</i> .....	62
Figure 17: <i>One representation of Technimeter® applied to Technologies 4.0</i> .....	63

## Index of Tables

Table 1: <i>Number of elements processed for each chosen source.</i> .....	7
Table 2: <i>The label list and their correspondent definitions.</i> .....	11
Table 3: <i>The new elements added to the label list.</i> .....	13
Table 4: <i>The final label list and the corresponding definitions.</i> .....	15
Table 5: <i>The Soft Skill Lexicon</i> .....	47
Table 6: <i>A measure of reliability of the soft skill "responsibility"</i> .....	59
Table 7: <i>A measure of reliability of the soft skill "collaboration"</i> .....	59
Table 8: <i>A measure of reliability of the soft skill "resilience"</i> .....	60

## INTRODUCTION

### THE ULISSE PROJECT

Soft skills are the cornerstone for personal growth; the building blocks for the development of the “hard” skills and competences required to succeed in the labour market. A worker’s employability is seen to be more and more dependent upon possessing the hybrid skills - technical and soft skills - that employers increasingly value.

The idea on which ULISSE project is based considers soft skills as having a “hard” component, which makes it possible to develop them by learning to use appropriate tools, procedures and methods.

ULISSE project aims to unveil the true meaning of soft skills by developing the disruptive concept of “Not-So-Soft-Skills”, and creating a common language among the key actors involved (job seekers and employers). Based on this, the project partners will design specific training paths for addressing the companies’ “Not-So-Soft-Skills” needs, thus increasing the students employability and the job match-making.

The first step of the process is to develop a Lexicon containing and defying the soft skills and the relations among them, identifying groups of data records (clusters), unusual records and dependencies among the words.

The University of Pisa is the project coordinator of a partnership that includes the Miguel Hernandez University of Elche (Spain), the Polytechnic University of Porto (Portugal), the Latvijas University (Latvia), and the University of Pisa’s spin-off company Erre Quadro.

### THEORETICAL BACKGROUND AND OBJECTIVES

Soft skills can be distinguished into personal and interpersonal skills, or interpersonal qualities and personal attributes that an individual owns. This distinction conceptualizes the soft skills in somewhat abstract terms and, too often, makes people characterize them as innate features. This project is based on the idea that soft skills are composed also of an “hard” component, which makes their development possible by adopting appropriate tools, procedures and methods.

The lack of clarity in the definition of soft skills and their dynamicity has many consequences, not least that it is likely to lead to a poor match between job applicants and the description of given job positions, thereby wasting time for both applicants and recruiters. Creating a common language on soft skills is, among other goals, the first step for increasing the effectiveness and efficiency of match-making in the job market.

Within this context, the final objective of IO1 is to extract new soft skills, their synonyms, new formulations of the concepts and the relations between them. Such analysis will allow creating a standardized, structured and complete lexicon, able to take into account all variations in terminology and all emerging labels, while at the same time removing existing ambiguities. In turn, the lexicon will be the basis for the following steps of the project.

## 1. METHODOLOGY

The overall workflow of IO1 is divided in **four macro-phases**, which are shown in Figure 1.

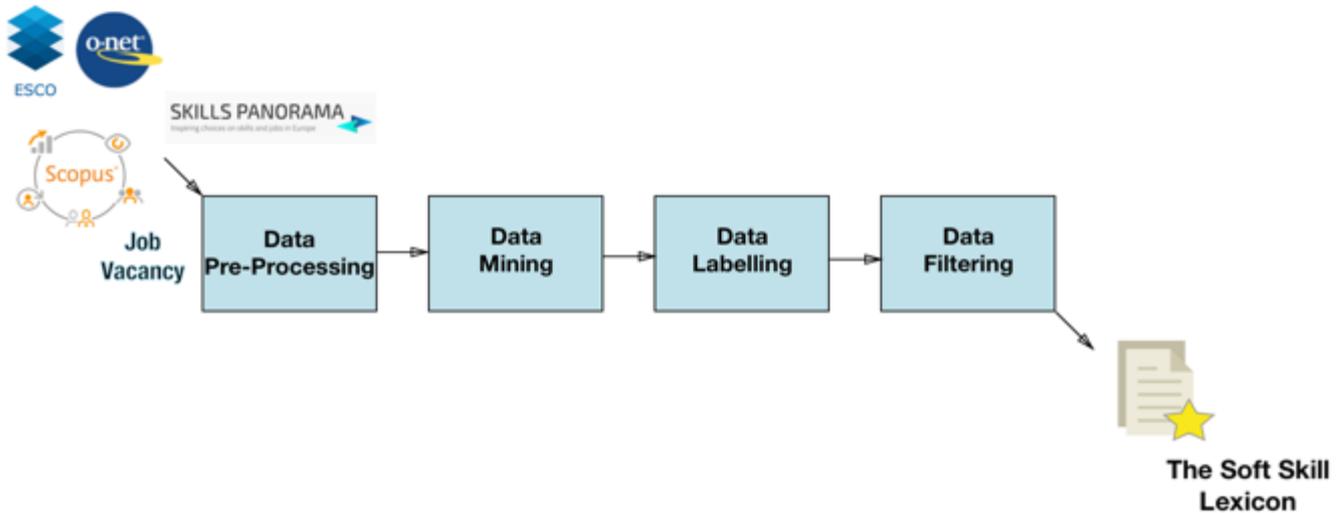


Figure 1: *The workflow of IO1*

The first phase is called “**Data Pre-Processing**” and aims at giving a common structure to heterogeneous data coming from different sources. It processes **free texts** expressed in different languages and formats, and returns a **translated and structured dataset**, ready to be automatically analyzed.

The “**Data Mining**” phase aims at extracting all the different formulations of skills existing in the various collected texts. The entire structured dataset is processed with the Technimeter®, a tool that automatically identify and returns all **sentences containing at least one skill**.

The “**Data Labelling**” phase is completely manual. Since the skills automatically extracted from texts are expressed in many different ways, being most of the times periphrases, it was necessary to define a rather small set of agreed “common labels” to validate and categorize the extractions. This phase analyzes the **full list of sentences containing at least one skill** and associate to each of them one among the common labels pre-agreed by the partners, which are stored in an additional column of the database.

The “**Data Filtering**” is the last phase of the workflow. It is both automatic and manual. It aims at extracting the skills present in the labeled sentences, and then filter out the incomplete and wrong results to finally develop the Soft Skill Lexicon. In other words, the step analyzes the **sentences and their assigned labels** and returns **the Soft Skill Lexicon**.

## 1.1 DATA PRE-PROCESSING

The following diagram illustrates the various steps of the Pre-Processing phase.

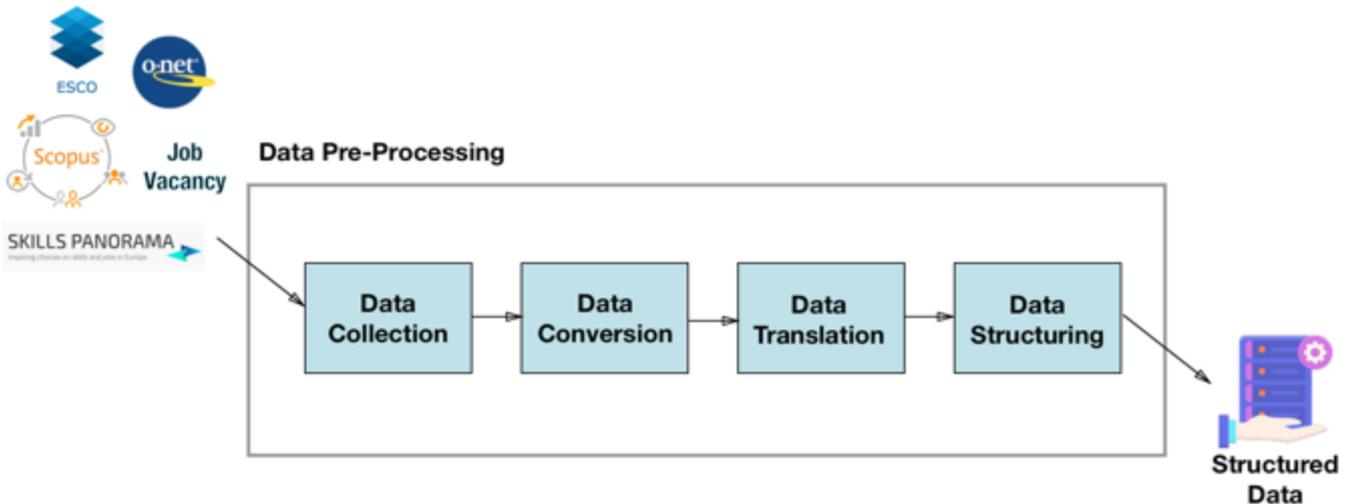


Figure 2: The workflow of Data Pre-Processing phase

### 1.1.2 DATA COLLECTION

The selection of the right sources for the data is clearly a crucial step. For the software to extract information from the texts, the information has to be there in the first place. The chosen pool of documents must be then likely to contain all the skills of interests.

Given the above, the main sources used to collect data were the following.

**Scopus**, the largest dataset for scientific publications. It represents the first place where a new competence could emerge, be defined and described, but also where a term is likely to be used for the very first time. Partners provided more than 50 full papers, while Erre Quadro randomly downloaded a large number of abstracts belonging to Economics, Management, Medicine, Psychology or Social Science fields.

**Job Vacancies** provided by Partners. Clearly the offers for employment provide an extremely important insight into the skills that are considered most relevant by companies and institutions. Such data are not easy to collect though: sometimes the access to them is not open, more often they are scattered among many different sites. The partners have a privileged access to a great number of qualified and diverse jobs offers, and therefore this kind of contribution constitutes one of the key ingredients of the entire project.

**“Skills Panorama”** created by CEDEFOP (European Centre for the Development of Vocational Training), which embodies the state-of-art in term of skills and labor market needs.

**O\*NET** (The Occupational Information Network), an open source database that contains occupational definitions and skills, both hard and soft, from American workforce.

ESCO (European Skill/Competence, Qualification, Occupation), an open source database that identifies and categorizes skills, competences, qualifications and occupations relevant for the EU labor market, education and training. It also shows the relationships between the different concepts.

The numbers of elements processed in IO1 for each source are listed in Table 1.

Source	N. of elements processed
Job Vacancies	1,500
Papers provided by partners	51
Abstracts from Scopus	10,517
Thematic Reports	15
Structured Competences Databases	2 (O*NET and ESCO)

Table 1: Number of elements processed for each chosen source.

All five sources were used both for teaching the algorithm and feeding the Lexicon. The only difference among them is that Papers, Reports and Databases are “clean sources” (as provided by the partners experts, which selected them), while the other two have been downloaded automatically and thus required a following refining human activity.

### 1.1.3 DATA CONVERSION

Of the five sources listed above, only the structured database are in a ready-to-be-used format. The others (Job Vacancies, Papers, Thematic Reports and Abstracts), after collection in electronic form (word or PDF files) had to be automatically converted into a unique file format that allow the use of Natural Language Processing software, a prerequisite for the correct functioning of Technimeter®.

### 1.1.4 DATA TRANSLATION

Some types of documents, such as Papers from international journals, are in English, others, such as Job Vacancies, are written in the different national languages. However the goal is to construct a standardized lexicon, thus terminology must be comparable. Hence, all files were homogenized, automatically translating them into English.

In principle it is always possible to compare the original formulation of the skill with the translation to correct possible mistakes, or to create national versions of the repository, but the latter could be more efficiently obtained adapting directly the final Lexicon.

### 1.1.5 DATA STRUCTURING

In the final subphase of “Data Pre-Processing”, all the sentences present in the .txt files were included in a single Excel sheet and binded with all the skills, competences and abilities from ESCO and O\*NET. The output of the pre-processing phase was represented by a structured dataset. The source each row belongs to is explicit to ensure traceability.

## 1.2 DATA MINING

The following diagram illustrates the various steps of the data mining process.

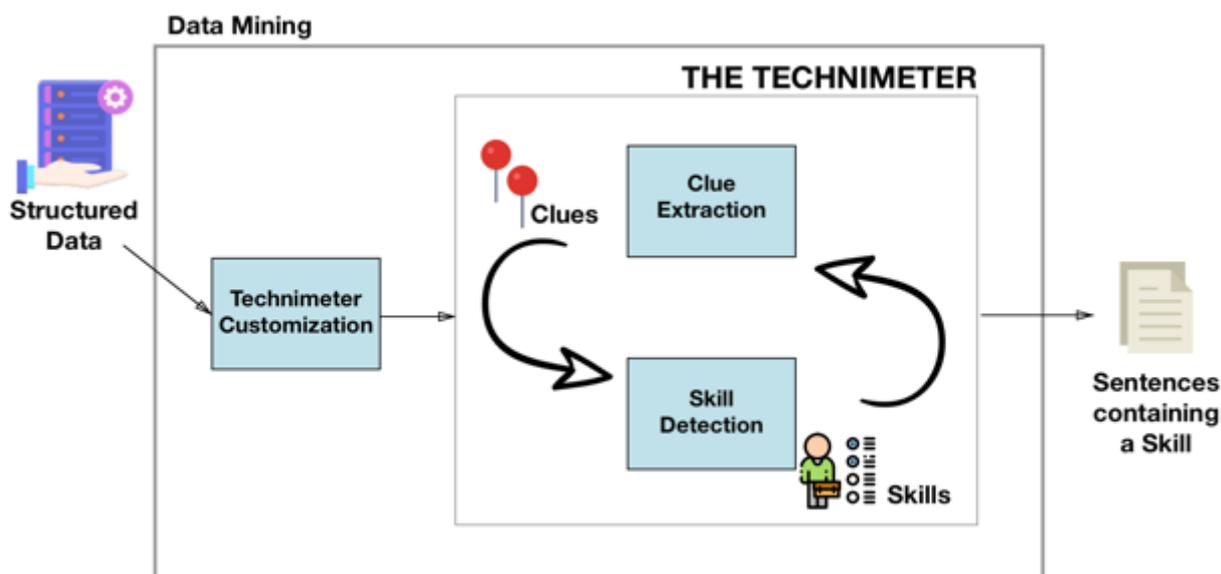


Figure 3: The workflow of Data Mining phase

The aim of this phase was to extract those sentences containing a soft skill. The process was performed automatically thanks to the use of the Technimeter®. Following its specific algorithm, the tool is able to extract relevant entities according to its initial customization, namely, the definition of initial expressions to search for in the text.

The key idea behind this phase is indeed the assumption that the formulation of a certain “skill” within a sentence is almost always related to the appearance in the same sentence of a set of terms, or lexical expressions, called **clues**.

However, clues for soft skills were not yet known at the start of the project. In order to determine these lexical expressions, the starting point was to inspect the neighbourhood of already known entities present in a validated set of documents. These entities were representing the following “skills”:

1. High level soft-skills belonging to internationally recognized databases (i.e. O\*NET<sup>1</sup>)

<sup>1</sup> List soft O\*NET: active learning, active listening, critical thinking, learning strategies, reading comprehension, social perceptiveness, service orientation, negotiation, persuasion, complex problem solving, decision making, systems analysis, systems evaluation, management of financial resources, management of material resources, management of personnel resources, time management, analytical thinking, attention to detail, concern for others, initiative, innovation, Leadership, persistence, self-control, social orientation, stress tolerance, written comprehension, written expression, visualization, time sharing, selective attention, problem sensitivity, oral expression, oral comprehension, number facility, mathematical reasoning, information ordering, inductive reasoning, fluency of ideas, deductive reasoning, category flexibility

2. A list of inflexions of skills belonging to #1 (e.g. the inflexions of “visualization” are “visualize”, “visualizing”, etc. which in turn allow finding longer declinations of the skill as in “visualize the results based on the typology of stakeholder”; the inflexion of “project planning” allows us to find also “the ability to make realistic project plans”).

The process of a clue extraction starting from known entities is clarified in Figure 4a. In the sentence, the text in bold are the known entities that the Technimeter® found out in the document. The expression we called **clue** is instead the text highlighted in gold.

Thus, following our assumption, searching for the sentences containing **clues** allows returning sentences that most probably contain a “soft skill”.

The Figure 4b is a demonstration of projecting the **clues** on a new set of sentences. This second process is specular to the one described above.

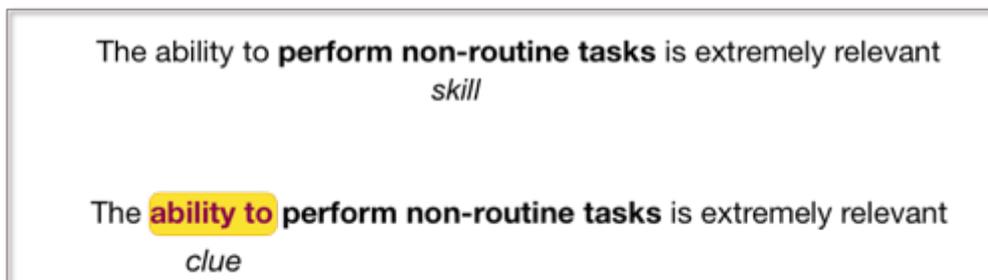


Figure 4a: Example of the search for already known skills into a set of representative sentences to extract new clues. The words in bold represent the known entity (here the skill), while the words highlighted in yellow represent the extracted entity (the clue).

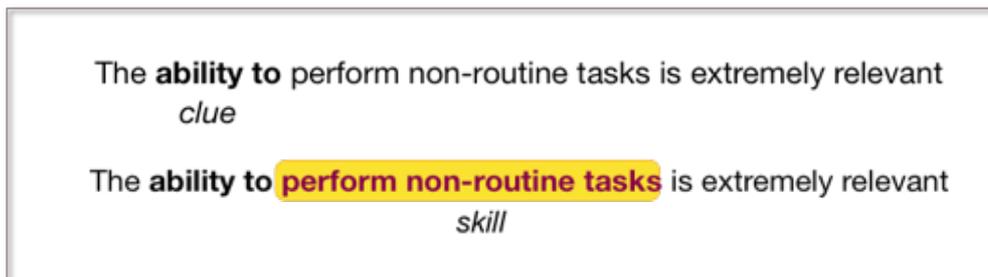


Figure 4b: Example of the projection of the already known clues to a set of representative sentences to extract new skills. The words in bold represent the known entity (here the clue), while the words highlighted in yellow represent the entity extracted (the new skill).

Iterating this process over a training set of documents, mainly the paper provided by the partners, allowed the definition of the following **list of clues**:

1. The pure terms “**skill**”, “**competence**”, “**ability**”, “**aptitude**” “**knowledge**” as extracted from the O\*NET data classification;

2. Synonyms or similar terms such as: “able”, “capability”, “capable”, “know-how”, followed by “to”, “in” or “at” (given the way skills, profiles etc. are defined in existing databases a non.null intersection with other markers is of course possible);
3. Terms indicating a level such as: “proficiency”, “proficient”, “expert”, “expertise”, “qualified”, “qualify”, “efficiency”, “efficient”, “efficacy”, “effective”, “mastery”, “master”, “sufficiency”, “sufficient”, “facility”, “easily” followed by “to”, “in” or “at”.

Applying the Technimeter® to the structured dataset (input of the third phase) allowed the extraction of **3600** sentences with a high likelihood of containing at least one skill.

### 1.3 DATA LABELLING

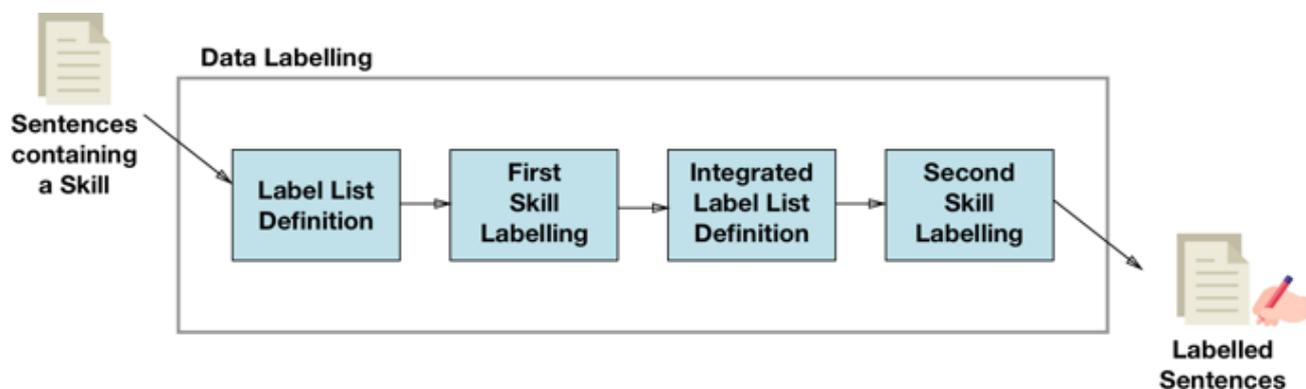


Figure 5: *The Workflow of Data Labelling phase*

#### 1.3.1 LABEL LIST DEFINITION

The project partners drafted a list of 16 labels/soft skills, starting from the contributions contained in (Berdrow & Evers, 2010), (Vieira & Marques, 2014) and the O\*NET database.

LABEL/SOFT SKILLS	DEFINITION
Critical Thinking	ability to ask the right questions, willing to question their own ideas and those of others
Problem-Solving	Identifying and prioritizing problems; sort out the many facets of a problem, and contribute with ideas/answers regarding the problem; developed capacities to solve novel, ill-defined problems in complex and real-world settings.
Decision-making	Making timely decisions based on the evaluation of the respective consequences (e.g., effects on others, political and / or ethical implications); take responsibility for the decisions taken. Considering the relative costs and benefits of potential actions to choose the most appropriate one.

LABEL/SOFT SKILLS	DEFINITION
Planning and organization	Determine the tasks to be carried out towards meeting objectives; delegate tasks, monitoring the progress made according to the plan; update it to include unexpected events or new information
Time management	Manage several tasks at once; be on time; be able to set priorities and allocate time efficiently in order to meet deadlines. Managing one's own time and the time of others.
Oral communication	Clearly display verbal information to others, either one-to-one, in groups or in public; express views and defend rights respecting the other. Communicate information and ideas in speaking and is understood by others.
Active listening	Listen carefully to others; being attentive when others are speaking, respond appropriately to others during conversations / meetings; in case of doubt, make sure to understand correctly the message of the other. Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
Written communication	Effective writing of formal documents (eg. reports, correspondence, e-mails) and informal (eg. memos, notes)
Interpersonal relationships	Relate positively with the others while enhancing the achievement of work goals; work well with others, understanding their needs and is sympathetic with them.
Leadership	Coordinate the work of others, give direction and guidance, delegate tasks in a manner which proves to be effective; motivate others to give their best; identify and develop the strengths of others to achieve common goals; encourage positive group relations and influence others to change their minds or behavior.
Creativity and innovation	Come up with unusual or clever ideas about a given topic or situation; Create new solutions or ideas; demonstrate originality; suggest innovative proposals; develop creative ways to solve a problem
Flexibility and adaptation	Deal well with unforeseen; adapt to changing situations; work well under pressure; respond adequately to constructive criticism; functioning well in stressful situations
Team work	Contribute actively in group to achieve a common goal, sharing resources and responsibilities; encourage the participation of all group members
Use of information and communication technologies	Select and use the right technology to accomplish each task; skilfully use the computer adapting to new applications / software; flexibility in the use of other electronic devices (eg, tablet, video projectors, printers) and the Internet
Mastery of foreign languages	Use foreign languages fluently for written and oral communication.
Conflict Management	Identify sources of conflict and work towards their resolution; identify sources of conflict between oneself and others, or among other people, and take steps to overcome disharmony.

Table 2: The label list and their correspondent definitions.

### 1.3.2 FIRST SKILL LABELLING

At this point, the sentences recognized as potentially containing at least one skill (in total **3600**, i.e. the output of the data mining process), were split into **12** files and then distributed to project partners in order to be labeled. Each file contained **300** sentences.

The project partners were asked to manually check all the extracted sentences, in order a) to discern which contained “true” skills and which did not, b) to define whether the skill (if present) was a transversal one or not, and c) to label the skills within the sentences according to one of the 16 categories listed in Table 2.

Due to the great heterogeneity of the extractions, not all the skills contained in the sentences could actually be assigned to a known label from the above list; for this reason, a temporary 17<sup>th</sup> label called “**Other**” was added at this intermediate stage.

Conversely, if the machine produced a wrong extraction (i.e. a sentence that did not contain any skill), the partner had to point out the mistake assigning the tag “is not skill” to the considered sentence.

The output was structured as follows:

- **1667** sentences **did not** contain any skill;
- **1536** sentences contained a skill **related** to at least one element of the label list;
- **397** sentences contained a skill **not related** to any element of the label list and thus labelled as “other”.

### 1.3.3 INTEGRATED LABEL LIST DEFINITION

The sentences labelled as “other” by the partners, were the ones not containing a skill that could be immediately categorized as connected to the ones of Table 2. For this reason, it was necessary to integrate the previous label list with new elements. Partners listed **6 new** labels/soft skills, as showed in table 3.

LABEL	DEFINITION
Work Ethic	The basic principles and values that govern interactions among individuals. Sound personal ethics are typically those that positively impact the experience of others when used to govern an individual's social or business-related behaviour, and at the very least, such ethics should not have a negative impact on others.
Willingness to learn	Learning is the process of acquiring new, or modifying existing, knowledge, behaviors, skills, values, or preferences
Diversity sensibility	Communicate and collaborate effectively with individuals from diverse cultures, races, ages, religions, lifestyles and points of view
Emotional skills	Emotional Intelligence is the measure of an individual's abilities to recognise and manage their emotions, and the emotions of other people, both individually and in groups.

LABEL	DEFINITION
Focused attention	Focused attention is the brain's ability to concentrate its attention on a target stimulus for any period of time. Focused attention is a type of attention that makes it possible to quickly detect relevant stimuli. We use focused attention, or mental focus, to attend to both internal stimuli (feeling thirsty) and external stimuli (sounds) and is an important skill that allows us to carefully and efficiently carry out tasks in our daily lives.
Nonverbal communication	Nonverbal communication involves the conscious and unconscious processes of encoding and decoding. Encoding is the act of generating information such as facial expressions, gestures, and postures.

Table 3: *The new elements added to the label/soft skill list.*

#### 1.3.4 SECOND SKILL LABELLING AND NEW LABEL LIST

The second skill labelling was made only for the sentences previously assigned to the “Other” category. The Partners manually detected the skills present in the sentences and assigned to them one of the new labels. If one sentence contained more than one skill, the sentence was duplicated.

As a result of all the above steps, the final Label List consists of **22** elements.

Some of the original labels (namely “Planning and organization”, “Creativity and Innovation”, “Flexibility and adaptation” were also shortened and made more precise.

The full, final list is shown in Table 4.

LABEL	DEFINITION
1 Critical Thinking	Ability to ask the right questions, willing to question their own ideas and those of others
2 Problem-Solving	Identifying and prioritizing problems; sort out the many facets of a problem, and contribute with ideas/answers regarding the problem; developed capacities to solve novel, ill-defined problems in complex and real-world settings.
3 Interpersonal relationships	Relate positively with the others while enhancing the achievement of work goals; work well with others, understanding their needs and is sympathetic with them.
4 Conflict Management	Identify sources of conflict and work towards their resolution; identify sources of conflict between oneself and others, or among other people, and take steps to overcome disharmony.
5 Decision-making	Making timely decisions based on the evaluation of the respective consequences (e.g., effects on others, political and / or ethical implications); take responsibility for the decisions taken. Considering the relative costs and benefits of potential actions to choose the most appropriate one.

6	Planning	Determine the tasks to be carried out towards meeting objectives; delegate tasks, monitoring the progress made according to the plan; update it to include unexpected events or new information
7	Time management	Manage several tasks at once; be on time; be able to set priorities and allocate time efficiently in order to meet deadlines. Managing one's own time and the time of others.
8	Oral communication	Clearly display verbal information to others, either one-to-one, in groups or in public; express views and defend rights respecting the other. Communicate information and ideas in speaking and is understood by others.
9	Active listening	Listen carefully to others; being attentive when others are speaking, respond appropriately to others during conversations / meetings; in case of doubt, make sure to understand correctly the message of the other. Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
10	Written communication	Effective writing of formal documents (eg. reports, correspondence, e-mails) and informal (eg. memos, notes)
11	Leadership	Coordinate the work of others, give direction and guidance, delegate tasks in a manner which proves to be effective; motivate others to give their best; identify and develop the strengths of others to achieve common goals; encourage positive group relations and influence others to change their minds or behavior.
12	Creativity	Come up with unusual or clever ideas about a given topic or situation; Create new solutions or ideas; demonstrate originality; suggest innovative proposals; develop creative ways to solve a problem
13	Flexibility	Deal well with unforeseen; adapt to changing situations; work well under pressure; respond adequately to constructive criticism; functioning well in stressful situations
14	Team work	Contribute actively in group to achieve a common goal, sharing resources and responsibilities; encourage the participation of all group members
15	Use of information and communication technologies	Select and use the right technology to accomplish each task; skilfully use the computer adapting to new applications / software; flexibility in the use of other electronic devices (eg, tablet, video projectors, printers) and the Internet
16	Mastery of foreign languages	Use foreign languages fluently for written and oral communication.
17	Work Ethic	The basic principles and values that govern interactions among individuals. Sound personal ethics are typically those that positively impact the experience of others when used to govern an individual's social or business-related behaviour, and at the very least, such ethics should not have a negative impact on others.
18	Willingness to learn	Learning is the process of acquiring new, or modifying existing, knowledge, behaviors, skills, values, or preferences.

19	Diversity sensibility	Communicate and collaborate effectively with individuals from diverse cultures, races, ages, religions, lifestyles and points of view
20	Emotional skills	Emotional Intelligence is the measure of an individual's abilities to recognise and manage their emotions, and the emotions of other people, both individually and in groups.
21	Focused attention	Focused attention is the brain's ability to concentrate its attention on a target stimulus for any period of time. Focused attention is a type of attention that makes it possible to quickly detect relevant stimuli. We use focused attention, or mental focus, to attend to both internal stimuli (feeling thirsty) and external stimuli (sounds) and is an important skill that allows us to carefully and efficiently carry out tasks in our daily lives.
22	Nonverbal communication	Nonverbal communication involves the conscious and unconscious processes of encoding and decoding. Encoding is the act of generating information such as facial expressions, gestures, and postures.

Table 4: The final label list and the corresponding definitions.

## 1.4 DATA FILTERING

The objective of this last phase, which steps are shown in Figure 6, is to finalize the list of skills, clean it, and structure them in to the final Lexicon.

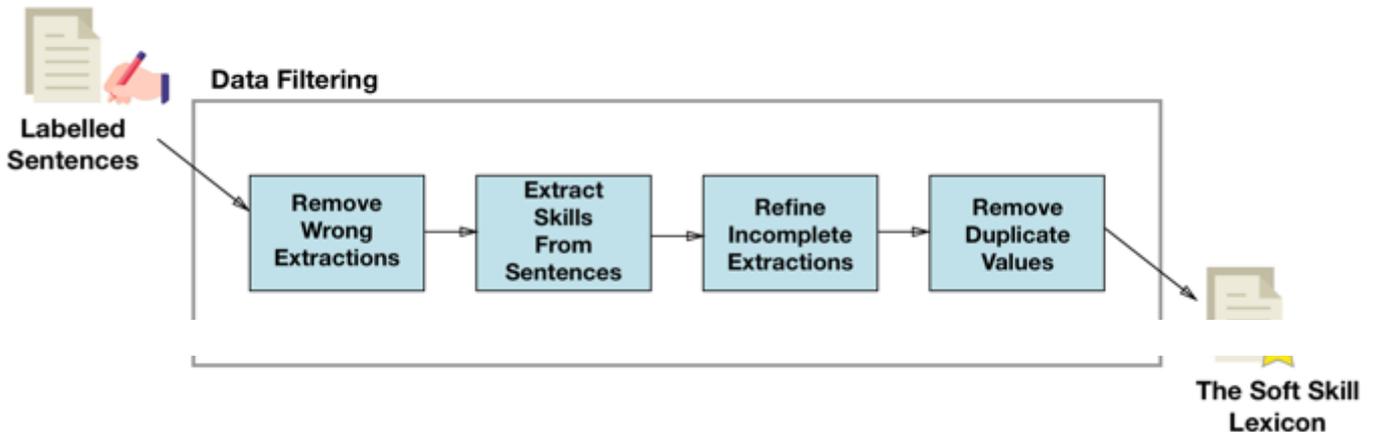


Figure 6: The Workflow of Data Filtering phase

### 1.4.1 REMOVING WRONG EXTRACTIONS

The labelled sentences that did not contain any skill were removed from the dataset.

#### 1.4.2 EXTRACTING SKILLS FROM SENTENCES

The remaining labelled sentences were automatically processed to extract the contained skills. In order to do so, the list of clues was searched into the labelled sentences. For each sentence, all the text that was in the neighborhood of a clue was extracted.

#### 1.4.3 REFINING INCOMPLETE EXTRACTIONS

The skills that were not extracted in their entirety by the software were manually refined.

#### 1.4.4 REMOVING DUPLICATE VALUES

If the same skill was assigned to the same label multiple times, the duplicates were removed.

The overall filtering process allowed the extraction of **1160** expressions.

#### 1.4.5 COMMENTS ON THE DATA EXTRACTION PROCESS

The core of the methodology designed for the project is based on the automatic extraction of entities from textual content. Since the computer needs to learn the relevant structures and patterns, several iterations were required in order to improve the accuracy every time the analyzed dataset changed.

At the end of the first iteration, the precision of the automatic extractions (i.e. “number of sentences containing at least one skill”/“total number of sentences extracted”) revealed to be **32%**. The precious contribution from the project partners through manual labelling was not only a first attempt for defining relationships among skills, but also allowed **to validate** the automatic extractions of the machine. The absence of a common language to define soft skills made the contribution given by experts absolutely necessary.

Yet, the need for various iterations and manual checks should not lead to underestimate the power of the methodology. By processing huge quantities of texts, the software is able to find all possible formulations of skills, even those related to emerging competencies not listed in existing repositories, and the study of correlations among expressions allows the clustering of similar skills on a statistical basis.

A perfect example of the value of this approach is the list of new soft skills of section 1.3.3. Had one relied only on human experts, the lexicon would have included only the original 16 categories, while the automatic extraction found 6 new soft skills altogether.

The synergy of the automatic extraction with the human knowledge and validation then leads to a Lexicon that is now complete and standardized on the basis of objective data.

## 2. THE SOFT SKILL LEXICON

### 2.1 THE LEXICON

“The Soft Skill Lexicon” is a vocabulary of skills made by **988** rows and **2** columns. The first column contains the original skill wording, i.e. the exact words as extracted from the labelled sentences in the sources database; the second one contains the 22 labels assigned by partners as the most fit to each original wording during the IO1 processes.

One can think of the right column elements as the hyperonyms, or the general levels of each soft skill, to which the left column elements are declinations, synonyms, different formulations, special cases, or side attitudes that are needed to define the high level skill. For example, the specific skills “maturity”, “assertiveness”, “confidence”, “emotional comprehension” (left column), are all special cases of the general category “emotional skills” on the right.

Please also note that the *original skill wording* column is not made by the initial sentences labelled by partners: these are the skills actually contained in, which were automatically recognized and extracted by the machine.

ORIGINAL SKILL WORDING	LABEL
<i>active listening</i>	active listening
<i>understand customer expectations</i>	active listening
<i>listen actively</i>	active listening
<i>identifying customer's needs</i>	active listening
<i>identifying a customer's needs</i>	active listening
<i>identify customer's needs</i>	active listening
<i>identify a customer's needs</i>	active listening
<i>diagnose customer's needs</i>	active listening
<i>determine customer's needs</i>	active listening
<i>classify customer's needs</i>	active listening
<i>analyse customer's needs</i>	active listening
<i>sound out learned words</i>	active listening
<i>perceiving speech</i>	active listening
<i>listening to stories</i>	active listening
<i>improve listening</i>	active listening
<i>active empathetic listening</i>	active listening
<i>listening comprehension</i>	active listening
<i>negotiate effectively</i>	conflict management
<i>negotiate</i>	conflict management
<i>conflict management</i>	conflict management

<i>manage conflicts</i>	conflict management
<i>reducing aggressive behavior</i>	conflict management
<i>cope with conflicting</i>	conflict management
<i>deal with difficult clients</i>	conflict management
<i>conflict management</i>	conflict management
<i>manage ethical issues within social work</i>	conflict management
<i>manage ethical dilemmas within social services</i>	conflict management
<i>manage ethical conflicts within social services</i>	conflict management
<i>manage ethical issues within social work</i>	conflict management
<i>manage ethical issues within social services</i>	conflict management
<i>manage ethical dilemmas within social services</i>	conflict management
<i>manage ethical conflicts within social services</i>	conflict management
<i>utilise conflict management</i>	conflict management
<i>Take ownership of the handling of all complaints and disputes</i>	conflict management
<i>suggest conflict management solutions</i>	conflict management
<i>resolution of conflicts or disputes in an organisation or institution</i>	conflict management
<i>reducing the negative aspects of a conflict</i>	conflict management
<i>provide conflict management recommendations</i>	conflict management
<i>management of conflicts</i>	conflict management
<i>implement conflict management</i>	conflict management
<i>employ conflict management</i>	conflict management
<i>conflict supervision</i>	conflict management
<i>conflict administration</i>	conflict management
<i>applying conflict management</i>	conflict management
<i>apply conflict management</i>	conflict management
<i>Advise private or public organisations on monitoring possible conflict risk and development, and on conflict resolution methods specific to the identified conflicts</i>	conflict management
<i>advise on management of conflicts</i>	conflict management
<i>advise on conflicts' management</i>	conflict management
<i>administer conflict management</i>	conflict management
<i>conflict resolution</i>	conflict management
<i>creative produce content that is relevant to the subject area</i>	creativity
<i>creativity</i>	creativity
<i>Use techniques like brainstorming to stimulate creativity in the team</i>	creativity
<i>use of creativity</i>	creativity
<i>Thorough research for information to develop new ideas and concepts for the design of a specific production based</i>	creativity
<i>present innovative solutions</i>	creativity

SOFT SKILL LEXICON

<i>research new ideas and concepts</i>	creativity
<i>research innovation</i>	creativity
<i>recognise future trends</i>	creativity
<i>innovate and lead in using technologies</i>	creativity
<i>identify innovation</i>	creativity
<i>develop new ideas and concepts</i>	creativity
<i>assessing the feasibility of implementing developments</i>	creativity
<i>assess the feasibility of implementing developments</i>	creativity
<i>arrange creative performance</i>	creativity
<i>apply state-of-the-art methods of examination</i>	creativity
<i>apply newest methods of examination</i>	creativity
<i>achieve innovation or discover industrial and commercial applications</i>	creativity
<i>creative thinking</i>	creativity
<i>draw connections between apparently disparate subjects</i>	creativity
<i>comprehend various forms of visual representation</i>	creativity
<i>analyze information and data</i>	critical thinking
<i>understand different texts</i>	critical thinking
<i>process information</i>	critical thinking
<i>interpret visual representations</i>	critical thinking
<i>interpret various forms of visual representations</i>	critical thinking
<i>Interpret pictorial representations</i>	critical thinking
<i>Interpret graphics</i>	critical thinking
<i>Interpret maps</i>	critical thinking
<i>interpret charts, maps, graphics, and other pictorial representations</i>	critical thinking
<i>question the status quo</i>	critical thinking
<i>evaluate their own work</i>	critical thinking
<i>assessing their own performance</i>	critical thinking
<i>reflect upon their language</i>	critical thinking
<i>detect changes in functional communication</i>	critical thinking
<i>associate meanings</i>	critical thinking
<i>assess their own communication</i>	critical thinking
<i>use of data analytics</i>	critical thinking
<i>use of algorithms</i>	critical thinking
<i>Practise reasoning and apply simple or complex numerical concepts and calculations</i>	critical thinking
<i>It involves the identification of patterns and formulating new conjectures based on them</i>	critical thinking

SOFT SKILL LEXICON

<i>predict reading</i>	critical thinking
<i>understand the goals</i>	critical thinking
<i>reflect upon and eventually remit these experiences</i>	critical thinking
<i>examine the pattern of social relationships</i>	critical thinking
<i>identify and execute upon strategic opportunities</i>	critical thinking
<i>evaluate the feasibility of implementing developments</i>	critical thinking
<i>increasing the positive outcomes by learning from the errors made</i>	critical thinking
<i>customer-focus</i>	critical thinking
<i>respond to challenges while maintaining intersubjectivity</i>	critical thinking
<i>critical thinking</i>	critical thinking
<i>analytical thinking</i>	critical thinking
<i>strategic thinking</i>	critical thinking
<i>analytical mind</i>	critical thinking
<i>synthesize and integrate input</i>	critical thinking
<i>develop insight and analysis</i>	critical thinking
<i>work with large amounts of data</i>	critical thinking
<i>work with complex issues</i>	critical thinking
<i>work with a large volume information</i>	critical thinking
<i>understand how different function and activities interact</i>	critical thinking
<i>think critically to overcome potential business hurdles to complete tasks</i>	critical thinking
<i>think critically</i>	critical thinking
<i>systematic thinking</i>	critical thinking
<i>systematic thinker</i>	critical thinking
<i>structured thinking</i>	critical thinking
<i>see big picture</i>	critical thinking
<i>quickly analyze and optimize ad projects</i>	critical thinking
<i>produce impartial and thorough investigation reports</i>	critical thinking
<i>look at data</i>	critical thinking
<i>learn and deal with large amount of information</i>	critical thinking
<i>dive into search strategies</i>	critical thinking
<i>analytical way of thinking</i>	critical thinking
<i>analyze quantifiable metrics</i>	critical thinking
<i>problem analysis</i>	critical thinking
<i>utilise logical thinking</i>	critical thinking
<i>utilise logical reasoning</i>	critical thinking
<i>use logical reasoning skills</i>	critical thinking
<i>use logical reasoning</i>	critical thinking

SOFT SKILL LEXICON

<i>use critical thinking skills</i>	critical thinking
<i>synthesize information from different sources</i>	critical thinking
<i>recognise patterns</i>	critical thinking
<i>reason logically</i>	critical thinking
<i>read and exploit data</i>	critical thinking
<i>measure the quality of the service provided</i>	critical thinking
<i>measure effectiveness of services provided</i>	critical thinking
<i>deal with potential problems prior to the start of testing activities</i>	critical thinking
<i>combine work across different fields</i>	critical thinking
<i>ability to think in a critical and analytical manner</i>	critical thinking
<i>understanding of extant legal frameworks</i>	critical thinking
<i>strategic communication</i>	critical thinking
<i>promotes the acquisition of problem</i>	critical thinking
<i>problem identification</i>	critical thinking
<i>make sense of a complicated pattern</i>	critical thinking
<i>develop new ways of thinking</i>	critical thinking
<i>develop critical thinking</i>	critical thinking
<i>cross-functional thinking</i>	critical thinking
<i>adversary thinking</i>	critical thinking
<i>divergent thinking</i>	critical thinking
<i>abstract thinking</i>	critical thinking
<i>predict future developments</i>	critical thinking
<i>abstract reasoning</i>	critical thinking
<i>Decision making</i>	decision-making
<i>make decisions</i>	decision-making
<i>make technical decisions</i>	decision-making
<i>make decisions independently</i>	decision-making
<i>take substantiated decisions</i>	decision-making
<i>make data driven decisions</i>	decision-making
<i>drive key business priorities</i>	decision-making
<i>Decision-making</i>	decision-making
<i>take decisions</i>	decision-making
<i>use passenger reports to inform strategic decision making</i>	decision-making
<i>undertake diplomatic decision making</i>	decision-making
<i>taking decisions applying advanced practice</i>	decision-making
<i>take decisions considering economic criteria</i>	decision-making
<i>take appropriate decisions taking into account economic criteria</i>	decision-making
<i>pursue optimal time-critical decision making within the organisation</i>	decision-making

SOFT SKILL LEXICON

<i>making time-critical decisions</i>	decision-making
<i>make time-critical decisions</i>	decision-making
<i>make tactical business decisions</i>	decision-making
<i>make strategic business choices</i>	decision-making
<i>make rational choices</i>	decision-making
<i>make independent operating decisions</i>	decision-making
<i>Make immediate operating decisions as necessary without reference to others, taking into account the circumstances and any relevant procedures and legislation</i>	decision-making
<i>make diplomatic decisions</i>	decision-making
<i>make decisions considering economic factors</i>	decision-making
<i>investigate and present finding of high relevance for the decision-making process</i>	decision-making
<i>integrate evidence-based practice</i>	decision-making
<i>incorporate economic considerations into decision making</i>	decision-making
<i>include economic considerations in decision making</i>	decision-making
<i>implement diplomatic decisions</i>	decision-making
<i>gather data for decision making</i>	decision-making
<i>determine alone which option is the best for a particular situation</i>	decision-making
<i>consider several alternative possibilities carefully</i>	decision-making
<i>consider economic factors in decision making</i>	decision-making
<i>consider economic criteria in decision making</i>	decision-making
<i>assess economic factors in proposal development</i>	decision-making
<i>analyse economic impacts in decision making</i>	decision-making
<i>Analyse data and apply judgement to inform decision-making</i>	decision-making
<i>taking decisions</i>	decision-making
<i>making tough decision</i>	decision-making
<i>make their own decisions</i>	decision-making
<i>make promotion decisions</i>	decision-making
<i>discriminate accurate from inaccurate decisions</i>	decision-making
<i>decisiveness</i>	decision-making
<i>work independently</i>	decision-making
<i>work independently and plan your own time to reach maximum efficiency</i>	decision-making
<i>work with minimal supervision</i>	decision-making
<i>work independently and reach assigned targets</i>	decision-making
<i>work autonomously and independently</i>	decision-making
<i>work alone as well as in a team</i>	decision-making
<i>take the initiative and be proactive</i>	decision-making

SOFT SKILL LEXICON

<i>take initiative, self-starters are preferred</i>	decision-making
<i>self-start and self-direct work in an unstructured environment</i>	decision-making
<i>self-initiative</i>	decision-making
<i>pro-activeness</i>	decision-making
<i>manage individual project priorities, deadlines, and deliverables</i>	decision-making
<i>achieve high-quality deliverables</i>	decision-making
<i>act decisively in uncertain situations</i>	decision-making
<i>effectively prioritize</i>	decision-making
<i>prioritize</i>	decision-making
<i>autonomy</i>	decision-making
<i>take decisions within social work</i>	decision-making
<i>start decision making process within social work</i>	decision-making
<i>making of time-critical decisions</i>	decision-making
<i>make strategic business decisions</i>	decision-making
<i>gather data for decision making</i>	decision-making
<i>decide within social work</i>	decision-making
<i>apply judgement to inform decision-making</i>	decision-making
<i>apply decision-making within social work</i>	decision-making
<i>achieve optimal time-critical decision making</i>	decision-making
<i>understanding to achieve resolution</i>	decision-making
<i>defend agency's interests</i>	decision-making
<i>achieve results</i>	decision-making
<i>capable of implementing production-ready solutions</i>	decision-making
<i>be results-driven</i>	decision-making
<i>Use cognitive abilities to make decisions and to move logically from one idea to another</i>	decision-making
<i>work with foreign co-workers</i>	diversity sensibility
<i>openness</i>	diversity sensibility
<i>develop intercultural communication</i>	diversity sensibility
<i>cultural sensitivity</i>	diversity sensibility
<i>understand intergroup</i>	diversity sensibility
<i>understand cultural dynamics</i>	diversity sensibility
<i>respecting personality</i>	diversity sensibility
<i>meet developmental and sociocultural standards</i>	diversity sensibility
<i>function independently in the complex social environment</i>	diversity sensibility
<i>work in an international business environment</i>	diversity sensibility
<i>establish contact with any kinds of people</i>	diversity sensibility
<i>collaborate and link across borders</i>	diversity sensibility

SOFT SKILL LEXICON

<i>adapt/respond to wide types of personalities and cultures</i>	diversity sensibility
<i>gain access to culturally transmitted knowledge</i>	diversity sensibility
<i>being respectful of diversity</i>	diversity sensibility
<i>leading cross-functional and cross-country teams</i>	diversity sensibility
<i>cooperate worldwide</i>	diversity sensibility
<i>work with teams and partners across multiple geographies</i>	diversity sensibility
<i>work well in a multi-cultural team</i>	diversity sensibility
<i>work across departments, divisions and countries</i>	diversity sensibility
<i>handle multi-cultural and multi-lingual clientele</i>	diversity sensibility
<i>effectively work in a multinational/multicultural environment</i>	diversity sensibility
<i>coordinate cross-country teams toward task completion</i>	diversity sensibility
<i>collaborate with team members located all around the world</i>	diversity sensibility
<i>cultural knowledge</i>	diversity sensibility
<i>intercultural competence</i>	diversity sensibility
<i>develop critical cultural thinking</i>	diversity sensibility
<i>cross-cultural adjustment</i>	diversity sensibility
<i>bridge diverse working</i>	diversity sensibility
<i>sense of personal ownership</i>	emotional skills
<i>emotional comprehension</i>	emotional skills
<i>positive attitude</i>	emotional skills
<i>maturity</i>	emotional skills
<i>assertiveness</i>	emotional skills
<i>confidence</i>	emotional skills
<i>navigate difficult conversations</i>	emotional skills
<i>execute instructions independently</i>	emotional skills
<i>being a self-starter</i>	emotional skills
<i>active and confident personality</i>	emotional skills
<i>self-motivation</i>	emotional skills
<i>work with the minimum of supervision</i>	emotional skills
<i>able to relax</i>	emotional skills
<i>tenacity</i>	emotional skills
<i>self-government</i>	emotional skills
<i>self-determined behavior</i>	emotional skills
<i>self-determination efforts</i>	emotional skills
<i>personal attitude</i>	emotional skills
<i>perception of self-worth</i>	emotional skills
<i>gain more confidence in the ability to speak out</i>	emotional skills
<i>developing habits of resiliency</i>	emotional skills

SOFT SKILL LEXICON

<i>self-determination</i>	emotional skills
<i>self-management</i>	emotional skills
<i>self-control</i>	emotional skills
<i>self-confidence</i>	emotional skills
<i>self-esteem</i>	emotional skills
<i>reducing social anxiety</i>	emotional skills
<i>communicate empathic responses</i>	emotional skills
<i>stress management</i>	emotional skills
<i>social coping</i>	emotional skills
<i>regulate emotions</i>	emotional skills
<i>read microexpressions</i>	emotional skills
<i>process and regulate emotional information</i>	emotional skills
<i>perceive emotions</i>	emotional skills
<i>manage emotions</i>	emotional skills
<i>interact in emotionally intelligent ways</i>	emotional skills
<i>identify emotions</i>	emotional skills
<i>effectively regulate emotional information</i>	emotional skills
<i>effectively process emotional information</i>	emotional skills
<i>detect deception</i>	emotional skills
<i>decrease aggressive behavior</i>	emotional skills
<i>cope with intrusive thoughts</i>	emotional skills
<i>encode happiness</i>	emotional skills
<i>emotion management</i>	emotional skills
<i>behavior management</i>	emotional skills
<i>courage</i>	emotional skills
<i>move and willingness</i>	emotional skills
<i>resilience</i>	emotional skills
<i>get more out of oneself</i>	emotional skills
<i>coping efficacy</i>	emotional skills
<i>empathy</i>	emotional skills
<i>emotional intelligence</i>	emotional skills
<i>verbal and nonverbal expressions of feelings</i>	emotional skills
<i>social emotional adjustment</i>	emotional skills
<i>share thoughts and feelings</i>	emotional skills
<i>respond to others thoughts and feelings</i>	emotional skills
<i>recognition of emotions</i>	emotional skills
<i>perception of emotions</i>	emotional skills
<i>organize thoughts and feelings</i>	emotional skills

SOFT SKILL LEXICON

<i>identify what someone else is thinking and feeling</i>	emotional skills
<i>expressing feelings</i>	emotional skills
<i>encode emotions</i>	emotional skills
<i>emotional judgments</i>	emotional skills
<i>cope with difficult emotions</i>	emotional skills
<i>control impulses</i>	emotional skills
<i>control emotions</i>	emotional skills
<i>building resilience</i>	emotional skills
<i>affectively share emotions</i>	emotional skills
<i>address emotions</i>	emotional skills
<i>accurately interpret emotions</i>	emotional skills
<i>emotional understanding</i>	emotional skills
<i>emotional regulation</i>	emotional skills
<i>emotional self-regulation</i>	emotional skills
<i>emotional expression and recognition</i>	emotional skills
<i>compassion</i>	emotional skills
<i>anger management</i>	emotional skills
<i>emotional expression</i>	emotional skills
<i>self-awareness</i>	emotional skills
<i>emotion regulation</i>	emotional skills
<i>self-regulation</i>	emotional skills
<i>recognize other people's emotions</i>	emotional skills
<i>recognize ones own and other people`s emotions</i>	emotional skills
<i>have emotional intelligence</i>	emotional skills
<i>understand the nonliteral meaning</i>	emotional skills
<i>recognise facial expressions</i>	emotional skills
<i>feeling management</i>	emotional skills
<i>recognize emotions</i>	emotional skills
<i>flexibility</i>	flexibility
<i>work under pressure</i>	flexibility
<i>multi-task</i>	flexibility
<i>multitask</i>	flexibility
<i>adaptability</i>	flexibility
<i>adaptation</i>	flexibility
<i>work on multiple projects</i>	flexibility
<i>work in a fast-paced environment</i>	flexibility
<i>multitask and work under pressure</i>	flexibility
<i>handle multiple priorities</i>	flexibility

SOFT SKILL LEXICON

<i>work in a changing environment</i>	flexibility
<i>work across boundaries and in virtual/crossfunctional teams</i>	flexibility
<i>work a variety of shift patterns</i>	flexibility
<i>travel and attend offsite meetings</i>	flexibility
<i>thrive in a very fast-paced working environment</i>	flexibility
<i>take on business challenges</i>	flexibility
<i>switch fast from one topic to another</i>	flexibility
<i>succeed in a fast-paced, entrepreneurial environment</i>	flexibility
<i>shift priorities</i>	flexibility
<i>perform well under pressure</i>	flexibility
<i>passion to work both on customized and standard tasks</i>	flexibility
<i>manage work with minimal oversight in a fast-paced business environment with multiple stakeholders</i>	flexibility
<i>manage the execution of multiple tasks</i>	flexibility
<i>handle multiple tasks at one time</i>	flexibility
<i>flexibility to propose solutions for ad-hoc cases</i>	flexibility
<i>comfort in a rapidly changing environment</i>	flexibility
<i>capable of handling several simultaneous assignments</i>	flexibility
<i>adopt to a rapidly changing working environment</i>	flexibility
<i>adjust to multiple demands</i>	flexibility
<i>adjust quickly to changing priorities</i>	flexibility
<i>adapt your writing style to the target audience</i>	flexibility
<i>adapt to client requirements</i>	flexibility
<i>adapt to any style</i>	flexibility
<i>adapt to a new accounting program</i>	flexibility
<i>adapt in new challenges</i>	flexibility
<i>renewing its focus</i>	flexibility
<i>perform across a variety of situations</i>	flexibility
<i>meet the ever-changing demands</i>	flexibility
<i>implement changes in real-time</i>	flexibility
<i>capable of adapting continuously as technologies evolve</i>	flexibility
<i>take a positive view to change</i>	flexibility
<i>adopt a positive and flexible attitude to changing priorities and procedures</i>	flexibility
<i>work under pressure</i>	flexibility
<i>work under pressure according to deadlines</i>	flexibility
<i>work under pressure in a fast paced environment</i>	flexibility
<i>shift unexpected events while maintaining a positive work attitude</i>	flexibility
<i>perform well under pressure</i>	flexibility

SOFT SKILL LEXICON

<i>perform several tasks promptly</i>	flexibility
<i>perform and work well under pressure</i>	flexibility
<i>handle stressful situations and react quickly</i>	flexibility
<i>cope in a busy environment with strict deadlines</i>	flexibility
<i>complete projects and exceed results in an ambiguous work environment</i>	flexibility
<i>perform under pressure</i>	flexibility
<i>operate under pressure-filled situations</i>	flexibility
<i>achieve results under pressure and when faced with a challenge</i>	flexibility
<i>manage a vast number of tasks simultaneously</i>	flexibility
<i>develop quick reaction</i>	flexibility
<i>solve problems flexibly</i>	flexibility
<i>make transitions</i>	flexibility
<i>cognitive flexibility</i>	flexibility
<i>adapt to the physical and social environment</i>	flexibility
<i>adapt to the changes</i>	flexibility
<i>adapt to and act in new situation</i>	flexibility
<i>cope with changes</i>	flexibility
<i>stress tolerance</i>	flexibility
<i>navigate ambiguity</i>	flexibility
<i>comfortable dealing with ambiguity</i>	flexibility
<i>respond to working scenarios</i>	flexibility
<i>cope with problems</i>	flexibility
<i>cope with challenges</i>	flexibility
<i>work under pressure</i>	flexibility
<i>quick reaction</i>	flexibility
<i>stay focused on assigned tasks</i>	focused attention
<i>concentrate</i>	focused attention
<i>maintain sharp attention to detail</i>	focused attention
<i>deliver high quality documentation paying attention to details</i>	focused attention
<i>concentrate on details</i>	focused attention
<i>be detail oriented</i>	focused attention
<i>pay attention and focus</i>	focused attention
<i>work independently with great precision and within set deadlines</i>	focused attention
<i>permanently maintain high level of accuracy</i>	focused attention
<i>work effectively</i>	focused attention
<i>pay attention</i>	focused attention
<i>allocate attention</i>	focused attention

SOFT SKILL LEXICON

<i>sustain attention</i>	focused attention
<i>teaching basic numeracy skills</i>	interpersonal relationships
<i>explain basic numeracy skills</i>	interpersonal relationships
<i>providing learning support</i>	interpersonal relationships
<i>provides learning support</i>	interpersonal relationships
<i>provide learning support</i>	interpersonal relationships
<i>offer learning support</i>	interpersonal relationships
<i>manage spoken language learning</i>	interpersonal relationships
<i>make learning support available</i>	interpersonal relationships
<i>improve language skills</i>	interpersonal relationships
<i>language comprehension</i>	interpersonal relationships
<i>encourage two way communication</i>	interpersonal relationships
<i>building and maintaining effective working relationships with all colleagues</i>	interpersonal relationships
<i>work together over time</i>	interpersonal relationships
<i>understand and negotiate intergroup</i>	interpersonal relationships
<i>build relationships</i>	interpersonal relationships
<i>Social skill</i>	interpersonal relationships
<i>effectively deal with department heads, residents, guests and crew members</i>	interpersonal relationships
<i>social comprehension</i>	interpersonal relationships
<i>social adaptation</i>	interpersonal relationships
<i>develop healthy, meaningful relationships</i>	interpersonal relationships
<i>interact with others</i>	interpersonal relationships
<i>social interaction</i>	interpersonal relationships
<i>maintaining credibility through all business relationships</i>	interpersonal

SOFT SKILL LEXICON

	relationships
<i>social perspective framing</i>	interpersonal relationships
<i>maintain quality relationships and build trust</i>	interpersonal relationships
<i>focus on customer needs</i>	interpersonal relationships
<i>create reporting, and monitor kpls</i>	interpersonal relationships
<i>develop functional communication</i>	interpersonal relationships
<i>communicate with others</i>	interpersonal relationships
<i>negotiate</i>	interpersonal relationships
<i>negotiate with category managers and leaders of retailers</i>	interpersonal relationships
<i>influence stakeholders and work closely with them to determine</i>	interpersonal relationships
<i>gain stakeholders understanding in necessary details</i>	interpersonal relationships
<i>express and advocate own argumentation</i>	interpersonal relationships
<i>influence key stakeholders at all levels of an organization</i>	interpersonal relationships
<i>persuasion</i>	interpersonal relationships
<i>other-oriented persuasion</i>	interpersonal relationships
<i>communicate</i>	interpersonal relationships
<i>verbal communication</i>	interpersonal relationships
<i>interpersonal communication</i>	interpersonal relationships
<i>variance of the communication</i>	interpersonal relationships
<i>understand sarcasm</i>	interpersonal relationships
<i>meta communicate</i>	interpersonal relationships
<i>integrate non verbal and verbal behaviours</i>	interpersonal relationships
<i>improve social communication</i>	interpersonal relationships
<i>improve expressive communication</i>	interpersonal

SOFT SKILL LEXICON

	relationships
<i>face-to-face communication</i>	interpersonal relationships
<i>excellent career communication</i>	interpersonal relationships
<i>engaging verbal mechanisms</i>	interpersonal relationships
<i>develop necessary communication</i>	interpersonal relationships
<i>develop interview skills</i>	interpersonal relationships
<i>develop independent communication</i>	interpersonal relationships
<i>communicate to a group of people</i>	interpersonal relationships
<i>communicate his needs</i>	interpersonal relationships
<i>communicate effectively using limited language</i>	interpersonal relationships
<i>apply knowledge of communication</i>	interpersonal relationships
<i>public speaking</i>	interpersonal relationships
<i>functional communication</i>	interpersonal relationships
<i>communicate effectively</i>	interpersonal relationships
<i>effective communication</i>	interpersonal relationships
<i>judgment of personality trait</i>	interpersonal relationships
<i>avoid misunderstandings</i>	interpersonal relationships
<i>sell by building a win-win business case</i>	interpersonal relationships
<i>carry a successful product to other parts of the world</i>	interpersonal relationships
<i>carry a successful product</i>	interpersonal relationships
<i>Negotiate the terms for artistic productions with the selected companies, keeping within the budgetary limits prepared by the business leadership</i>	interpersonal relationships
<i>interact with others</i>	interpersonal relationships
<i>build relationships</i>	interpersonal relationships
<i>cultivate strong relationships with diverse client groups within and outside the business</i>	interpersonal relationships

SOFT SKILL LEXICON

<i>Interpersonal relationships</i>	interpersonal relationships
<i>persuasion</i>	interpersonal relationships
<i>work on their relationship</i>	interpersonal relationships
<i>work effectively providing they adopt an assertive approach</i>	interpersonal relationships
<i>work both independently and as a team</i>	interpersonal relationships
<i>use other oriented persuasion</i>	interpersonal relationships
<i>use of linguistic styles</i>	interpersonal relationships
<i>understanding personality</i>	interpersonal relationships
<i>understanding of the relationship</i>	interpersonal relationships
<i>sustain social interactions</i>	interpersonal relationships
<i>respond to others</i>	interpersonal relationships
<i>pragmatic communication</i>	interpersonal relationships
<i>perform appropriate and effective social behavior</i>	interpersonal relationships
<i>obtain healthy relationships</i>	interpersonal relationships
<i>negotiate flexible arrangements</i>	interpersonal relationships
<i>managing communication</i>	interpersonal relationships
<i>interact well with customers</i>	interpersonal relationships
<i>interact and to learn</i>	interpersonal relationships
<i>face to face interaction</i>	interpersonal relationships
<i>empathic relationships</i>	interpersonal relationships
<i>effectively interact within the host</i>	interpersonal relationships
<i>effective persuasion</i>	interpersonal relationships
<i>develop effective social coping</i>	interpersonal relationships

SOFT SKILL LEXICON

<i>conduct a positive dialogue</i>	interpersonal relationships
<i>communicate well with people</i>	interpersonal relationships
<i>collaborate skillfully</i>	interpersonal relationships
<i>adapt to social behaviour</i>	interpersonal relationships
<i>negotiate intergroup</i>	interpersonal relationships
<i>develop social skills</i>	interpersonal relationships
<i>social communication</i>	interpersonal relationships
<i>maintain working relationships</i>	interpersonal relationships
<i>maintain working relationship</i>	interpersonal relationships
<i>maintain interpersonal relationships with colleagues</i>	interpersonal relationships
<i>foster a positive working relationship</i>	interpersonal relationships
<i>ensure effective working relationships with colleagues and others</i>	interpersonal relationships
<i>ensure effective working relationships</i>	interpersonal relationships
<i>develop productive working relationships</i>	interpersonal relationships
<i>participate in social interactions and relationships</i>	interpersonal relationships
<i>use of communication</i>	interpersonal relationships
<i>use effective communication</i>	interpersonal relationships
<i>showing empathy and understanding</i>	interpersonal relationships
<i>communication and social interaction</i>	interpersonal relationships
<i>managing difficult behaviour</i>	interpersonal relationships
<i>work closely with internal and external stakeholders</i>	interpersonal relationships
<i>communicate clearly and professionally</i>	interpersonal relationships
<i>present complicated issues in an easy way</i>	interpersonal relationships

SOFT SKILL LEXICON

<i>make them easily understandable</i>	interpersonal relationships
<i>interact with financial service recipients</i>	interpersonal relationships
<i>have transparent and open communication</i>	interpersonal relationships
<i>enjoy interacting with current and potential clients</i>	interpersonal relationships
<i>effectively communicate recommendations to executive management</i>	interpersonal relationships
<i>convey technical information clearly and concisely</i>	interpersonal relationships
<i>communicate relevant information at the right time</i>	interpersonal relationships
<i>build and maintain good relationship with customers in any situation</i>	interpersonal relationships
<i>explain technical details to non-technical customers, stakeholders, or any other interested parties in a clear and concise manner</i>	interpersonal relationships
<i>demonstrate professional attitude to clients</i>	interpersonal relationships
<i>understand various kinds of communicative acts</i>	interpersonal relationships
<i>produce various kinds of communicative acts</i>	interpersonal relationships
<i>communicate helpfully</i>	interpersonal relationships
<i>negotiation</i>	interpersonal relationships
<i>set a work atmosphere of continuous improvement</i>	interpersonal relationships
<i>develop recommendations for improving quality</i>	interpersonal relationships
<i>develop a work atmosphere of continuous improvement</i>	interpersonal relationships
<i>creating a work atmosphere of continuous improvement</i>	interpersonal relationships
<i>create a working atmosphere of continuous improvement</i>	interpersonal relationships
<i>create a work atmosphere of continuous improvement</i>	interpersonal relationships
<i>create a continuous improvement work atmosphere</i>	interpersonal relationships
<i>network with industry</i>	interpersonal relationships
<i>sustaining a conversation</i>	interpersonal relationships

SOFT SKILL LEXICON

<i>personal social skills</i>	interpersonal relationships
<i>learning how to share intimately in relationships</i>	interpersonal relationships
<i>interact with other people</i>	interpersonal relationships
<i>improving relationship</i>	interpersonal relationships
<i>grasp beliefs</i>	interpersonal relationships
<i>facilitate communication</i>	interpersonal relationships
<i>establishing mutual understanding</i>	interpersonal relationships
<i>detect social and emotional information</i>	interpersonal relationships
<i>apply the intended collaborative approach</i>	interpersonal relationships
<i>address interpersonal communication</i>	interpersonal relationships
<i>supply learning support</i>	leadership
<i>manage team work</i>	leadership
<i>working towards positive change</i>	leadership
<i>motivate cooperation</i>	leadership
<i>build trust</i>	leadership
<i>influence and inspire without authority</i>	leadership
<i>command authority</i>	leadership
<i>influence the overall performance of managers</i>	leadership
<i>influence people</i>	leadership
<i>cultivating communication</i>	leadership
<i>communicate in an effective and supportive manner</i>	leadership
<i>Leadership</i>	leadership
<i>inspire action</i>	leadership
<i>inspire, guide and charge with energy other team members</i>	leadership
<i>influence and inspire without authority</i>	leadership
<i>demonstrate excellent standards and team member supervision</i>	leadership
<i>empowering</i>	leadership
<i>work with people, manage a team, be a team leader</i>	leadership
<i>set aggressive objectives</i>	leadership
<i>provide direction when faced with a challenge</i>	leadership
<i>prioritize, multitask, focus, lead, influence and delegate</i>	leadership

SOFT SKILL LEXICON

<i>motivate others to follow</i>	leadership
<i>manage needs from a distance</i>	leadership
<i>lead complex and highly impactful cross-functional projects from concept to completion</i>	leadership
<i>efficiently manage a team</i>	leadership
<i>effectively lead and manage a team through influence in a matrix organizational structure</i>	leadership
<i>drive changes successfully</i>	leadership
<i>develop and communicate a vision for an organization</i>	leadership
<i>communicate and implement corrective action steps in an effective, yet diplomatic fashion</i>	leadership
<i>use different leadership styles</i>	leadership
<i>strengthen each individual's capability and experience</i>	leadership
<i>showing an exemplary leading role in an organisation</i>	leadership
<i>show an exemplary leading role in an organisation</i>	leadership
<i>provide guidance</i>	leadership
<i>provide authority</i>	leadership
<i>Perform, act, and behave in a manner that inspires collaborators to follow the example given by their managers</i>	leadership
<i>Obtain and maintain situational awareness, considering of team experience</i>	leadership
<i>mobilize the capacities of others</i>	leadership
<i>make use of goal-driven leadership abilities</i>	leadership
<i>leadership principles</i>	leadership
<i>lead colleagues</i>	leadership
<i>lead and influence others to promote and contribute to policy development, advocacy, extending the boundaries and strategy at various levels</i>	leadership
<i>lead and influence</i>	leadership
<i>improve outcomes for young people</i>	leadership
<i>exert a result-oriented leadership role</i>	leadership
<i>exert a leadership role towards colleagues</i>	leadership
<i>exert a goal-oriented leadership role towards colleagues</i>	leadership
<i>engage and manage groups through your dance leadership in a creative context</i>	leadership
<i>Embrace a leadership role in the organisation and with colleagues as to provide coaching and direction to subordinates aiming at the achievement of specific objectives</i>	leadership
<i>display an exemplary leading role in an organisation</i>	leadership
<i>demonstrate leadership in social service cases</i>	leadership
<i>demonstrate an exemplary leadership qualities in an organisation</i>	leadership

SOFT SKILL LEXICON

<i>create a supportive and safe atmosphere</i>	leadership
<i>communicate effectively, showing assertiveness and leadership</i>	leadership
<i>change leadership styles according to the situation</i>	leadership
<i>balance participants' personal needs with group needs</i>	leadership
<i>apply a variety of approaches in your practice that balances the needs of each individual with that of the group as a whole</i>	leadership
<i>adapt styles of leadership</i>	leadership
<i>strategic management</i>	leadership
<i>guide the subordinates towards accepting more responsibility for solving their own problems</i>	leadership
<i>fostering autonomy through learning strategies</i>	leadership
<i>create environments that inspire others</i>	leadership
<i>understanding everyday performance</i>	leadership
<i>shift roles</i>	leadership
<i>regulate others</i>	leadership
<i>reducing anxiety</i>	leadership
<i>managing all opportunities</i>	leadership
<i>link the companies</i>	leadership
<i>increasing social engagement</i>	leadership
<i>develop political skills</i>	leadership
<i>capitalising all opportunities</i>	leadership
<i>attenuating difficulties</i>	leadership
<i>acute judgment</i>	leadership
<i>counseling</i>	leadership
<i>suggest teaching methods</i>	leadership
<i>drive their organisations</i>	leadership
<i>manage their own employment transitions between organisations</i>	leadership
<i>build rapport with employees</i>	leadership
<i>meet the needs of employers</i>	leadership
<i>run board meetings</i>	leadership
<i>leads board meetings</i>	leadership
<i>leading board meetings</i>	leadership
<i>lead board meeting</i>	leadership
<i>guide board meetings</i>	leadership
<i>make consensual decisions</i>	leadership
<i>support creativity in the team</i>	leadership
<i>stimulate creativity in the team</i>	leadership
<i>facilitate creativity in the team</i>	leadership
<i>encourage creativity in the team</i>	leadership

SOFT SKILL LEXICON

<i>read, write and speak good in english and one additional language</i>	mastery of foreign languages
<i>Research or practice language skills to stay current with language changes in order to best translate or interpret</i>	mastery of foreign languages
<i>oversee spoken language learning</i>	mastery of foreign languages
<i>linking languages</i>	mastery of foreign languages
<i>read, write, speak and understand english</i>	mastery of foreign languages
<i>read, write and speak standard english</i>	mastery of foreign languages
<i>write and speak in a foreign language</i>	mastery of foreign languages
<i>use foreign languages among guests</i>	mastery of foreign languages
<i>exploit foreign language</i>	mastery of foreign languages
<i>speaking and understanding a second language</i>	mastery of foreign languages
<i>link languages</i>	mastery of foreign languages
<i>development of second language</i>	mastery of foreign languages
<i>acquire a second first language</i>	mastery of foreign languages
<i>use of spontaneous nonverbal communicative methods</i>	nonverbal communication
<i>assess expressive language</i>	nonverbal communication
<i>acquire aspects of a manual communication</i>	nonverbal communication
<i>sense differences between faces with hidden emotional information</i>	nonverbal communication
<i>recognize emotions from body movements</i>	nonverbal communication
<i>read emotions in the face of another person</i>	nonverbal communication
<i>produce spatially-consistent referent-identifying gestures</i>	nonverbal communication
<i>portrays information about what another person is attending to</i>	nonverbal communication
<i>nonverbal imitative behavior</i>	nonverbal communication
<i>nonverbal decoding</i>	nonverbal communication

SOFT SKILL LEXICON

<i>gesturing</i>	nonverbal communication
<i>facially express six basic emotions</i>	nonverbal communication
<i>facial expressiveness</i>	nonverbal communication
<i>expressive strategies</i>	nonverbal communication
<i>comprehend nonverbal communication</i>	nonverbal communication
<i>body orientation</i>	nonverbal communication
<i>recognize the 6 basic facial expressions of emotion</i>	nonverbal communication
<i>nonverbal communication</i>	nonverbal communication
<i>nonverbal ability</i>	nonverbal communication
<i>facial expression recognition</i>	nonverbal communication
<i>detect and focus on faces</i>	nonverbal communication
<i>use a rich vocabulary</i>	oral communication
<i>use a good diction</i>	oral communication
<i>speak clearly and precisely</i>	oral communication
<i>provide consistent terminology</i>	oral communication
<i>pronounce words accurately so as not to make mistakes or unintentionally say something incorrect</i>	oral communication
<i>manage a good diction</i>	oral communication
<i>speak well</i>	oral communication
<i>Oral communication</i>	oral communication
<i>verbal reasoning</i>	oral communication
<i>start and stay in dialogue</i>	oral communication
<i>maintain the emphasis on dyadic communication</i>	oral communication
<i>direct speech constructions</i>	oral communication
<i>communicate ideas and concepts to a group of people through formal and informal oral</i>	oral communication
<i>Oral Expression</i>	oral communication
<i>Oral Comprehension</i>	oral communication
<i>phonological awareness</i>	oral communication
<i>develop effective communication</i>	oral communication
<i>use language</i>	oral communication
<i>self-advocate</i>	oral communication

SOFT SKILL LEXICON

<i>with fluency orally</i>	oral communication
<i>the ability to express oneself clearly and articulately</i>	oral communication
<i>making verbal presentations</i>	oral communication
<i>express oneself clearly and articulately</i>	oral communication
<i>give presentations</i>	oral communication
<i>ask appropriate questions to fully understand requirements / issues</i>	oral communication
<i>provide oral interpretations</i>	oral communication
<i>listening</i>	oral communication
<i>keep a record of the practice</i>	planning
<i>document own practice</i>	planning
<i>document all phases of own practice</i>	planning
<i>supervise, instruct and plan work for teams or individual members of the team</i>	planning
<i>organising work practices</i>	planning
<i>organise work practices</i>	planning
<i>follow procedures</i>	planning
<i>planning</i>	planning
<i>update, implement and maintain procedures</i>	planning
<i>translate epics/use cases to clear functional requirements, delivery work packages</i>	planning
<i>set priorities efficiently</i>	planning
<i>prioritize and responsive in dealing with issues (customer or internal)</i>	planning
<i>prioritise workloads</i>	planning
<i>plan daily, short term and long-term activities effectively</i>	planning
<i>micromanage own tasks and work load</i>	planning
<i>meet milestone schedule deliverables</i>	planning
<i>meet deadlines</i>	planning
<i>manage, organize, direct and supervise</i>	planning
<i>manage multiple projects in a fast-paced, deadline-driven environment</i>	planning
<i>manage competing priorities</i>	planning
<i>manage budget allocation and optimization in an agile way</i>	planning
<i>juggle multiple account management projects at a time</i>	planning
<i>handling a high volume of multiple tasks</i>	planning
<i>handle multiple projects</i>	planning
<i>good in a structured way of working, coordinate;</i>	planning
<i>effectively prioritize and organize workload</i>	planning
<i>develop content strategy as well as monitor results</i>	planning
<i>coordinate activities</i>	planning

SOFT SKILL LEXICON

<i>capacity to plan in advance and to adjust quickly</i>	planning
<i>capable of coordinating the navigational tasks</i>	planning
<i>analyze, summarize and present information, set priorities</i>	planning
<i>aligning strategies</i>	planning
<i>mobilize resources</i>	planning
<i>organising a real life</i>	planning
<i>develop workplace oriented programmes</i>	planning
<i>delegate tasks</i>	planning
<i>build continuity</i>	planning
<i>estimate design level of effort, meet milestone schedule deliverables</i>	planning
<i>develop a well rounded balance life</i>	planning
<i>detect task</i>	planning
<i>set the date, prepare the agenda, make sure the required materials are provided and preside over the meetings</i>	planning
<i>plan creative performance</i>	planning
<i>organising creative performance</i>	planning
<i>organises creative performance</i>	planning
<i>organise creative performances</i>	planning
<i>organise creative performance</i>	planning
<i>manage creative performance</i>	planning
<i>facilities management in the organisation</i>	planning
<i>handle objective and affective challenges</i>	problem solving
<i>use of visual supports</i>	problem solving
<i>develop an intervention</i>	problem solving
<i>solve complex situations through meaningful discussions with both managers and employees</i>	problem solving
<i>glean useful information</i>	problem solving
<i>solve problems</i>	problem solving
<i>consider the options and alternatives to a challenge</i>	problem solving
<i>problem solving</i>	problem solving
<i>problem-solving</i>	problem solving
<i>translate analysis into actionable insights</i>	problem solving
<i>resolve problem</i>	problem solving
<i>work through and resolve problems of highly diverse scope and moderate to high complexity</i>	problem solving
<i>translate data and trends into powerful strategies and compelling messaging</i>	problem solving
<i>translate business needs into technical solutions</i>	problem solving
<i>solve technical questions</i>	problem solving

SOFT SKILL LEXICON

<i>solve problem situations</i>	problem solving
<i>independently resolve technical issues of any complexity</i>	problem solving
<i>complex problem solving</i>	problem solving
<i>apply problem solving technique</i>	problem solving
<i>solve a problem</i>	problem solving
<i>solve information-related problems</i>	problem solving
<i>solve information-related issues</i>	problem solving
<i>pay attention to problem solving</i>	problem solving
<i>Information technology problem solving</i>	problem solving
<i>develop specific problem solving techniques</i>	problem solving
<i>develop solutions to solve information issues</i>	problem solving
<i>develop solutions to information technology issues</i>	problem solving
<i>develop solutions to information needs and challenges</i>	problem solving
<i>complete tasks through use of logical reasoning</i>	problem solving
<i>use of problem-solving techniques</i>	problem solving
<i>problem solving behavior in structured discussions of hypothetical and real problem</i>	problem solving
<i>creative problem solutions</i>	problem solving
<i>conducting a problem</i>	problem solving
<i>choose effective solutions to problems</i>	problem solving
<i>assess accurate emotion recognition decisions</i>	problem solving
<i>knowledge application</i>	problem solving
<i>collaboration</i>	team work
<i>work in a team</i>	team work
<i>team work</i>	team work
<i>team working</i>	team work
<i>work as a part of a team</i>	team work
<i>work as part of a team</i>	team work
<i>work collaboratively</i>	team work
<i>work in a team and independently</i>	team work
<i>work closely with internal and external stakeholders</i>	team work
<i>team oriented</i>	team work
<i>work as a team</i>	team work
<i>working in a team</i>	team work
<i>work with various and diverse groups of people</i>	team work
<i>work with minimal supervision</i>	team work
<i>work with many stakeholders</i>	team work
<i>work well within a team</i>	team work

SOFT SKILL LEXICON

<i>work well with others</i>	team work
<i>work well independently as well as part of the team</i>	team work
<i>work well in a team</i>	team work
<i>work individually and as part of a virtual team</i>	team work
<i>work in team and stressful situations;</i>	team work
<i>work in cross functional teams</i>	team work
<i>work in a team environment and communicate clearly to various levels of employees</i>	team work
<i>work in a team and achieve global goal</i>	team work
<i>work in a fast paced, multiple project environment</i>	team work
<i>work in a collaborative environment</i>	team work
<i>work collaboratively across teams</i>	team work
<i>work both in team and individually</i>	team work
<i>work as part of a team or on own initiative</i>	team work
<i>work as part of a team and on own initiative</i>	team work
<i>work and deliver independently with little supervision</i>	team work
<i>think strategically, work collaboratively</i>	team work
<i>manage work</i>	team work
<i>have fun with the team and respect everyones opinion</i>	team work
<i>function successfully in a team environment</i>	team work
<i>effectively interact with different teams across a large organization</i>	team work
<i>cooperate and at the same time to work independently</i>	team work
<i>collaborate well</i>	team work
<i>collaborate effectively and work as part of a team</i>	team work
<i>collaborate actively and proactively with others</i>	team work
<i>capwork simultaneously with number of stakeholders</i>	team work
<i>work in groups</i>	team work
<i>working with colleagues</i>	team work
<i>working as a team</i>	team work
<i>work with diverse teams</i>	team work
<i>work with colleagues</i>	team work
<i>work productively with others</i>	team work
<i>participate effectively in a democratic society</i>	team work
<i>work effectively in groups</i>	team work
<i>perform in teams</i>	team work
<i>development of the teamwork</i>	team work
<i>helping students</i>	team work
<i>effective cooperation</i>	team work

SOFT SKILL LEXICON

<i>take participation</i>	team work
<i>collaborate</i>	team work
<i>work cooperatively and effectively with each of the functional areas</i>	team work
<i>pay attention to teamwork principles</i>	team work
<i>interact with peers</i>	team work
<i>time management</i>	time management
<i>work with a high pace</i>	time management
<i>work under time pressure</i>	time management
<i>meet strict deadlines with accuracy.</i>	time management
<i>meet demanding deadlines and timescales</i>	time management
<i>meet daily deadlines</i>	time management
<i>manage time and handle multiple priorities</i>	time management
<i>capability of effective prioritization to deliver timelines</i>	time management
<i>accomplish tasks on deadlines</i>	time management
<i>use time efficiently</i>	time management
<i>use of their full potential in the time they spend at work</i>	time management
<i>organize one's time efficiently</i>	time management
<i>time and self management</i>	time management
<i>set up time schedules and make sure they are followed</i>	time management
<i>work under pressure and to meet tight deadlines.</i>	time management
<i>contend with pressing deadlines</i>	time management
<i>deliver to tight deadlines while managing internal stakeholder expectations</i>	time management
<i>set priorities</i>	time management
<i>manage time</i>	time management
<i>deliver results in tight dead-lines</i>	time management
<i>computer literacy</i>	use of information and communication technologies
<i>Utilise computers, IT equipment and modern day technology in an efficient way</i>	use of information and communication technologies
<i>have good computer literacy</i>	use of information and communication technologies
<i>have computer literacy</i>	use of information and communication technologies
<i>educate on digital literacy</i>	use of information and communication technologies
<i>demonstrate computer literacy</i>	use of information and communication

SOFT SKILL LEXICON

	technologies
<i>be computer-literate</i>	use of information and communication technologies
<i>Use of information and communication technologies</i>	use of information and communication technologies
<i>take advantage of the new technologies</i>	use of information and communication technologies
<i>read and navigate autonomously digital content</i>	use of information and communication technologies
<i>information and communication technologies</i>	use of information and communication technologies
<i>access information</i>	use of information and communication technologies
<i>understand data requirements</i>	use of information and communication technologies
<i>use of online resources</i>	use of information and communication technologies
<i>Use the information gathered from simulations and models for analysis and decision making</i>	use of information and communication technologies
<i>utilise technical communication skills</i>	use of information and communication technologies
<i>apply technical communication skills</i>	use of information and communication technologies
<i>application of technical communication skills</i>	use of information and communication technologies
<i>administer technical communication skills</i>	use of information and communication technologies
<i>use language to think and reason</i>	willingness to learn
<i>use information for learning</i>	willingness to learn
<i>learn novel words quickly</i>	willingness to learn
<i>access information for learning</i>	willingness to learn
<i>the development of language</i>	willingness to learn
<i>accounting students to master communications</i>	willingness to learn
<i>learn language</i>	willingness to learn
<i>implicit language learning and receptive language</i>	willingness to learn

SOFT SKILL LEXICON

<i>learn from social rewards</i>	willingness to learn
<i>learn from differences</i>	willingness to learn
<i>development of transferable personal skills</i>	willingness to learn
<i>keep updated on innovations in various business fields</i>	willingness to learn
<i>train communication methods</i>	willingness to learn
<i>implement technical communication skills</i>	willingness to learn
<i>improve performance</i>	willingness to learn
<i>maintain and improve performance</i>	willingness to learn
<i>learn from structured visual stimuli</i>	willingness to learn
<i>gain in depth practice of process skills</i>	willingness to learn
<i>developing and training such a workforce</i>	willingness to learn
<i>willing to learn</i>	willingness to learn
<i>Ability to learn</i>	willingness to learn
<i>learning new concepts</i>	willingness to learn
<i>learn quickly</i>	willingness to learn
<i>understand concepts</i>	willingness to learn
<i>quickly grasp complex technical concepts</i>	willingness to learn
<i>learn to work with new programmes fast.</i>	willingness to learn
<i>learn things easily</i>	willingness to learn
<i>learn tasks</i>	willingness to learn
<i>learn new tools and systems quickly</i>	willingness to learn
<i>learn new systems, products and markets quickly and independently</i>	willingness to learn
<i>enhance your know-how in a multicultural environment.</i>	willingness to learn
<i>ability of self learning</i>	willingness to learn
<i>learn from one's mistakes</i>	willingness to learn
<i>continuously acquire new knowledge and skills</i>	willingness to learn
<i>build up knowledge</i>	willingness to learn
<i>time-spaced learning</i>	willingness to learn
<i>self-directed learning</i>	willingness to learn
<i>interpretation retraining</i>	willingness to learn
<i>cooperative learning</i>	willingness to learn
<i>assertive training</i>	willingness to learn
<i>collaborative learning</i>	willingness to learn
<i>learning strategies</i>	willingness to learn
<i>manage complex ethical issues, dilemmas and conflicts</i>	work ethic
<i>handle confidential materials and information</i>	work ethic
<i>responsibility</i>	work ethic
<i>sense of responsibility</i>	work ethic

SOFT SKILL LEXICON

<i>ethics</i>	work ethic
<i>work with sensitive and confidential information without compromise</i>	work ethic
<i>maintain confidentiality</i>	work ethic
<i>high self-discipline</i>	work ethic
<i>be impartial</i>	work ethic
<i>having work ethics</i>	work ethic
<i>ethical awareness</i>	work ethic
<i>follow rules</i>	work ethic
<i>professionalism</i>	work ethic
<i>handle ethical issues within social services</i>	work ethic
<i>deal with ethical issues within social services</i>	work ethic
<i>handle ethical issues within social services</i>	work ethic
<i>deal with ethical issues within social services</i>	work ethic
<i>with fluency in writing</i>	written communication
<i>administer corporate blogs and forums</i>	written communication
<i>Written communication</i>	written communication
<i>Written Expression</i>	written communication
<i>write clear, grammatically correct</i>	written communication
<i>write clear and engaging copy</i>	written communication
<i>capable of writing clearly and distinctly</i>	written communication
<i>spelling</i>	written communication
<i>use of written language</i>	written communication
<i>use of written expression</i>	written communication
<i>understand written text</i>	written communication
<i>spell correctly dictated text</i>	written communication
<i>represent global and intermediate structures documents</i>	written communication
<i>implementing writing</i>	written communication
<i>edit for writing</i>	written communication
<i>Written Comprehension</i>	written communication
<i>improve communication</i>	written communication
<i>development of reading comprehension</i>	written communication
<i>fostering reading and writing ability</i>	written communication
<i>vocabulary knowledge</i>	written communication
<i>read and understand written text</i>	written communication
<i>read and understand text</i>	written communication
<i>and transfer words</i>	written communication

Table 5: The Soft Skill Lexicon

## 2.2 ANALYSES

### 2.2.1 CLUSTER ANALYSIS: JOB OFFERS VS ABSTRACTS

The Soft Skill Lexicon is made of 988 different wordings/phrasing, including synonyms and periphrases. Since the explicit visualization of the existing relations among skills represents a key step towards the “unveiling” of soft skills, a cluster analysis of lexicon’s elements was performed.

The automated correlation between given textual entities (in the present case the various original skill wordings) is obtained through the so-called co-occurrence analysis, *i.e.* the study of the frequency with which each pair of terms or expressions appear together in the same portion or text (sentence, paragraph, document, depending on the case).

The assumption behind this approach is that if two entities are mentioned nearby in the discourse they are very likely conceptually related as well; if the co-occurrence is frequent enough, the probability of it being just a coincidence tends to zero and the correlation is a meaningful one.

Two co-occurrence analyses were performed, searching for:

1. Skills in Abstracts;
2. Skills in Job Vacancies.

We have chosen to use only the above two sources, out of the five in table 1, because they are the largest ones and therefore offer a statistically significant level of co-occurrence that cannot be found in the few hand selected papers and reports. Competence databases on the other hand are excluded since they are structured knowledge and thus co-occurrence simply does not happen (since by definition the db contains only representatives and they occur only once).

In the present case, a meaningful co-occurrence happens when two skills are mentioned together already at the document level.

Regular expressions, *i.e.* instructions that automatically generate all variants to a given element, were not used during the Lexicon projection. This choice increased the *precision* (in the context of Information Retrieval the parameter “precision” is defined as the fraction of relevant instances among the retrieved instances) but decreased the *recall* (defined as the fraction of relevant instances that have been retrieved over the total amount of relevant instances). Indeed, the machine recognized only patterns that were identical to Lexicon’s elements, but lost their inflections (for example, the machine recognized “problem solving”, but lost “problems solving”).

The output of the above methodology is represented by two different graphs, where similarity is measured through co-occurrences carried out firstly on **Job Offers** (Figure 7) and then on **Abstracts** (Figure 8). Each node represents a skill, its diameter the number of times the related skill appear in the entire set of abstracts or job offers. An edge between two nodes exists whether there is a relation among the corresponding elements (*i.e.* if they appear together in abstracts or job offers at least once) and the thickness of the edge is a measure of the frequency of co-occurrence through the document corpus.



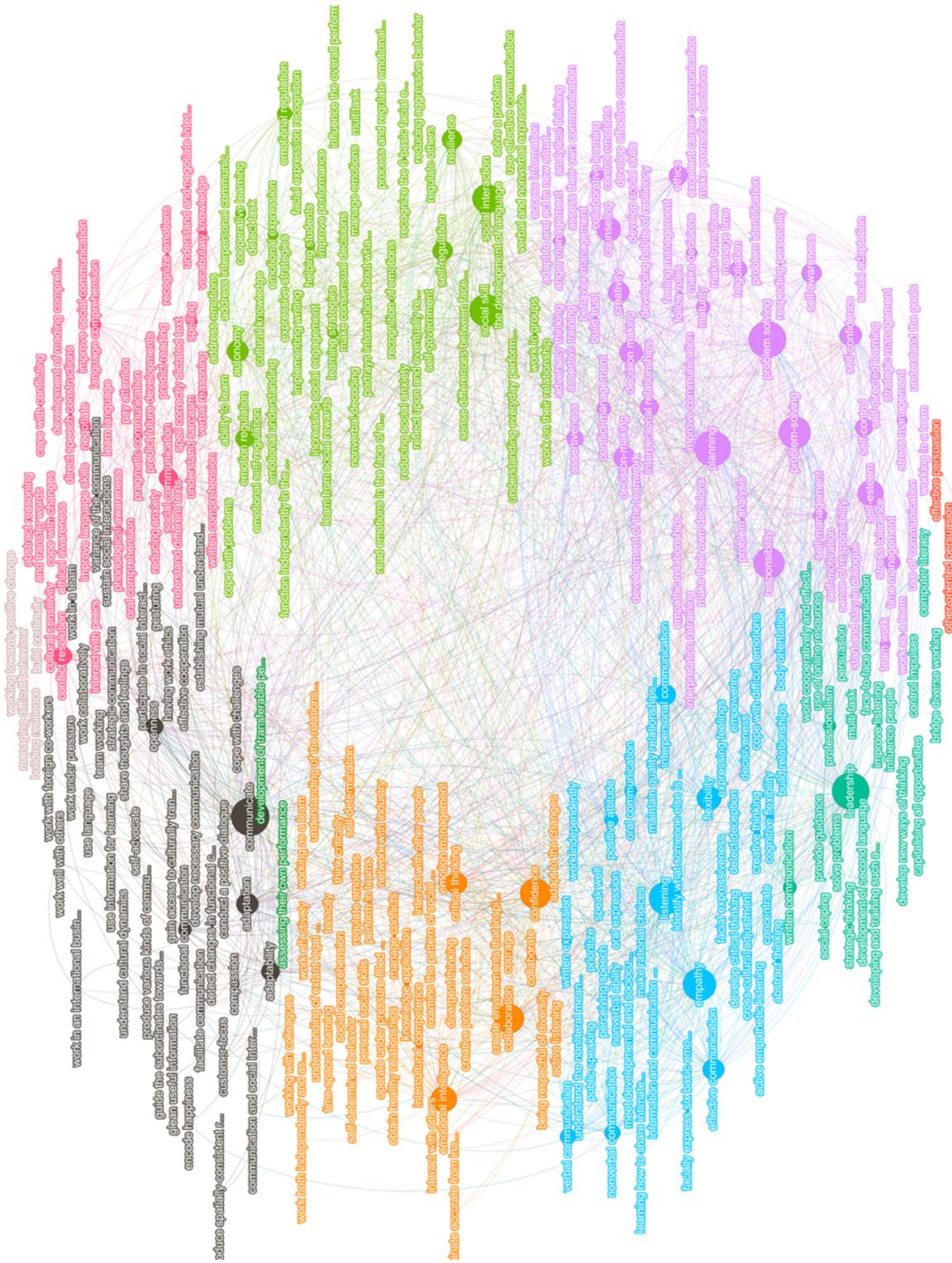


Figure 8: Clustering of skills, co-occurrences on Abstracts

Let us first consider Job Offers (Figure 7). The graph consists of 14 clusters.

The concepts of *responsibility*, *flexibility*, *planning*, *collaboration*, *problem solving* and *leadership* are the most frequent, indicating that such soft skills are the ones most sought after by companies.

As for which competencies are jointly requested for the same profiles, the graph shows for example that the skill of *flexibility* is strongly correlated to that of *collaboration with others in team* and to the *ability to cultivate strong relationships*. Again the correlation in the descriptions of job vacancies indicates that the majority of enterprises consider the attitude to teamwork strictly linked to a high degree of flexibility and adaptation to different situations. In a similar way, the *ability to solve problems* is frequently requested alongside with *leadership* and the *ability to prioritize*. *Planning* and *collaborate* are strongly correlated with *decision making* and the *ability to work on multiple projects and with minimal supervision*, which embody the characteristics of project management tasks.

All the above are very useful information when constructing learning or training paths: cultivating correlated skills is the key to create a well rounded CV and to boost the employability potential of future workers.

Moving to Abstracts (Figure 8), the graph is made by 10 clusters. Now the most frequent skills (*problem solving*, *leadership*, *communication*, *planning*, *emphaty*) indicates those most discussed by the academic community.

As for correlations, the *emphaty* cluster (in light blue) also contains elements like *flexibility*, *listening* and *communication*, indicating that in scientific papers the skills are considered strongly related. Instead, the *ability to solve problems* and *having responsibility* co-occur with elements that refer to personal management sphere (like *self-control*, *self-esteem*, *self-awareness*). The *ability to resolve conflicts* is related to the wide concept of *communication* and the ever more important *ability to recognize emotions*. The *leadership*, central in its cluster, is related to *persuasion* and *ability to influence others*, but also to the *capacity of control impulses* and *multitasking*; in one word, having a high level of professionalism. Finally, the capacity of *critical thinking* is considered linked to *emotional intelligence* and *confidence*.

After having outlined the main characteristics of each graph, it is important to highlight the differences among them. Since Job Offers represent the skills demand from employers, it is interesting to note how they differ from the skills analysed in academic papers.

The first difference is in the relative number of times each single skill occurs. In fact, analyzing the graph for Job Offers, we can find elements that are definitely more present than others, while this phenomenon is less pronounced for Abstracts. In other words, Job Offers seem to be more polarized between a small set of highly sought after skills, against a long tail of less frequently asked ones, while Abstracts present a more homogeneous distribution, indicating that academic studies have a more diverse focus.

The second important difference concerns which are the most frequent concepts. Some of them (*problem solving*, *leadership*, *planning*) are actually common to both graphs, indicating a convergence of interest and of understanding between the academic and the enterprise worlds on them, but others are not: while the scientific community value more attitudes like *emphaty* and *communication*, companies focus on more operational skills such as *responsibility* and *flexibility*.

The third difference is in the correlation between skills. Consider for example the *problem solving* ability; as seen above, academic studies correlate it more with personal skills (*self-control* and the like), while the business world requests it more in relation to interpersonal skills (*leadership*). In a similar way, the skill of *flexibility* is linked in both graphs to the interaction with other people; however, while within Job Offers the focus is towards the external dimension, with skills such as the *collaboration with others in team* or the *ability to cultivate strong relationships*, within Abstracts the accent is on cultivating personal attitudes, relating it with *empathy*, *listening* and *communication*.

## 2.2.2 COMPARISON OF SKILL OCCURRENCES IN DIFFERENT DATA SOURCES

The original skill wording part of The Soft Skill Lexicon has then been projected on the same data sources to which they originally belonged. Such procedure allows obtaining a measure of their frequency of occurrence in the three main data sources gathered: **Abstracts**, **Full Papers** and **Job Offers** (in this context Full Papers includes also the other two “clean” sources, i.e. Thematic Reports and Structured Databases - see discussion in section 1.1.2). The frequency was calculated for three parameters: the number of personal/interpersonal skills, the number of different labels assigned, and the number of different, automatically generated, clusters of skills.

### Personal and Interpersonal Skills

Figure 9 shows the relative ratios of occurrence of personal and interpersonal skills in the three different data sources. The sorting of the skills in the Lexicon between the two classes (personal/interpersonal) has been performed manually by the Project Team.

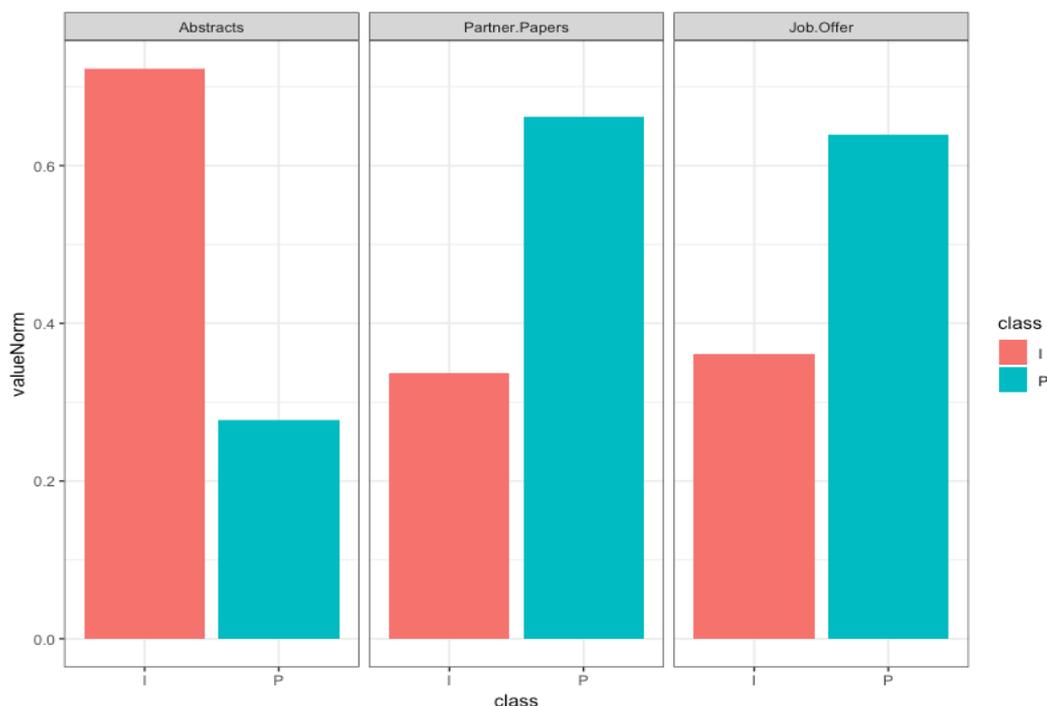


Figure 9: Distribution of Personal and Interpersonal skills in the 3 data sources.

It is interesting to notice that the soft skills reported in Abstracts are definitely more interpersonal than personal, while in full Papers and Job Offers the trend is opposite. The mismatch within the two types of academic literature may be explained by the fact that full papers have been selected by human experts to be representative of studies on soft skills; thus they have a wider perspective and closer to the requests from the job market. On the contrary abstracts have been selected to have a wider but more generic coverage of the topic, and may concentrate only on specific aspects or specific studies; it turns out that the community gives more attention to interpersonal skills.

### Labels

The labels assigned by the partners were 22. It is interesting to notice how the frequency of the same label changes drastically when changing the data source.

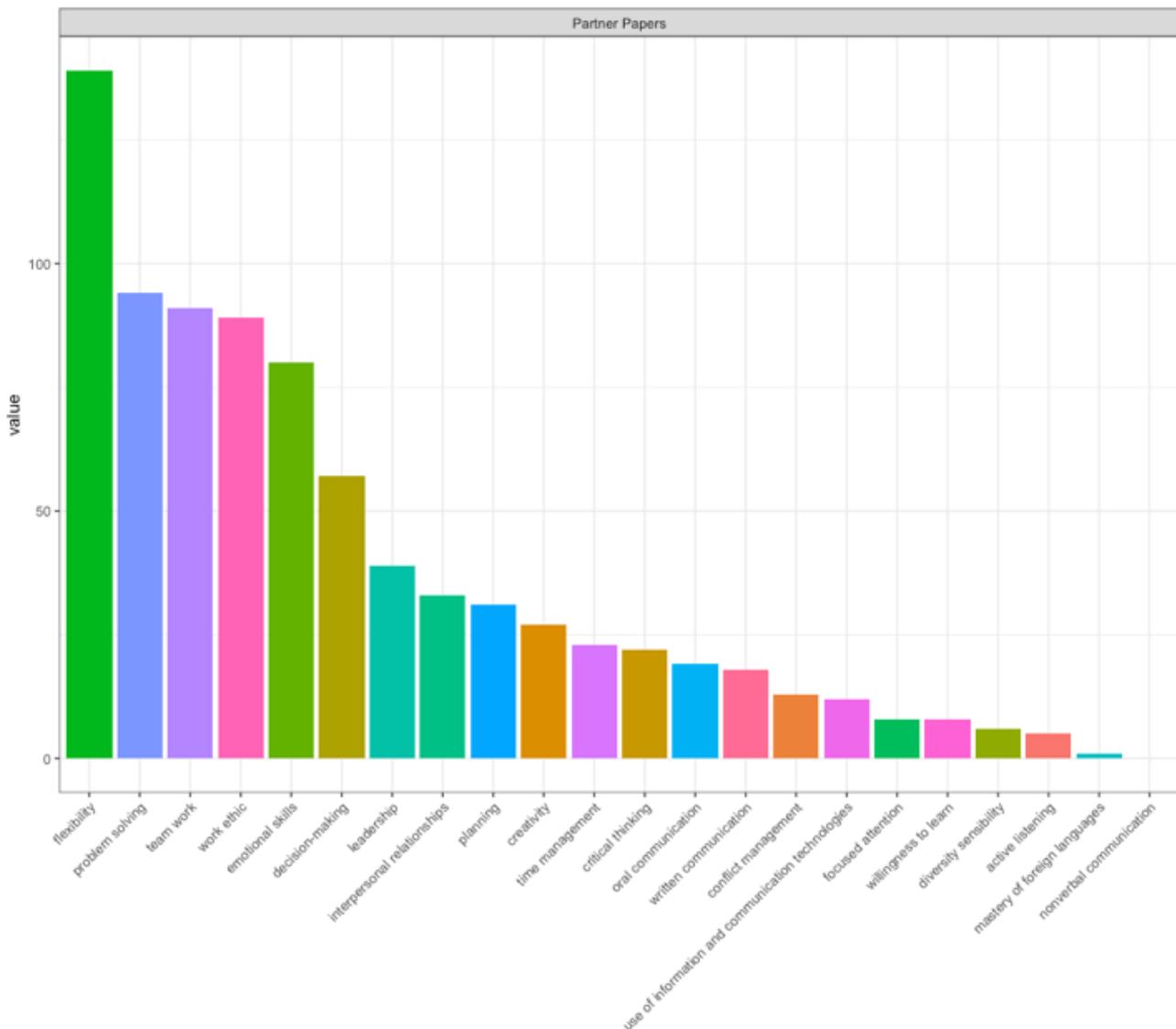


Figure 10: *Distribution of labels on Papers.*

Considering the occurrences on Papers, *flexibility*, *problem solving*, *team work*, *work ethic* and *emotional skills* are the most frequent labels; on the other hand, *non-verbal communication* and *mastery of foreign languages* are practically not mentioned.

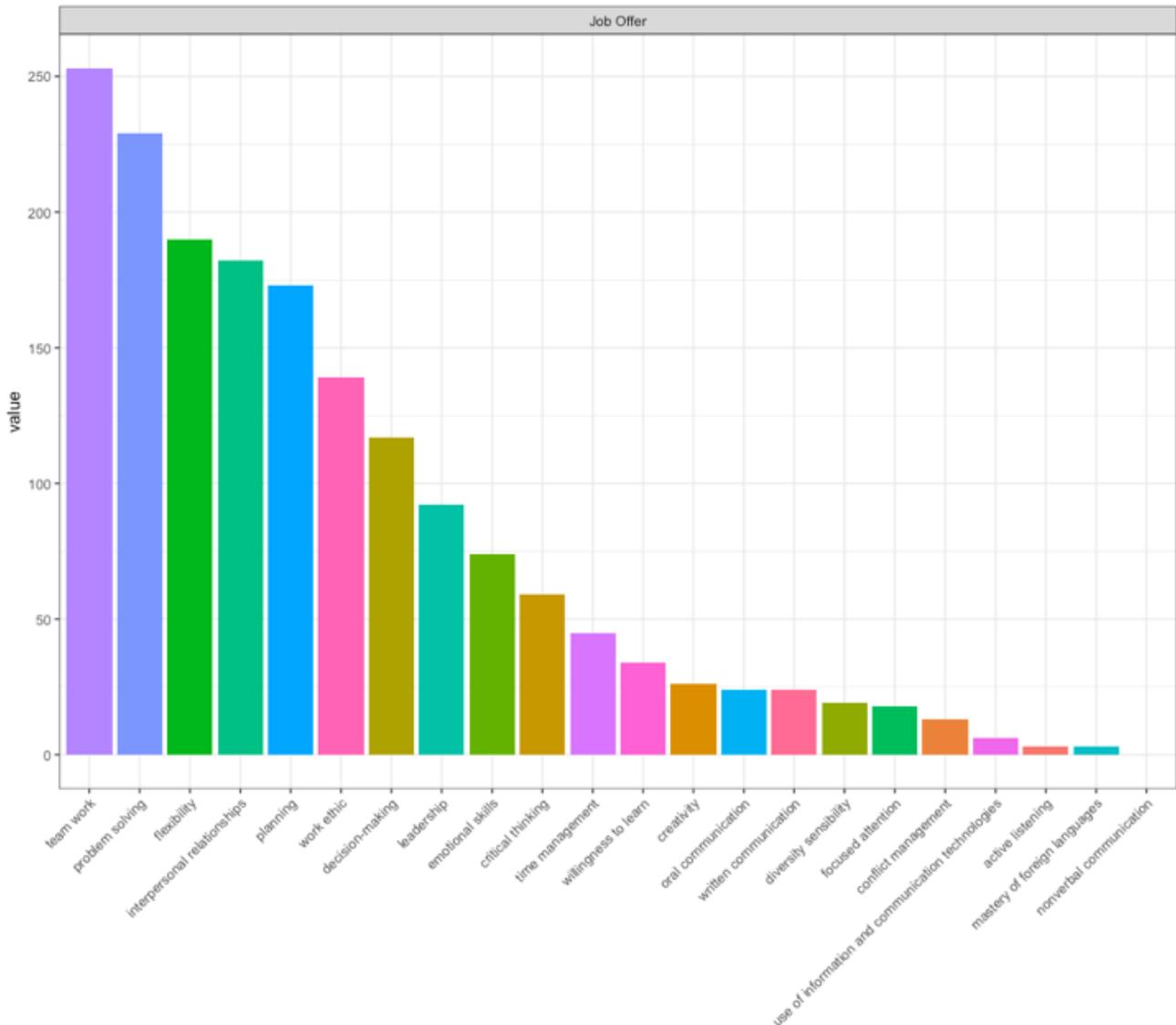


Figure 11: Distribution of labels on Job Offers.

Considering the occurrences on Job Offers, *team work*, *problem solving*, *flexibility* and *interpersonal relationships* are the most frequent labels; on the other hand, also in this case, *non-verbal communication* and *mastery of foreign languages* are practically not mentioned. The result is interesting because it demonstrates the most required skills are capacity of working in a team and having relational abilities, while speaking a foreign language could be seen as “obvious” and for this reason this is not expressly requested.

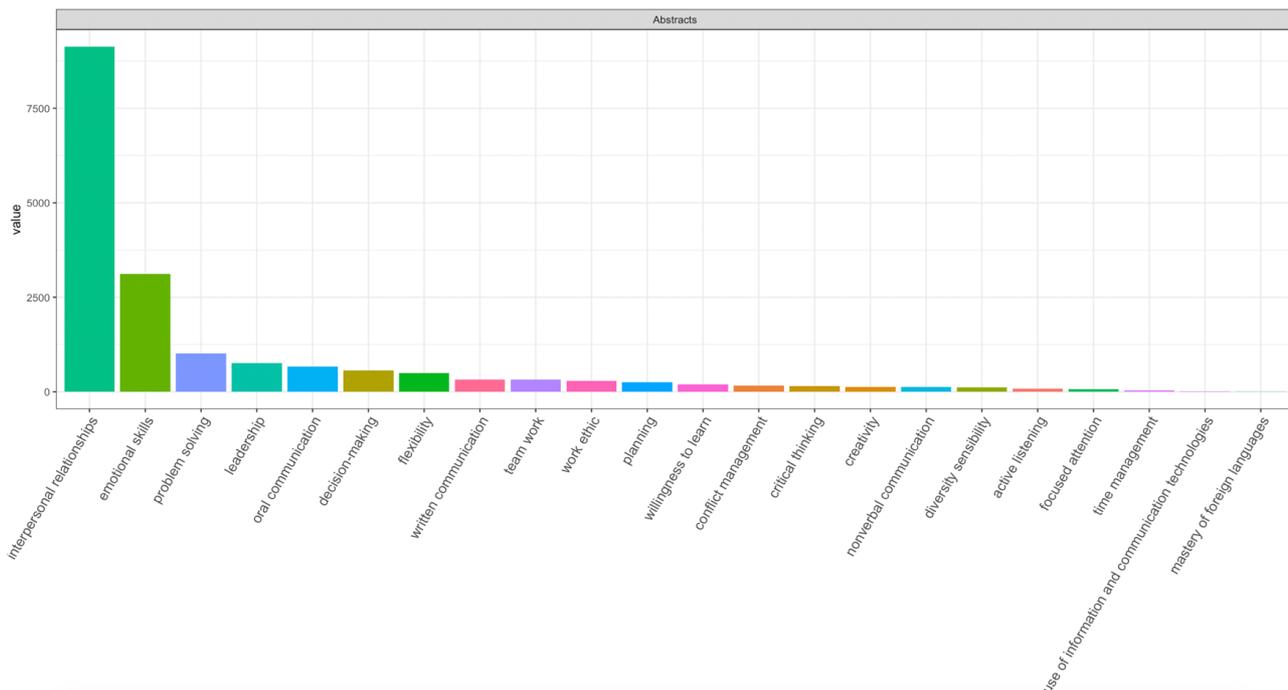


Figure 12: Distribution of labels on Abstracts

Considering the occurrences on Abstracts results are different from the ones presented before. The major labels are *interpersonal relationship*, *emotional skills* and *problem solving*, while *use of information and communication technologies* are not mentioned, since the papers analyzed belong to psychological/economical fields.

### Clusters

The skill clusters obtained automatically were **661**. The text mining process created homogeneous groups of original skill wordings made by skills that were **lexically almost identical**. The name of the cluster was assigned taking the shorter original skill wording belonging to the same group.

The most mentioned skill clusters in Papers (Fig. 13) are connected with *problem solving*, *responsibility*, *flexibility* and *team work*, as it happened with labels. The ranking has slightly changed though, due to the different granularity of the analysis (compare Fig. 13 with Fig. 10, where for example flexibility was at the first place).

There are changes for Job Offers too (Figure 14). The most frequently mentioned skill clusters are connected with *problem solving*, *planning*, *responsibility*, *team work* and *leadership*. With respect to labels, the text mining analysis allowed to obtain a cluster called “planning”, which refers to original skill wordings highly required by employers.

For what concerns Abstracts (Figure 15), the ranking is completely different from the previous ones and from labels. The “Social Skill” cluster appears more than 6500 times and its occurrence is drastically higher than others. *Problem solving*, *social interaction* and *leadership* are the next frequently mentioned concepts in the considered abstracts.

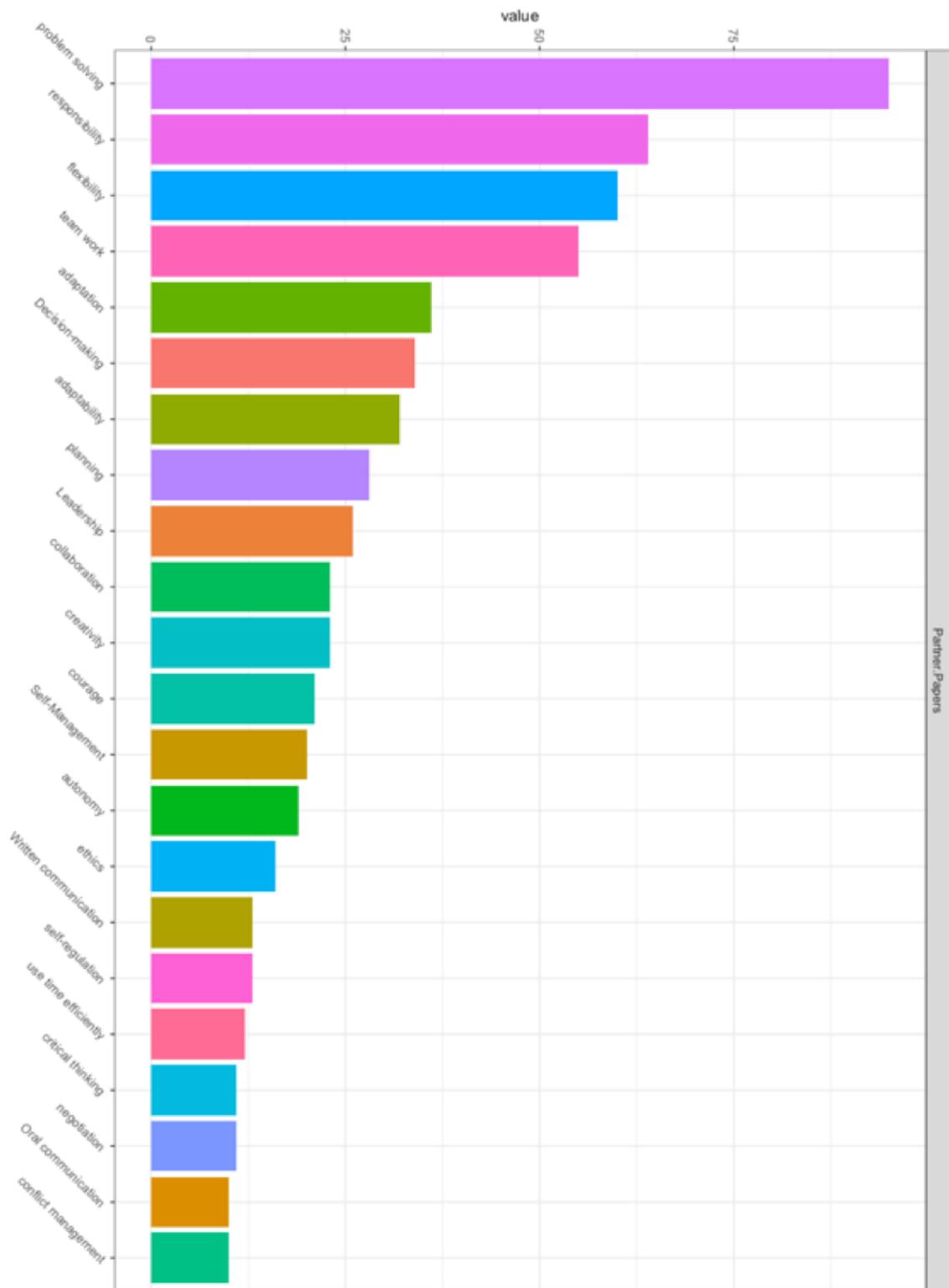


Figure 13: Distribution of cluster on Partner's Papers. Only the main results are shown

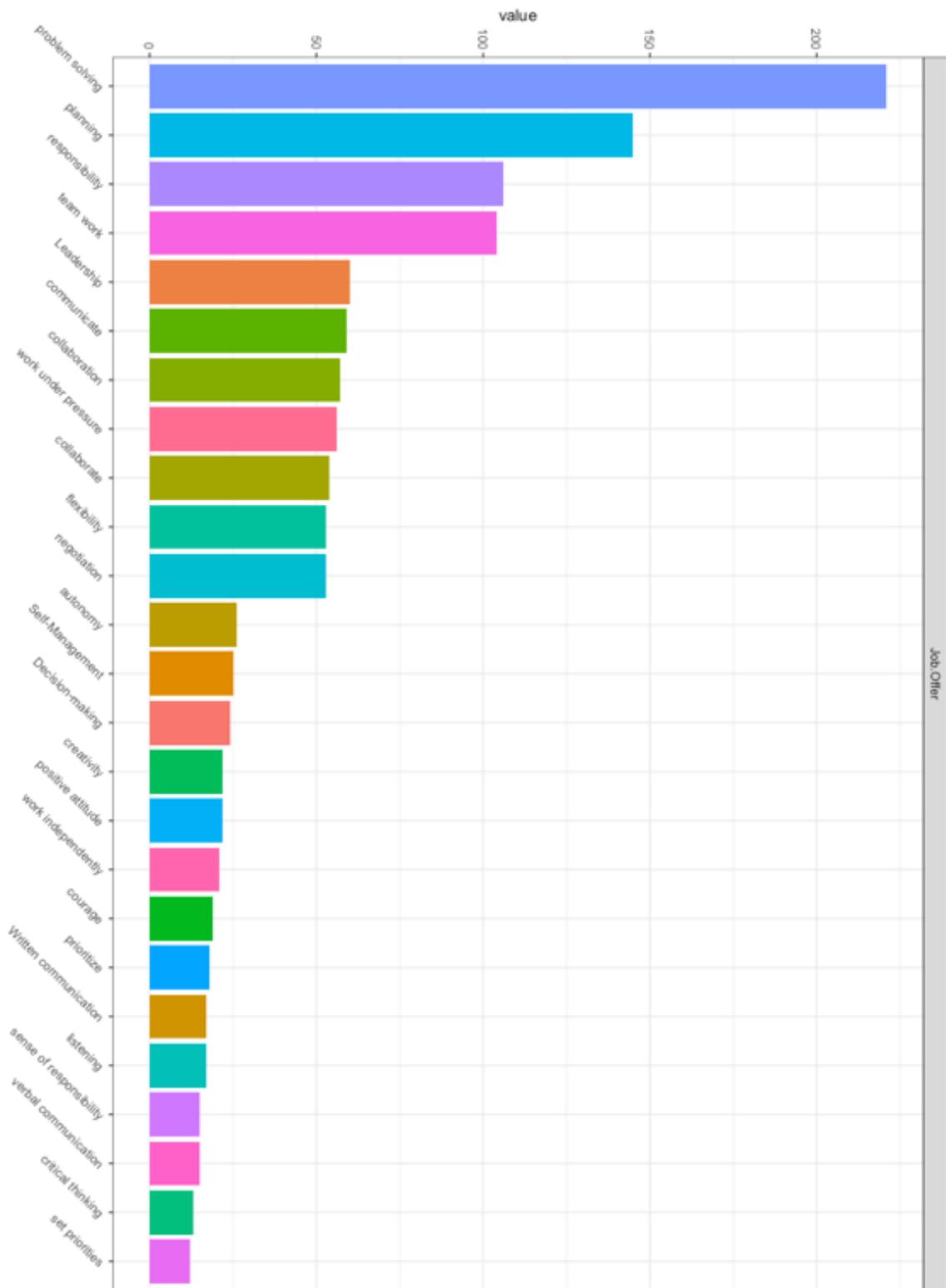


Figure 14: Distribution of cluster on Job Offers. Only the main results are shown.

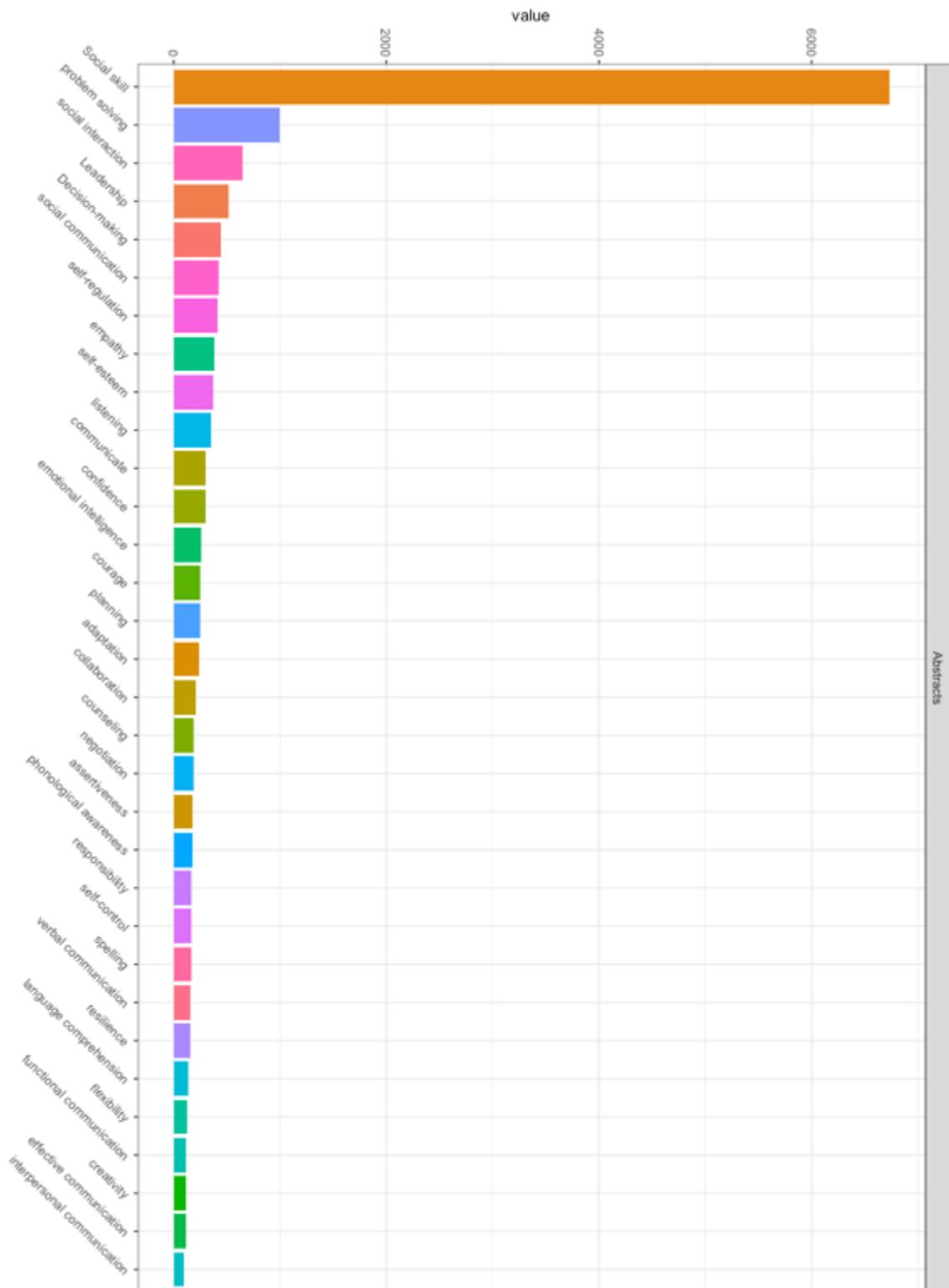


Figure 15: *Distribution of cluster on Abstracts. Only the main results are shown.*

### 2.2.3 MANUAL CHECK OF AMBIGUOUS FORMULATIONS

Words can have multiple meanings or be used in different ways depending on the context; therefore some formulations are ambiguous and could be contained in Job Offers and Papers although in that particular context they do not actually indicate soft skills.

Erre Quadro revised each Job Offer, Abstract and Paper to check for such ambiguous concepts. The investigation focussed on the most frequent terms known to present different acceptions, i.e. “responsibility”, “collaboration” and “resilience”. The goal is two-fold: to assess the reliability of the attribution and thus revise the results of the various rankings obtained, but also to design algorithmic strategies to deal with the ambiguities.

#### a. Responsibility

	Job Offer	Abstract	Paper
Occurrence	104	171	64
N. of times it was labelled as a soft skill	52	123	46
Reliability	50%	72%	71%

Table 6: A measure of reliability of the soft skill “responsibility”

The term “responsibility” is frequently present on all the data sources analysed. Considering the **Job Offers**, half of the occurrences refers to **assume responsibility of a specific role or activity and not to being responsible as an attitude**. Some examples are: “Your areas of responsibility will be connected with”, “your key areas of responsibility will be”, “the main responsibility is”, “take responsibility of/for”.

Instead, responsibility founded in **Abstracts** showed a reliability of 72%, significantly higher than the job offer’s one. Finally, the **Papers** showed almost the same reliability of Abstracts. Some examples of erroneous extractions from Papers and Abstracts are: “a position of responsibility”, “the responsibility for the study”, “the responsibility of the University”, which frequently refer to the ownership of the research considered.

#### b. Collaboration

	Job Offer	Abstract	Paper
Occurrence	57	206	23
N. of times it was labelled as a soft skill	19	88	11
Reliability	33%	43%	47%

Table 7: A measure of reliability of the soft skill “collaboration”

Also the term “collaboration” is frequently present on the data sources analysed, especially on Abstracts. Actually, its reliability is low, particularly if the apparent skill is detected on **Job Offers**. In the latter, the term “collaboration” is used to indicate a class of contracts (i.e. “a contract of collaboration”) or the “opportunity of collaboration” and “in collaboration with”. For what concerns **Abstracts** and **Papers**, more than half results refer to collaborations carried out to develop the research work (i.e. “collaborations between pre-school and university”) or to perform analyses (i.e. “collaboration between instructor and computer”).

### c. Resilience

	Job offer	Abstract	Paper
Occurrence	2	153	6
N. of times it was labelled as a soft skill	2	140	6
Reliability	100%	92%	100%

Table 8: A measure of reliability of the soft skill “resilience”

The soft skill “resilience”, even though it could be considered ambiguous, works well in every data source considered. The few erroneous extractions are associated with **particular research methodology** (i.e. “Resilience-based intervention” or the concept of resilience in its **mechanical connotation** (i.e. “exercises on resilience”), that are nevertheless rare.

Although two terms out of the three studied do not show an ideal reliability (with “collaboration” being particularly ambiguous), it is interesting to note that the overall conclusions about the future request of skills are not much affected by the issue: when combining the ambiguous terms with all the other similar ones that are not ambiguous, the main results stay the same.

Moreover, having understood the origin of each ambiguity, it is possible to teach the algorithms how to recognize the different meanings either by scanning the semantics of the surrounding context, either by taking into account particular grammatical structures.

## TECHNICAL ANNEX

### Entity extraction systems for skills from Papers

Named Entity Recognition (NER) is the task of identifying entity names like people, organizations, places, temporal expressions or numerical expressions. In the present case we extracted skills from sentences contained in scientific papers and job offers.

Methods and algorithms to deal with the entity extraction task are different, but the most effective are the ones based on supervised methods. Supervised methods tackle this task by extracting relevant statistics from an annotated corpus. These statistics are collected from the computation of features values, which are strong indicators for the identification of entities in the analyzed text. Features used in Natural Language Processing for NER purposes are divided into two main categories:

1. linguistically motivated features, such as n-gram of words (sequences of n words), lemma and part of speech;
2. external resources features as, for example, external lists of entities that are candidates to be classified in the extraction process. The annotation methods of a training corpus can be of two different kinds:
  - (a) human based, time expensive but usually effective in the classification phase;
  - (b) automatic, which can lead to annotation errors due to language ambiguity.

The procedure adopted for the study was the following. Human experts manually annotated papers to highlight soft skills. The computer analyzed the annotated corpus to learn which structures and patterns are used to describe a skill. Part of the relevant features were determined automatically and partially with human help, also taking advantage of existing databases such as that of Users. Having learnt the distinctive patterns leading to skills, the computer was then able to reproject them onto the new papers and documents to extract not previously known skills in an automated way.

It is rather difficult to hypothesize a system able to discriminate soft from hard skills. In this study the goal was to detect which sentences in a paper probably contained a skill. An example of an annotated sentence for a NER extraction system tailored for skill entity extraction could look like the following:

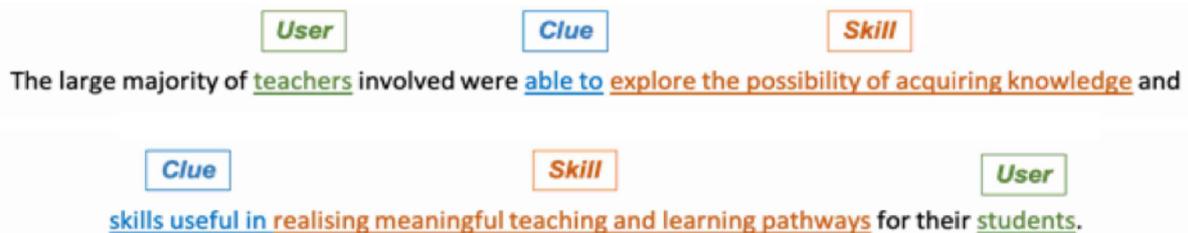


Figure 16: Example of NER application

In the figure, clues are some of the typical patterns that the computer is looking for, and the presence of a user reinforce the probability of a skills being present after the clue.

## The Cluster Analysis

Cluster analysis or clustering is the task of grouping a set of objects in such a way that objects in the same group (called a cluster) are more similar (according to certain predetermined criteria) to each other than to those in other groups.

Clustering techniques are based on a given measure of similarity among the elements. The validity of the analyses obtained by the clustering algorithms thus strictly depends on the choice of the metric, and therefore on how the distance is calculated. The clustering algorithms group the elements on the basis of their mutual distance.

In Figure 17 an example of clusters graph.

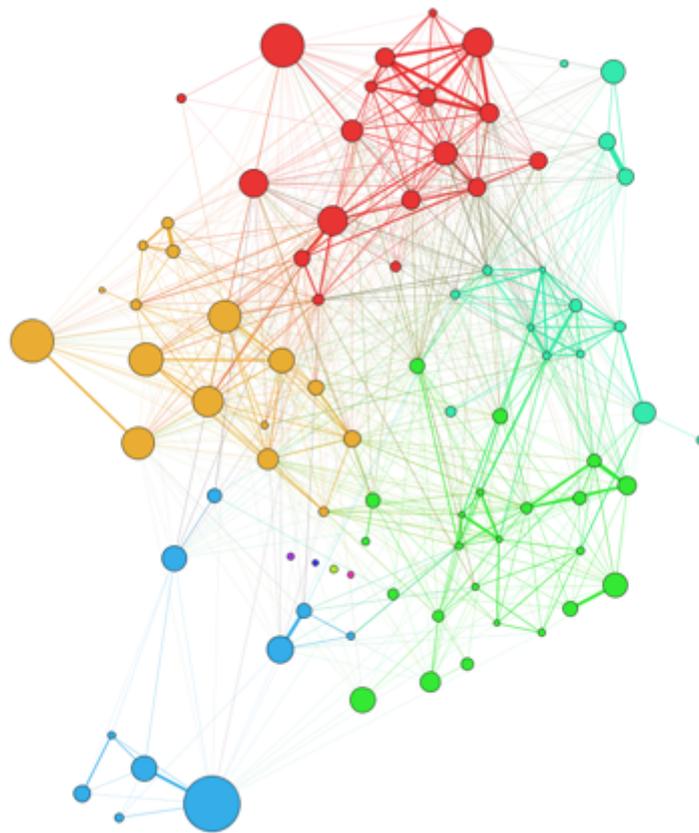


Figure 17: *One illustrative representation of a cluster graph*

Graphs are data structures in which nodes represent entities, and arcs represent relationships among them. The graph could be customized to be properly understood, such as colors or the sizes of the nodes. In Figure 17, each node represents an entity and its size represents its frequency of appearance. An edge between two entities exists if they have a relationship (in this case, an element in common). The stronger the relationship between entities, the thicker the edge.

## The Technimeter®

Technimeter® is an IT tool, developed through a registered algorithm, which enables to create hyperlinked dictionaries in the form of databases containing, for instance, technologies, methods, models, frameworks, tools and competences with their definitions and the relationships that link the term within the dictionary/DB. Originally, it was developed to map Technologies 4.0. The standard algorithm of the Technimeter® is adapted to the case in question and applied to pre-processed databases. The information extracted following the application of the Tool is interpreted through the help of multiple, complex displays (e.g. Clustering, Trend, Ranking, etc.).

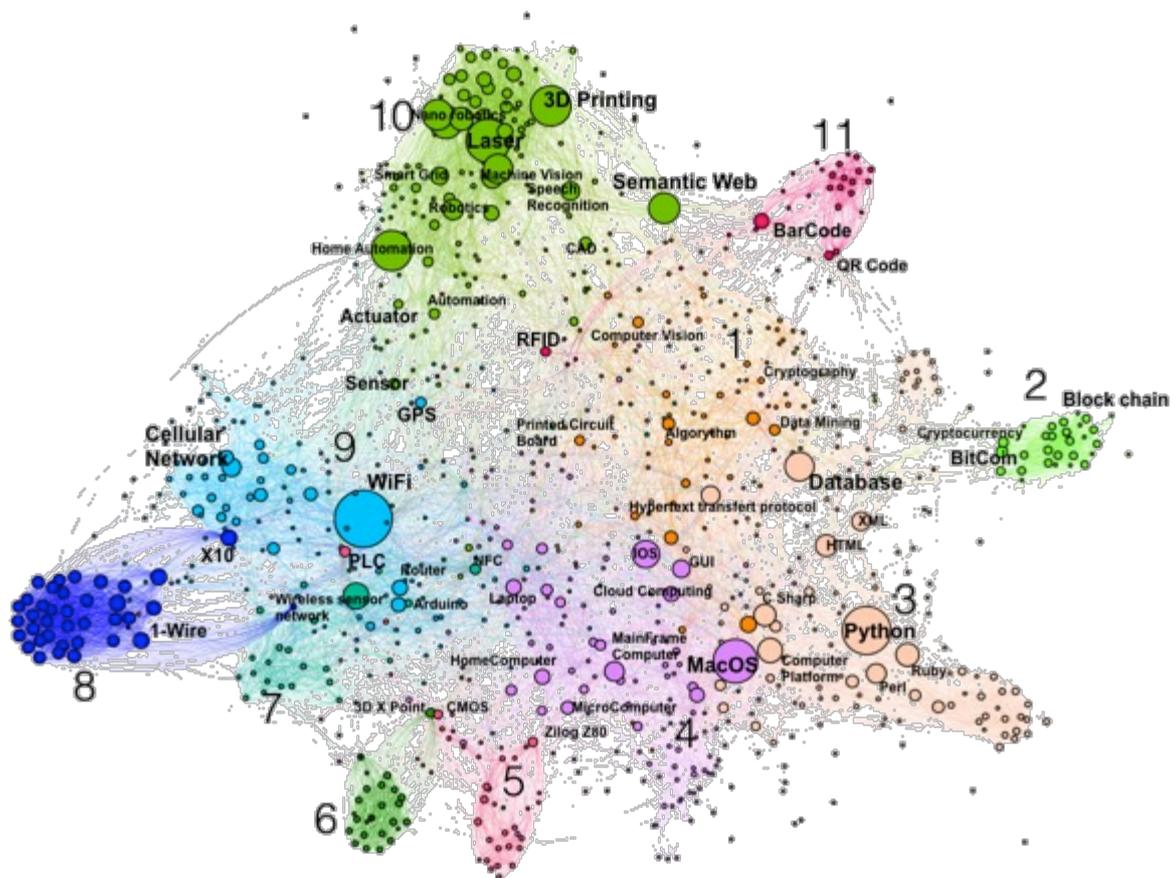


Figure 18: One representation of Technimeter® applied to Technologies 4.0

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*Here we list only the references consulted or deemed interesting to provide a context to the present report. For what concerns instead the academic literature processed by software to extract candidate skills, the 10500 analyzed abstracts would be reported in an additional txt file as an Annex, while the full papers will be provided by partners again as an Annex.*

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