SISSA – International School for Advanced Studies Journal of Science Communication
ISSN 1824 – 2049 http://jcom.sissa.it/

Comment

SOCIALIZATION OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH: FURTHER COMMENTS

The role of evaluation in socialising S&T in the ERA

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ABSTRACT: Key challenges and opportunities are outlined in the ERA perspective and the role of evaluation as an instrument in the socialisation of science and technology is explored. Only an integrated and highly socialised science and technology, deeply embedded in society and involving all the relevant stakeholders, can address the complex problems Europe faces today and thus improve its research position and competitiveness worldwide.

It is nearly a decade ago that the European Research Area (ERA) was launched. Looking back but first and foremost looking forward, the question arises what progress has been made and how we can proceed in order to realise the ERA and achieve a European-wide coherent system able to continue to produce high quality research.

It is worldwide recognised that Europe has research capacities, institutions and universities, which produce excellent research. The competition - at least within some scientific fields - is nonetheless growing from other world regions such as Asia and Latin America. For Europe, the only way to maintain its research position and improve it, is to further develop the ERA concept by supporting research synergies and policy cooperation to avoid fragmentation and duplication, in particular in a time of economic crisis like the one we currently experience.

The aim with the creation of the ERA has been to establish a "single market" for research and technology, coordinate national policies, activities and programmes, and develop initiatives and instruments designed to function at European level such as the Framework Programmes for Research and Technology (FP), the European Research Council (ERC) and the European Institute of Innovation and Technology (EIT). The intention behind the ERA was to move away from collaborative research by mobilising the entire research resource of Europe in order to reinforce competitiveness, contribute to the solution of socio-economic problems and generate innovative research results.

Despite efforts both at EU and national level, the European Commission[1] in the Green Paper on ERA concludes that there are still national and institutional barriers that prevent the ERA from becoming fully effective. The European Commission in recent reports concludes that reforms undertaken at national level often lack a true European perspective and trans-national coherence. There is therefore a perception of urgent need for development of appropriate means for support of large-scale coordination, cooperation and integration.

In this context and in order to address the questions posed in the beginning of this article namely what progress has been made and where we failed and - based on this analysis - find the way to proceed, the focus is in this article on the evaluation as an important tool to be used in European research policy. The interest in evaluations and use of evaluations in policymaking, in particular after the adoption of the Lisbon Strategy has increased as most research nowadays is perceived in a European context. The necessity to take stock before new policy initiatives can be implemented is eminent.

The European research system with its specific characteristics has to be understood in terms of the linkages with and interactions between the different stakeholders, namely the policy makers, the industry, the universities and research institutions and the society at large. Integrating research in the ERA puts hence new demands to policy makers, which ought to be addressed now if Europe shall find solutions to urgent problems and achieve the objective of becoming the most competitive economy in the

world. How can evaluation be used in the ERA perspective, where great socio-economic, epistemological and organisational transformations of science and technology are taking place in a pace never experienced before? Why is it important to evaluate in this context?

The most important reason is to be able to make informed decisions; evaluation provides feedback into the ongoing process of policy making and governance and may support it or suggest changes. A systematic evaluation process can be interpreted as a good governance practice in itself.[2] Osborne and Gaebler[3] argue that assessments of performance and results are closely connected to learning processes, demonstration of results and reward, identification of success or failures, and finally to justification of activities and public support:

- If you do not measure results, you cannot tell success from failure
- If you cannot see success, you cannot reward it
- If you cannot reward success, you are probably rewarding failure
- If you cannot see success, you cannot learn from it
- If you cannot recognize failure, you cannot correct it
- If you can demonstrate results, you can win public support

The question is how to increase visibility of the ERA and Lisbon Strategy for European science and technology stakeholders and society at large in order to achieve support for coming actions and initiatives. It is obvious that in order to build and capitalise on existing initiatives, reduce fragmentation and achieve the visibility needed for the success of the ERA, we need data on the level of European integration and current accomplishments. Analysis of these data can support the process of definition of future needs and coming activities.

However, these activities can not be implemented without public support, understanding and engagement, resulting in higher degree of socialisation of science and technology. The concept of socialisation of science and technology, introduced in the framework of the Social Sciences and European Capacities project[4], refers to the interconnectedness between science, technology and society and implies that science and society cannot be seen as separate entities. It implies also that socialisation is an object for science and that increased awareness is required on the importance to strengthen the position of science in society and vice versa. This can only be achieved by deliberately promoting the relationship and taking onboard the significance of social processes and values for socialisation. Socialisation calls for a broad involvement of diverse actors to develop concrete processes and policies.

A lack of socialisation may bring about considerable risks not only for the European economy and competitiveness but also as regards to culture and social relations. Socialisation of science and technology remains weak in Europe due to a sense of lack of control over science and technology and is expressed by resistance, mistrust to scientific institutions, lower status of scientists and decreases in funding. A higher degree of science and technology socialisation might address these issues and hence the decreasing competitiveness and the risk to lack behind the emerging economies in Asia - an outcome of public reluctance to support scientific endeavours.

A key science and technology socialisation mechanism is evaluation. It is well-recognised that closer links between science and technology policy and evaluation are required as new challenges emerge following changes in the European and global scene. Evaluation could address growing societal demands for transparency and accountability, legitimise activities and thus strengthen the linkages between science and technology and the public. It is though obvious that the potential of evaluations, in terms of socialising the actors of science and technology, addressing the opening up of science to society, managing impacts, identifying high-risk areas and assisting to attain better quality in policy is underexploited.

Nevertheless, there are increasing expectations on evaluation to support science and technology and growing pressure to understand and analyse the complexity of science and technology systems create new challenges but also new opportunities to evaluation. The complexity consists of more stakeholders and divergent interests, and more levels and aspects. It calls for considering of the broader socio-economic context and the impact of the current economic crisis on key issues such as research, the environment, climate change, energy, etc.

Yet, the policy of integrating science and technology in the ERA generates particular challenges for evaluation. A rethinking of concepts and a new breed of evaluation methods is required in order to study the synergies of the plethora of initiatives and the interplay between the instruments of European science and technology policy.

In recent times, efforts to develop an evaluation culture at the European level have been intensified.

However, despite attempts to augment the socialisation of evaluation, the amount, the range and pace of the initiated policies require more systematic approaches to achieve higher socialisation levels of science and technology.

In defining future challenges, three key features seem important to be taken into account. The *first* is linked to the evolution in European science policy. The ERA, the ERA-Nets and ERA-Nets Plus, and the FPs, give impetus to a more intensive networking and benchmarking of not only Community activities but to a great degree also national activities. Evaluation practices are poorly coordinated among the European countries. Given the challenges Europe faces, it is vital for the ERA to develop a common understanding that allows countries to recognize and validate each other's findings, assess integration efforts and identify limitations. In a differentiated context such as the European, a common conceptual framework could be the European approach to evaluation, smoothening the process of developing and implementing policies. A common framework would enable actors to perceive concepts, instruments and standards in similar ways, coordinate activities and learn from others´ experiences.

The *second* feature is the establishment of a more systematic approach to evaluate integrating efforts of member states in the ERA. There is an urgent need to gain knowledge on how to enhance coherence of national policies with ERA objectives. At national level, there is a fragmented evaluation landscape where the use of evaluation in some countries is limited to assessments of efficiency of science and technology investments. A systematic approach may enhance the production of inputs as regards the needs of the members at the national level, draw attention to best practices, identify issues that need attention and thus support policy at national level to carry integrative activities in the ERA. Such an approach can improve methodologies, data collection and dissemination systems. An open coordination of evaluation among the member states, as regards data collection, methodology and use, could enhance comparability of science and technology results. An open method of coordination may facilitate attaining comparable results and developing common high standards.

The *third* feature is the strengthening of the linkages between the national and European level by using national expertise and experiences gained at the EU level and vice versa, while ensuring openness to outside expertise. Exchange of experience and expertise between continents, countries and policy levels, could support science and technology integration in the ERA. Organisation of conferences, meetings, workshops and support of networks could provide further input on needs and integrative initiatives.

It is clear that the current evaluation system is not optimally equipped to take up the above mentioned challenges, as each level of policy intervention carries out evaluations separately from other levels, which is an important obstacle to further socialisation of science and technology, and ultimately to integration. In accordance with new rationales introduced in European research policy, evaluation should therefore co-develop to be geared for the ERA. Nonetheless, it is obvious that it is a huge challenge - but also an opportunity - for evaluators to develop concepts and tools to study the dynamics of science and technology integration.

Evaluation can with benefit be used as a tool in the ERA. It requires however committed and coordinated efforts aiming to develop a European evaluation culture, which could become an important mechanism in socialising science and technology and integrating research into the ERA. Only a high socialised science and technology, deeply embedded in society and involving all the relevant stakeholders, can address the complex problems Europe faces today.

Notes and references

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[4] For more information on the SS-ERC project see: http://www.techresp.eu/.

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HOW TO CITE: E. Kalpazidou Schmidt, *The role of evaluation in socialising S&T in the ERA*, *Jcom* **08**(04) (2009) C03