

## 1. Objectives of the study

The goal of this research was to collect and analyze job offers (excluding internships for students and pupils) available on March 24, 2014 in the sources listed below:

- 1) Careerjet.pl - nationwide employment related search engine for job listings
- 2) Regional Labor Offices in Poland (PUP) - according to the research policy, job offers were collected in offices that were randomly selected for the study of the unemployed (10 PUP offices per voivodship).

## 2. The time horizon of the study and the selection of the sample

When carrying out field research, job offers had to be collected (with the exclusion of internships for students and pupils) from the sources that were available listed above on a day that was during the given edition of the research.

The presented test procedure has not changed in relation to the first test, and it assumed that the encoding of the content will be subjected to all job advertisements published in a given intermediary / employment agency during the duration of the study.

The criterion of depletion ?? (lack of selectivity) required that every element be included in the analysis, regardless of the level of difficulty associated with reaching the data??.

In the case of Regional Labor Offices in Poland, all of the current job offers had to be coded on a given day of the study (not only those that had been registered on the established test day). If these calculations are confirmed, coding of job offers should consist of 25% from the PUPs and 75% from the Careerjet portal.

In the case of careerjet.pl you had to follow the registration date of the job offers. All ads had to be registered on the established test day.

In case when their number was not enough to meet the required minimum (that is 20,000 classified ads) it was necessary to encode ads from previous days (starting from the day before the test).

## 3. The scope of the research

According to the specifics of the BKL Study, job offers were examined within Polish borders. The study was carried out in the area of 16 voivodships. The entity responsible for gathering information, within each of the provinces, was a statistical territorial division system that takes into account the Nomenclature of Territorial Units for Statistical Purposes (NTS), which decomposes into sub region NTS 3 (sub regions) and NTS 4 (poviats and cities with poviat districts rights). In the occurrence when it was impossible to use NTS 3 or NTS 4 codes (missing data in these variables) a coding variable should have been introduced according to the voivodships (its additional value "the whole country").

#### 4. Recommended database shape

- A. Identification of the advertisement
- B. The type of intermediary / institution in which the job offer was placed
- C. The entity submitting the offer identified on the basis of data
- D. Employer recruiting
- E. Position
- F. Offered employment conditions
- G. Required qualifications

#### F. Required competences

The individual requirements of employers were subject to coding using the key categorization taking into account the prepared classification of competences (Figure 1).

Detailed information along with definitions of individual competences have been placed in a separate document: "Classification of competencies developed in the Balance of Human Capital study. The categorization key of the competence portfolio , which was used in the process of coding data from job offers. Maximum precision of competence coding was required (two-digit codes). In case the given requirements were so imprecise that it was impossible to encode

their details - it was necessary to use more general codes of the main competence groups. The main group "Other" was created in the case of competences that could not be qualified to any of the identified skills groups. Knowledge of foreign languages should have been paid attention to particularly, due to the fact that there was quite detailed information regarding this competence appearing in job advertisements. In the recommended database in addition to the identification of required foreign languages by employers a coding variable of the expected level of his or her proficiency (variables "foreign\_languages", "language\_skill" was allocated. In a similar way, it was necessary to code those languages that were not required, but constitute an additional advantage of the candidate (variables "additional\_languages", "foreign\_language\_skill").

## 2. Description of the implementation of the study

### 1. Implementation of the proper study

The study covered 160 regional labor offices drawn from a basic sample (list of offices covered by the study is in Chapter 6). In the second edition the study was carried out in the same offices as in the first edition.

Work on the study was divided into several stages:

1st stage - collecting job offers,

2nd stage - entering job offers from test files to internal software,

3rd stage - verification and coding of job offers.

In the case of the 40 offices selected for direct collection of job offers, the results of the query in CBOP looked like:

- fewer than 10 advertisements in the CBOP database,
- a very small number of current offers in the database,
- ads that have not been updated for a long time.

#### *Collecting job offers from the careerjet.pl search engine*

From March 24, job offers from the careerjet.pl search engine were collected using a CATI studio for this purpose (each workstation had a connection to the Internet), and to efficiently manage the entire operation, problems were resolved up to date and the number of repetitions had to be small. The work of dozens of interviewers lasted 12-14 hours a day for 4 days.

Each interviewer received a specific industry from the careerjet.pl portal or a specific regional labor office to analyze. In the case of industries where there was an abundant number of job offers, teams were created which shared the evaluation. Thanks to the knowledge gained in previous editions, the distribution of work was more accurate which resulted in quicker acquisition of job offers.

After the job offer was displayed, the interviewer copied the image to a graphic program and saved it the whole image or part of it under a unique number. Then he or she copied the job ads to the prepared text format. Compared with the first edition, this one had fragments of offers that were transcribed. 80% job offer fragments were copied using the "copy-paste" method.

In the case of offers that were sent in paper form or photos, the interviewer entered the data manually from the advertisement to the form.

Coding of advertisements was based on the coding scheme that was previously agreed with the ordering party. All coders before encoding took part in course where they were instructed about the details related to coding individual variables.

In the case of variable Q5\_ISCO, coding not only took place based on the name of the job position in the advertisement. There were cases that the description of the profession was so general that coding was possible on a 4- or even 3-digit level.

Therefore, in such cases additional information about the job position was sought after in the "certificates\_qualifications" variable, for a more detailed, 6-digit coding level.

Sometimes, despite the job offer having a location name, it was impossible to determine the NTS-3 code and / or NTS-4 due to the fact that the given town was not the capital of the region.

After all the variables had been encoded, the verification process was initiated. The database consisted of advertisements that were replicated.

It was due to the fact that advertisement data of the same content was posted by an employer / other entity in various departments and on different times.

Both Careerjet.pl and CBOP websites are changing every day, that's why different interviewers had the same offers.

Duplicated offers were also those that had the same values in the following group of variables:

- allocation day of advertisement
- source of advertisement
- town, voivodship
- reference number
- company name
- profession

In the second edition, we tightened the criteria by rejecting the following conditions:

- education
- foreign language

A new code with the value of "999995" had been added to profession encoding according to the ISCO classification to distinguish the profession of "manual worker".

Often the entity allocating the advertisement places the offer on various websites / job portals, from which they are then put into careerjet.pl search engine.

We estimate that at the stage of copying ads from the search engine coders picked up approximately 10-15% replicated advertisements. Another few percent was identified at the verification stage of coded job offers. One can be tempted to assume that the Internet consists of about 20% of replicated advertisements.

According to the Ordering party's suggestion, a procedure for calculating the reliability of coding was adopted and proposed by the Ordering party at the stage of questions to the tender documentation. ?????

Each job offer was coded independently by 2 coders according to the categorization key containing the list of competences. The offer could be assigned to more than one category. To verify the reliability of the coding at least 100 randomly selected offers were examined.

For each tested offer, the amount of codes that were used by each coder (K) were checked, then how many of these codes overlapped (P). Number K increases the denominator index, and the P number increases the numerator index. The index is calculated as the quotient of the sum of P values and sum of K values.