Mapping Pilot

Final Report

Employment, Social Affairs and Inclusion

ESCO (2016) SEC 009 FINAL
Document Date: 01/02/2016
Last update: 24/03/2016

1. Purpose of this document

With this document, the ESCO Secretariat (SEC) provides the final report on the ESCO Mapping Pilot. It describes the objectives, the execution, the results as well as the final conclusions that are drawn from the discussions with the pilot participants.

2. Introduction

After publication of ESCO v1, the European Commission (EC) will support the Member States to either map their national occupation classifications (NOC) and national skills classifications (NSC) to ESCO by creating corresponding tables or adopt ESCO as a whole.

To ensure this support, we have executed a pilot project on the mapping exercise with participation of public employment services (PES) from France (FR), The Netherlands (NL), Spain (ES) and the Czech Republic (CZ) and an observer of the Maintenance Committee (MAI). During the workshops, the participating countries created correspondence tables for a the Hospitality and Tourism (HOSP) part of the ESCO v1 classification, as this was the first sector to be finalised and translated in the corresponding languages of the participating countries.

The pilot was executed between May 2014 and December 2015, and has been supported with the development of a prototype for the mappings together with the support of taxonomy experts.

3. Objectives

Through the implementation of this mapping pilot we aim to:

a. Learn about the process and the resource requirements for the creation and maintenance of the correspondence tables;
b. Understand the requirements for the tools and/or services required to support the mapping process following the release of ESCO v1; and
c. Understand the level of interoperability that can be achieved using ESCO.

4. Setup and Implementation

In terms of implementation we have organised 5 workshops during which we have worked closely with the members of the PES from the participating countries to:

1. Investigate, discuss and test possible solution approaches;
2. Create and evaluate draft correspondence tables for occupations (OCC) and knowledge, skill and competences (KSC) from HOSP;
3. Understand the impact of information loss;
4. Understand the resources needed to carry out the actual mappings after the release of ESCO v1;
5. Discuss the findings; and
6. Agree on the mapping process

In practical terms, we integrated the 4 national classifications into a prototype mapping service, which was developed specifically for this exercise. This prototype

proposes mappings to the experts for validation. Like this, the process of creating correspondence tables would be supported in the best manner.

In order to perform the mappings, this service uses several similarities as the basis to come to suggestions for mappings. These include:

1. Similarities between the graphic forms of the terms. *Example*: **Pilot** in English in ESCO is mapped to **Piloto** in Spanish NOC.
2. Concepts that have semantic similarities, and so they convey a similar meaning. *Example*: **Pilot** in English in ESCO is mapped to **Aviador** in Spanish NOC; and
3. Similarities of the associated ISCO-08 code.

Based on the results of this exercise, we established our discussions with the PES.

5. Lessons learnt

5.1. Lessons learnt about the process

When we relied solely on the mapping suggestions by the prototype mapping service, we found out that the prototype could not consistently deliver quality suggestions. We learnt that it would be far more efficient to primarily rely on the knowledge of the experts at the PESs and use the suggestion functionality of the prototype to support the expert in mapping the classifications.

Discussion on the executed process revealed that is should:

1. Be built to support the expert at the PES's;
2. Support both the online as well as the offline creation of correspondence tables;
3. Support functionalities like "drafting mappings", "commenting/discussing draft mappings/concepts", and "approving draft mappings"; and
4. Be a user-friendly service as this highly affects the efficiency for the process.

We also understood that the process of creating and maintaining correspondence tables requires significant knowledge on the classifications at hand. As a conclusion, the mapping process has to be considered as a process that supports the experts at the PES to capture the correspondence mappings.

5.2. Lessons learnt about requirements for tools and services

With regard to the key functional requirements for an online mapping platform the discussions with the participants high-lighted that the experts need:

- Different views to the classifications at hand;
- The capability to easily capture (and overrule) mappings;
- The ability to download information in spreadsheet format for offline review;
- The possibility to distinguish between "proposed" and "approved" mappings;
- Support to be able to comment on and discuss the mappings with other experts;
- To validate and publish finalised mappings; and
- To upload mappings created offline.

5.3. Lessons learnt about resource requirements

It proved to be difficult to come to a reliable assessment on the resources needed from the PES side to create the correspondence tables. This is partly due to the fact

that it is difficult to come to a common understanding on quality level that has to be achieved. After discussion we agreed that it should be possible to have an expert create a useful correspondence table to ESCO occupations in 60 days (3 months).

We did not manage to conclude on the resource estimation to create correspondence tables for the skills pillar. Limited experience, the absence of having a common reference classification for knowledge, skill and competences, and the large number of concepts to be mapped did make the group decide that further time to investigate the resource need would be required.

Experience with other classifications clarified that once the correspondence tables have been created they will need to be maintained to follow changes that are implemented in the national classifications and ESCO. This implies that the PES needs to ensure to retain the knowledge on the mapping and have resources available to manage this process. The actual amount of resources are, however limited, fully dependent on the extent of the changes and the frequencies of the updates.

5.4. Lessons learnt about the level of interoperability

The experiments that have been conducted revealed the following two fundamental constraints to interoperability that exists when mapping classifications:

1. Difference in the level of alignment of the meaning of the concepts mapped.

   Example: The ROME classification associates knowledge, skill and competence concepts differently to occupations than ESCO. ROME establishes this relationship via labour market activities. This difference between ESCO and ROME needs to be taken into account in order to create correspondence tables of quality.

2. Difference in the levels of granularity of concepts described by the classification.

   Example: The Dutch classification identifies 14 different types of cooks (capturing level in the organisation, type of cuisine, and work-context), whereas ESCO identifies only 3 cooks. When transcoding occupations captured with the 14 different types of cooks into ESCO occupations the specificity captured in the Dutch occupations is lost.

These constraints are not specific to mapping to ESCO; they are fundamental and are therefore constraining the value of any correspondence table.

Acknowledging the limitations of working with mapped concepts is important to demonstrate that there is sufficient valuable information retained in the context of job matching. Value in this context is defined as the capability to reduce the result set of potential matches to a set that is relevant for the job seeker or the employer when executing a job or candidate search. The fact that ESCO is more granular than ISCO-08, and additionally has the capability to use the dimensions of the skill and work-context means that job matching systems have more and better information to identify relevant matches in the labour market with ESCO.

Finally, we managed to demonstrate with a small sample that (1) ESCO provides results with a higher level of precision than it is possible with ISCO-08, (2) ESCO can support the dimension of knowledge, skill and competences, and (3) ESCO has the capability to infer relevant knowledge, skills and competences on the basis of occupations.