National framework for consolidating and validating the institutional database concerning graduates

Foreword

The pilot study of monitoring the higher education graduates' insertion on the labour market at national level is a new approach for Romania. Therefore, for its design, possible problems that might arise due to multiple uncertainty factors generated by the lack of previous examples must be considered. Also, it must be taken into account that testing a variety of methods and instruments, collecting good practice examples and disseminating the lessons learned on a large scale are objectives which are at least equally important as the results of the study themselves.

Consolidating and validating the institutional databases concerning the graduates is one of the first steps required by the study and has a major impact on its results. For this, it must be taken into account that the study focuses on two classes of bachelor studies graduates: class 2008-2009, one year from graduation, and class 2004-2005, five years from graduation. This time span may be considered significant and will require fundamentally distinct approaches due to issues related to the dynamics of the social and economic environment, in general, and the higher education environment, in particular. Likewise, attention must be paid to the differences between the higher education institutions in Romania as far as their experience and institutional capacity to support such projects are concerned. Consequently, a flexible approach, that can be adjusted to specific conditions is necessary.

Aspects identified

We will refer in this section to the existing and uncontrollable factors which have to be taken into consideration when designing this phase of the project: our purpose being on the one hand, creating at institutional level the database with the bachelor studies graduates, and on the other hand, updating the database information. We will classify these factors in factors internal and external to the academic environment.

Factors internal to the academic environment

The internal factors are related to the academic environment and their existence or lack in one university has direct influence on the process of updating and validating the graduates' data in that university.

- *Existence of the graduates information database at university level* (e.g. identification data of the graduate, contact data etc.)

  Notes: At present, in the academic environment there is no common, standardized system containing graduates information in order to provide a common database of information that could facilitate the application of the questionnaire. The creation of the national database of students from higher education system (after the implementation of the National Student Enrollment Registry project – NSER) will represent a major opportunity for further implementation of monitoring studies.

- *Data management of the information regarding students, at university level*

  Notes: The management of student data on electronic support has fastly improved lately. If, about five years ago, less than 50% of the universities had electronic data, now almost 90% of the higher education institutions manage data on electronic support. This is very important and leads directly to the need for a flexible approach, particularly for the class of 2005 where there is the need to compile data both from paper and electronic support.

- *University's interest in maintaining close connection with its graduates through specialized structures* (e.g. Alumni office, discussion groups etc.)

  Notes: The way of maintaining contact with graduates differs from university to university, currently only a third percent having specialized structures dedicated to this aspect. If in 2005 only 30% of the universities mantained contact with graduates, in 2009 the percent increased at around 60%. This is very important in helping the universities to keep a grip on the reality of the working environment and to adapt its course offer when necessary.

- *University's interest in analyzing graduates' insertion on labor market, through periodical implementation of such monitoring studies (their experience in the field would be helpful)*

  Notes: Less than 50% of the universities have already implemented projects of monitoring the graduates' insertion in the workplace, but around 85% have an employee responsible of this aspects, usually from the administrative personnel (80%) and rarely a specialized researcher (17%). This is very important in „matching between education

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and work"; employability, providing the competences required by industry being a huge issue in discussions with representatives of the industry and political stakeholders and essential for the whole society.

Factors external of the academic environment

The external factors are not related to the academic environment, but may have an influence on the process of updating and validating the graduates' data existing at university level.

- *The international/European experience in the field of monitoring studies*

    Notes: Many European countries have an important experience in implementing monitoring studies (more than 15-20 years in the field). Both their knowledge and experience, and the challenges they experienced during the implementation of such studies can be helpful for the successful implementation of the Romanian tracer studies.

- *The lack of an integrated public system, similar to electronic governance system through which the citizens' data, as graduates or active persons, could be correlated with the data from universities.*

- *The dynamics of the telephone communications market in Romania*

    Notes: In the last five years, the Romanian telephone communications market has been very dynamic and, as a result, the probability that a person has changed his/her phone number is very high. Nowadays, the possibility to „transfer" one's number to another network may lead to a decrease in this trend (very important to know in order to establish the best approach for future studies)

- *The dynamics of the e-mail services market*

    Notes: Regarding the e-mail services, the offer is very diverse, as many people have given up their old e-mail addresses for new facilities (such as gmail). This change adds to the natural habit of using work e-mail addresses. Nevertheless, a dynamics superior to that of phone communications is also expected in the future.

- *The dynamics of the social networks*

    Notes: Recently, as the „Web2.0" phenomenon emerged, there has been an increase in the number of online social networks and their users (e.g. HI5, Facebook etc). The users' profiles contain various identification data and there is also the possibility to create your own friends network or membership groups among which graduates groups are frequent.

General stages in consolidating and validating the database concerning the graduates (at university level)

1. Identification, at university level, of the existing information (on electronic and/or paper support) regarding the bachelor studies graduates (class 2004-2005 and class 2008-2009).

    Notes: Each university keeps a record of its graduates' data and these include a minimal set of information, provided at enrollment, such as: their first and last name, postal address, personal numerical code and maybe telephone number and e-mail address. These could be supplemented with other types of information, that can be added at a later moment: e-mail address used during studies; e-mail address for a particular graduates' group; other phone numbers; home address at graduation etc. At faculty level, there may also be cases of further communication with graduates that ensures the existence of updated data.

2. Uploading the existing information (previously identified) to a centralized database at institutional level (university/faculty level), starting from a national pre-established database structure[1], and validating the uploading procedure.

    a. Direct upload to the institutional centralized database of the electronic existing data.

    b. Completing the database with information existing on paper support (where applicable; it is recommended that the activity takes place at faculty level, but it is also possible to fill out the data directly into the institutional centralized database).

    c. Verifying the uploaded data (through pre-defined validation keys: graduates number by faculty/study program/form of study etc. or checking it by a different person than the operator). Each university may use its own check keys.

3. Filling out the institutional centralized database with missing data concerning graduates (where applicable; it is recommended that the activity takes place at faculty level, but it is also possible to fill the data directly into the institutional centralized database), using different types of specific searching

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[1] The national pre-established database structure contains a minimum set of graduates' information that the university needs in order to ensure the proper implementation of the monitoring study. This structure will be provided by the central team and it will offer the university the possibility to add new fields with other existing information.

methods.
> *Notes: The search for missing contact data will first start with the Internet, using the existing data (See for example the article: http://www.computerworld.com/s/article/9125058/What_the_Web_knows_about_you). Subsequently, other specific searching methods may be used (see the methods described in the following stage), and, if possible and not very expensive as far as needed resources are concerned, the university may resort to information provided by White Pages or other phone books available at national level or by the national population register (based on personal numerical code - PNC).*

4. Validating[2] the existing information regarding graduates from the institutional centralized database, using specific methods and techniques.

In the following, we will present some general methods and techniques one can use in order to update the database (filling in and validating the database information regarding higher education graduates – bachelor studies). Next, we will give a brief presentation of the possible methods and tools to be used and we will also discuss some of their advantages and disadvantages. Using one or more of these methods will depend on the particular situation of each university.

Each method or technique may be accompanied by a message/an invitation of participation top the study.

a. *Direct discussion with graduates* (face-to-face interviews between a professional interviewer and the graduate)
>   **Advantages**: Allows a flexible approach and ensures high response rate.
>   **Disadvantages**: Finding a direct method of contact is a difficult process, involves high financial costs and human resources effort and you don't have full control of the interviewers
>   **Notes**: This method could be applied especially on the 2008-2009 class, at picking up the bachelor's degree. This method allows the presentation of details regarding the monitoring study through informative materials, in order to raise the graduates response rate.
>   **Important**: The status regarding the application of this method will be filled out in the database: data confirmed by the graduate, data not confirmed because of the graduate's refusal to cooperate, the impossibility to contact the graduate directly etc.

b. *E-mail* (sending to each e-mail address from the database of former students from 2004-2005, 2008-2009 classes a letter for confirming the accuracy of their contact data)
>   **Advantages**: Implies a low financial cost and the human resources implication effort is not that high (sending personalized messages to an e-mail list).
>   **Disadvantages**: There is a high possibility that the e-mail has changed in the meantime and we can't get an answer from the graduate.
>   **Notes**: If this information (the e-mail address) can be found in the database, we can ask each graduate to confirm and update his/her own contact details, and, we can also ask him/her about the updated contact data of three other known colleagues.
>   **Important**: The status regarding the application of this method will be filled in in the database: data confirmed by e-mail; data not confirmed because the graduate's e-mail is invalid (we received an error message), no answer for more than 2 weeks etc.

c. *Phone* (using the phone to contact the graduates included in the database of former students from 2004-2005, 2008-2009 classes, in order to confirm the accuracy of their contact data)
>   **Advantages**: Allows a flexible approach, offers an immediate feedback and ensures a higher response rate.
>   **Disadvantages**: There is a high possibility that the phone number has changed in the meantime; implies high financial costs and human resources effort.
>   **Notes**: For the graduates whose data have not been confirmed by e-mail and whose phone numbers are in the database, we can ask for confirmation and update of their own contact details and also about the updated contact data of three other known colleagues (at least an e-mail address or a phone number).
>   **Important**: The status regarding the application of this method will be filled out in the database: data confirmed by phone; data not confirmed because of some contact errors (the graduate doesn't answer the phone, phone number not assigned, the phone is off, the phone number has changed etc.) or because of the graduate's refusal to participate in the study. It is recommended that a periodical check be made by the coordinator of the institutional team/a member of the central team of experts. A random check of 5-10% of the telephone confirmed data and of 50-100% of the telephone unconfirmed data (because of the contact

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[2] By applying the specific methods and techniques mentioned it is possible to both fill in and validate the missing information.

errors mentioned above) will be made.

    d. *Classic letter (on paper)* (sending to each address from the database of former students from 2004-2005, 2008-2009 classes a letter of confirmation of the contact data accuracy)

        Advantages: The home address (i.e. parents address) doesn't change too often, and, even if it changes, there is a possibility that the letter reaches the recipient.

        Disadvantages: Implies high financial costs and human resources effort and it takes a long period of time before receiving an answer.

        Notes: For the graduates whose data have not been confirmed neither by e-mail, nor by phone, and whose home address is in the database, we can ask for confirmation and update of their own contact details and also for other means of contacting them, in case the letter is received by a person that knows the graduate. Also, we can ask the graduate for the updated data of three other known colleagues (at least an e-mail address).

        Important: The status regarding the application of this method will be filled in in the database: data confirmed by mail; data not confirmed because of: the return of the letter, no answer for more than 1 month.

    e. *Forum* (developing virtual meeting spaces for graduates, using Internet facilities and instruments)

        Advantages: Allows a flexible approach and lower financial costs.

        Disadvantages: Involves a high degree of uncertainty regarding the participation level and its establishing is very time consuming.

        Notes: For the graduates whose data have not been confirmed through neither of the above mentioned methods, a forum developed on the university's web page can be an alternative method for filling in and validating their data.

        Important: The status regarding the application of this method will be filled in in the database: data confirmed by the graduate after accessing the forum; data not confirmed because the graduate hasn't accessed the forum, he refused to participate in the study.

    f. *Combined methods* (combining the methods previously described – e.g. simultaneous use of e-mail and forum – or by applying successively, in cascade, more of the mentioned methods)

        Notes: This method (combining or applying successively the methods described above) can be applied in order to maximize the results and minimize the costs according to each university's situation.

5. Integrating, at national level, the validated data from the institutional centralized databases (optional).

*After analysing the advantages and disadvantages of the methods and instruments that can be used for validating and consolidating the institutional database concerning the graduates, we consider that the most efficient approach for attaining the project's goals is using a sequential combined method or, better said, a „cascade" method. Moreover, we mention that **the general steps described above should be adjusted to the institutional context of each university, in order to achieve the best results (maximazing the results and minimizing the costs)**.*

Subsequent approaches

Periodical update of databases. Role of the National Student Enrollment Registry (NSER)
    For future studies, there is the option of a periodical update of the databases concerning all graduates, based on a common national framework and specific elements for each higher education institution. This can be sustained by correlating the current study with the NSER project.
    Thus, using the NSER system, the graduate will have the possiblity to update periodicaly his/her own contact data.

Specific validations
    These should be operated only for classes under focus. This process should be assigned to a team in the university that is responsible for the relationship with the graduates.

Project sustainability
    Identifying viable ways of financial support afterwards (internal funds, public-private partnerships).

Recommendations

1. In order to optimize the results of the study and, at the same time, the activity of the institutional team, it is recommended that the teams involved in the project communicate, share their own experiences (problem solving, lessons learned, examples of best practices) regarding the consolidation and validation of the databases information.

2. It is also important that any problem that occurs institutionally be pointed out to the central team, so that there can be found the most appropriate means to solve it.