Institutional analysis of data collection and management regarding higher education system in Romania
Conclusions and final recommendations
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The Higher Education Evidence Based Policy Making: a necessary premise for progress in Romania project is being implemented by the Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI) in the timeframe February 2012 – February 2014, being co-financed by the European Social Fund through the Operational Programme “Administrative Capacity Development”.

The project aims to increase the capacity of public administration for evidence-based policy making in the field of higher education, while focusing on good practices at international level and impact assessment.

The project will put forward a new philosophy of data collection and interpretation for the Romanian higher education. The specialists involved in the project will first identify the specific data types required to substantiate public policies and then elaborate the methodologies for data collection. In this context, the project will develop an online platform with relevant data gathered from the Romanian universities, structured on the basis of well-defined indicators. Once put into place, this platform will constitute an important resource for public policies formulation, offering in an accessible manner, relevant information for all interested stakeholders.

In order for the informational system to start from the needs of the Romanian educational system and also to integrate the current data collection processes of public institutions, the following document is indented to present an analysis of data collection and management regarding the higher education system in Romania.

During the detailed analysis made in this chapter regarding the way in which higher education data is collected and used, we have widely discussed the problems and opportunities directly mentioned by representatives of the institutions participating in the study or identified by analyzing their answers. Finally, we can present a synthetic view of the issues raised and their consequences, as well as the identified opportunities. This final section of this chapter looks at the final conclusions and proposals for future action.

The main dysfunctions identified at the informational level of the higher education system

The fundamental problem
Developing and applying at the same time the primary data collection streams from universities to INS and MEN-CNFIS, without an adequate correlation at the level of methods and tools:
- Unsynchronized collection schedules (INS – November and MEN – October and January);
- Different reporting tools and methods (INS – standard data collection forms, MEN – Excel tables);
- Major differences regarding data categories, nomenclatures and terminology used;
- Distinct validation procedures.

Consequences:
- Similar data reported to MEN and INS at different moments in time, on different models, present major differences;
- Doubling the efforts of data reporting at the level of higher education institutions;
Other identified problems:
- **INS** – its dimension and organizational structure makes it difficult to adapt to the specific requirements regarding the dynamics and variety of the higher education system;
- **MEN-CNFiS** – its orientation to the functional purpose of the data handling process implies regular changes of principles different from those characteristic to statistical analyses;
- **Universities** – traditionally, statistical analysis follow current operational problems and are less oriented on substantiating institutional strategies;

Consequences:
- Difficulties in identifying common objectives for collaboration between INS and Universities in the data collection process;
- The significant reduction of statistical analysis options both from the transversal perspective, at the level of all higher education institutions, as well as from the longitudinal perspective, for historical sets of data;
- Lack of professionalism and experience in developing internal analyses, reporting and subsequent validation of data sent to the external beneficiaries with a direct negative influence both on the volume of information available to the universities’ management, as well as on the level of data accuracy at the system level.

Opportunities identified at the level of the participating institutions
- **INS** – a redesign of the statistical tool used for the process of higher education data collection is planned;
- **MEN** – a new consultative council at the national level was established (CNSPiS) whose main duties involve statistics and forecasts for higher education;
- **CNFiS** – a redesign of the data collection methodology and schedule is planned with the objective to introduce single annual data reporting;
- **Universities** – extending statistical analysis at the institutional level to achieve the annual report of the Rector, according to the new legal regulations;
- The existence of good practices regarding various stages of the general process of collection, management and use of statistical data (data validation and archiving, assuring security and restricting access to data) identified first of all at INS level, but also at the level of other institutions that took part in the study (UVT, ASE, ANC).

Opportunities due to the implementation of various structural projects
- In the general plan – capacity building, both from the perspective of methods, models, procedures, experience gained by the staff through specialized trainings and activities, as well as resources generated by the implementation of projects (hardware and software);
- **RMU** – studies made at the system level, methods used for consolidating data from universities that have various computer systems for student data management and in the future, providing data with a high degree of complexity and accuracy (regarding students);
- **APM** – computer procedures and applications that can be used to gather data from graduates (at the population level).
Final conclusions and proposals for improvement by the surveyed institutions

Based on the problems and opportunities briefly presented before, using the recommendations directly expressed by institutional representatives and their analysis’ results we can draw the following conclusions:

Creating a professional structure coordinated under the management of MEN, dedicated to handling statistical data in higher education
- This proposal is formulated in various forms by the vast majority of institutional representatives;
- The main tasks are: collecting and consolidating data from universities regarding higher education (assuming the task from CNFIS and other central organisms), making statistical analyses and forecasting at the system level, providing data and information to MEN, the Consultative Councils and other central institutions from the national and international level;
- The structure should work in direct and permanent collaboration with CNSPIS, INS and MEN, but also with the institution that will manage the RMU (if it is not going to have the task).

Developing a software application dedicated to higher education data handling
- This proposal is formulated in various forms by the vast majority of institutional representatives;
- The architecture is compatible with the databases for higher education of INS, allows the transfer of data similar to RMU (import-export XML, on-line and off-line working facilities) and is based on detailed procedures (in a formalized manner) for data validation, security and archiving.

Correlating schedules and methodologies used for the two primary data flows (INS and MEN) and transforming them into one single stream
- The proposal is formulated in various forms by representatives of CNFIS and universities;
- Choosing November 15 as a reference date for higher education data reporting (for the current academic year);
- Consensual uniformity of the definitions, nomenclatures, data structure, taking into account international practices and specific elements identified at the level of Romanian universities.

Creating a group responsible for data handling, statistical analysis and forecasting at the university level
- The proposal arises from analyzing the responses to the questionnaire, based on identifying the key factors in order to assure the comprehensiveness and accuracy of the data provided, as well as an adequate level of interest and expertise of the university practitioners;
- The group should include one representative responsible for data reporting from each public or private university;
- All group members should have an adequate academic background or should have received training specific to the data collection activity conducted;
- Other experts from universities or central institutions should be able to join the group;
- The group activity should be conducted in direct and permanent collaboration with the central structure dedicated to data collection in higher education.

Conclusions and recommendations regarding institution’s projects that involve data collection

Analyzing the objectives and the way in which projects have an impact on data collection, as well as the resources allocated in these processes, we can conclude that:
There should be a centralized status-quo of the projects linked to SIS in order not to have projects that require the same types of data and in order to use what has already been done or collected; in this regard we recommend that a structure should centralize all the information regarding SIS;

- It is important to have feedback on completed projects, as well as continuity in their development. Although some of them have managed to collect important data regarding SIS or to generate useful resources, we can see a lack of development strategies and/or their continuation;

- Most projects have developed computer software to handle data. On the other hand, a strategy of developing these systems can hardly be found, many of them ending up being abandoned after the project, which initiated their development, finishes. We recommend a strategy to exploit the resources already developed and to integrate them in other policies regarding data collection. Furthermore, we recommend that when elaborating a new project, the development of the software after the end of the project should also be planned.
Acronyms:

- National Ministry of Education (MEN);
- National Institute for Statistics (INS);
- Executive Unit for Financing Higher Education, Research, Development and Innovation (UEFISCDI);
- National Council for Higher Education Financing (CNFIS);
- National Council of Higher Education Statistics and Forecast (CNSPIS);
- National Authority for Qualifications (ANC);
- West University of Timisoara (UVT);
- Academy of Economic Studies, Bucharest (ASE);
- Higher Education System (SIS);
- National Student Enrollment Registry (RMU).
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