Challenges to measuring research performance in a diversified field: the case of Swiss Communication sciences

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Introduction

There is no perfect "one fits all" indicator that allows measuring research performance in all fields of study, as disciplines and fields differ in terms of their internal organisation, their way of producing, storing and communicating knowledge and their ways of interaction with the outside world (for example Whitley 1984; Abbott 2001; Becher and Trowler 2001). This is recognised also in large evaluation projects, such as the British Research Assessment Exercise, which foresees different panels and units of assessment for different fields of study.

Evaluation of research should be sensible to disciplinary differences (AHRC and HEFCE 2006; Royal Netherlands Academy of Arts and Sciences 2006). Measuring research performance in fields of social sciences and humanities is a particular challenge: In these fields, where international journal publications do not account for the largest part of publication activity, and where besides output towards the scientific community there are many other important ways in which scholars contribute to the knowledge society, sensitiveness for disciplinary and national differences is necessary when developing instruments for performance measurement (Archambault and Vignola-Gagné 2004; van Raan 2004).

Besides the technical and conceptual challenges related to the construction of indicators in fields of social sciences and humanities, however, there is also another question to be approached: what purposes do these indicators serve, what is their function within the analysed research units, within the scientific community, and within higher education systems?

In our contribution, we focus on a particular field and context: Communication sciences represent a field of study that is characterised by diversity, in which different theoretical, conceptual and methodological approaches co-exist, and in which no agreement on a common basis of the field is present (see for example Shepherd 1999; Putnam 2001; Schorr 2003; Lepori and Probst 2009). We look at this field in the particular national context of Switzerland, where there are research units interested in Communication at universities in all three main linguistic regions; therefore, not only cultural differences in terms of disciplinary orientation, but also in terms of linguistic regions and institutionalisation have to be considered when trying to create an instrument that is accepted by the whole scientific community, including institutes at universities and universities of applied sciences.

Our presentation is based on ongoing work in a research project (2008 - 2011) funded by the Rector's Conference of the Swiss Universities (CRUS), in the context of a funding programme aiming at developing instruments for measuring research performance in social sciences and humanities. We are currently concluding the pilot phase and will be able to present results at the moment of the ENID conference.

In the following, we address three topics: the construction of indicators in collaboration with the scientific community, the created profiles, dimensions and indicators, and different (possible) uses and functions of these indicators.

Constructing indicators in collaboration with the community

When constructing indicators, close collaboration with the scientific community is indispensable (see Butler 2008). In order to ensure this collaboration, our project is accompanied by a group of representatives from the field, including the president of the scholarly association in the field as well as professors from different research units, universities and linguistic regions.

When working with an expert group, our experience underlines the importance of discussions on a meta-level: Why do we create indicators? How can these indicators be used? By whom?

In order to answer to doubts raised by members of the community, the clearly expressed support from the national scholarly association in the field is crucial, as it is important to explain that our aim is not to produce rankings, but to create profiles of the different research units, showing their orientation not in terms of contents, but of their output towards different types of stakeholders.

Meetings with the expert group are necessary also in order to understand specificities of the field and its diversity; in the case of Communication sciences in Switzerland, this diversity is high not only in terms of cognitive aspects, but also regarding institutionalisation. Units focussing mostly on research exist alongside others with strong involvement in teaching and services to local communities, and also the dimension and composition of the units in terms of their number of collaborators varies strongly. The community will accept an instrument only if it allows covering different aspects of research output and reflecting different characteristics of the research units, including context variables like size of the units or teaching load. To overcome the challenges presented by existing diversity, it seems fruitful to produce multi-dimensional profiles instead of one-dimensional indicators.

While people in the expert group are generally in favour of our project and co-construct it with critical feedback and intensive discussions, more resistance is met during data collection. Here, our experience shows that it is necessary to explain the project and allow for doubts to be expressed before starting data collection; only when the aim of the indicators is made clear, people are willing to collaborate. Meetings with the whole research units, in which the project is explained before data collection starts, have shown to be a helpful tool. Without such meetings, resistance is higher and response rates are lower.

Developing profiles of research units

The aim of this project is to construct positioning indicators (Merkx and Van den Besselaar 2008) which can be combined in profiles of different research units (Larédo and Mustar 2000; Technopolis France - Angers Technopole 2006), which can be compared in two dimensions: between different units, and within one unit over time.

In order to understand the units’ orientation, and to compare their declared profile with the created indicators, we ask the heads of the unit to indicate the actual and future profile of their research unit. Figure 1 shows how the four research units included in the pilot study differ in their declared current priority profiles.

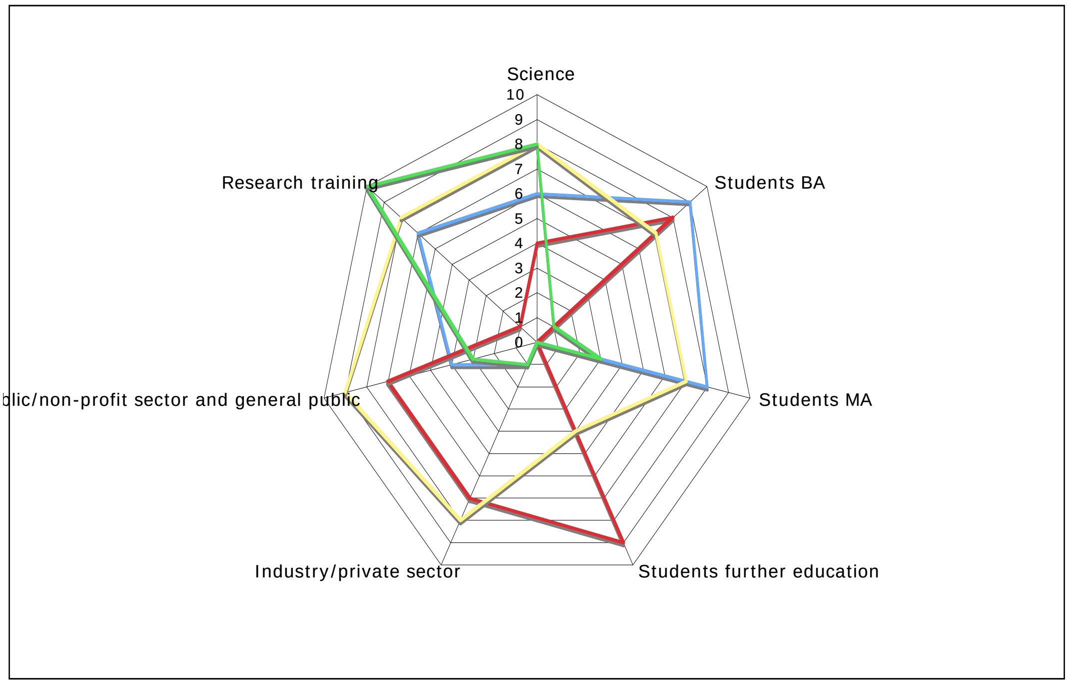

Figure 1: Current priority profiles of four research units

Profiles are built according to five different dimensions which indicate the stakeholders the research units serve with their output: science/the scientific community; students (at three levels: BA, MA, further education); private organisations; public and non-profit organisations and the general public; and research training/doctoral students. For each of these dimensions, we develop indicators, including for example the average number of hours taught by each member of the research unit at each of the different levels, the number of expertise contracts with public and private organisations; the number of third-party funds received from different types of sources; the number of doctoral degrees awarded or the number of different types of publication output per member of the research unit.

Besides these individual indicators, we also develop a geographical profile of the research units, according to the different dimensions. An example is shown in Figure 2. From this figure, it comes clear that the geographical orientation varies according to the dimensions: in the presented case, while contacts with the scientific community, for example, occur on an international level, money for research projects is rather of local origin, and so are contacts to public and private organisations.

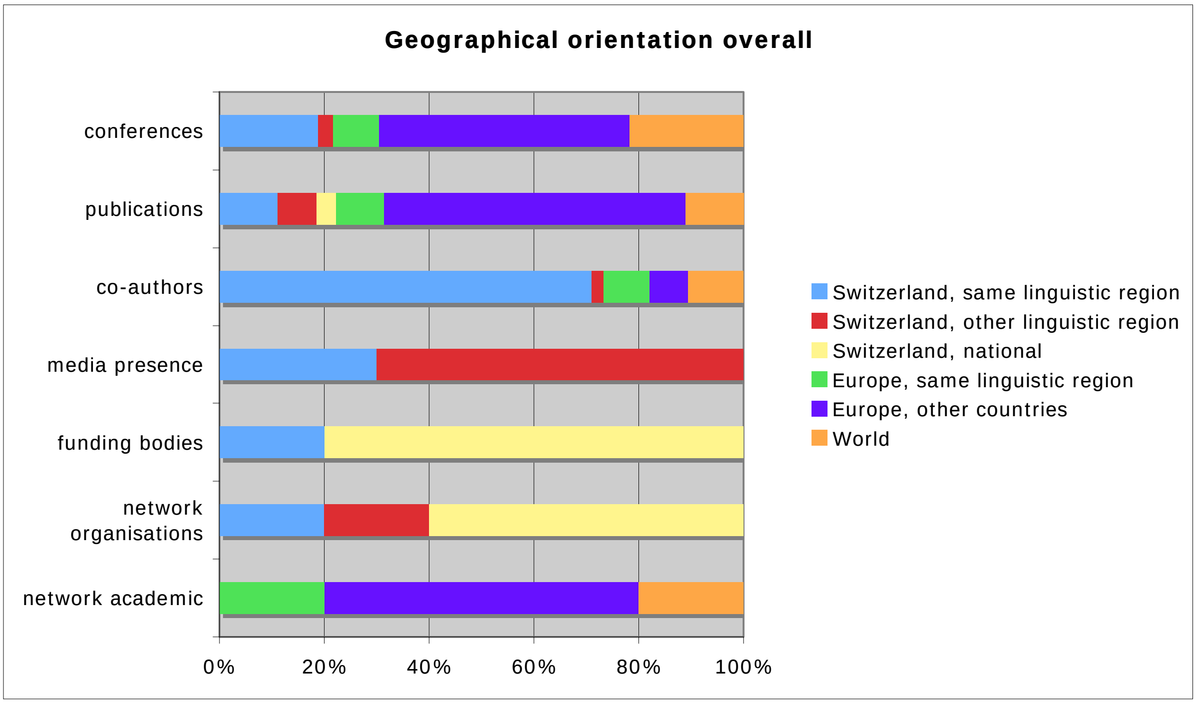

Figure 2: Geographical orientation of a research unit

After the first round of data collection and analysis in the pilot study, we have confronted the heads of the research units with the results; they confirmed that our results were able to represent them well.

Function and use of indicators on research performance

Even when it is possible to technically construct indicators for fields of social sciences, there remains the question of the use and function of these indicators. There is no perfect indicator; but it is possible to construct indicators that can support different types of processes.

Three main types of use of the constructed profiles can be imagined for the study at hand. Firstly, the involved research units can use them for internal purposes, including profile building, observation of developments over years or strategy discussions. Secondly, the profiles can also be used within the scientific community as benchmarks, which allow getting an overview on the different research units active in the field also in terms of their orientation towards different stakeholders. Thirdly, they could also be used by university management for evaluative purposes and as part of a broader quality management system.

The process of constructing indicators constrains scholars in the field to discuss the field's identity, not in terms of its cognitive nucleus, but regarding its way of producing, discussing, storing and divulging knowledge. Which contribution does a field and do research units active in this field give to its different stakeholders, on which geographical level? Constructing indicators supports processes of identification and positioning, of a whole field, but also of the individual research units within this field. In this context, however, the process of construction of the indicators as well as the data gathering processes are as important as the indicators themselves, as they raise awareness for the identity / identities within the field. In such a process, benchmarks are set within the field, on which the community agrees.

Constructing indicators in a participative process in collaboration with the scientific community of a field allows enhancing consciousness and reducing fear regarding evaluation procedures.

The use of indicators for evaluative purposes or as part of quality management systems, for example by university management, is an increasing practice in many higher education institutions.

Most universities produce yearly reports, for which each researcher has to report about his or her activities. Our experience shows that scholars are conscious about the fact that evaluation procedures are receiving increased importance in higher education institutions, and they are eager to contribute to the construction of instruments which allow representing their activities in a proper way, that suits their field's specificities.

The profiles we produce with our project are not intended to be a replacement of the standardised procedures of yearly reporting which are used for all different fields of study, but should serve as additional information source, which allow looking at this specific field from an angle that probably allows embracing it better.

The perfect indicator remains a myth - but the main value of constructing indicators in fields of social sciences and humanities is probably not only to be searched in the results of the indicators, but in the process of their construction.

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