ESFRI

European Strategy Forum
on Research Infrastructures

ESFRI APPROACH TO IMPACT ASSESSMENT

Discussion Paper

May 2023

TABLE OF CONTENTS

ESFRI APPROACH TO IMPACT ASSESSMENT

Discussion paper for ESFRI workshops on 30/5/2023

Impact assessment (IA) is an important part of the policy-making process, as it helps evaluation of the potential effects of proposed policies on various stakeholders and the making of informed decisions about whether to adopt, modify, or reject a proposed policy. It also helps the communication of the benefits of public investment on society. For these reasons, its importance has grown over recent years, and the domain of Research Infrastructure (RI) policy is no exception. Recently, the Competitiveness Council have asked '*ESFRI to look into the approaches by Member States, the Commission, international organisations and RIs to assess scientific, societal and economic impacts of investments in RIs, identify good practices, develop a monitoring framework, test it and elaborate recommendations to national and regional RI stakeholders by the end of 2023*.'[1] ESFRI has responded to this request by setting up a drafting group[2] tasked with preparing a report based on information collected from literature and questionnaires to the ESFRI member countries and RIs.

This report highlights the importance of understanding the differences between performance monitoring, which ESFRI started implementing last year, and impact assessment (IA), ex-ante or ex-post, of research infrastructures (RIs) and provides recommendations for stakeholders, policymakers, funders, governments, RIs, ESFRI, and European Commission (EC). Key points include the following:

- Recognising the primacy of scientific impact while also considering socio-economic impacts.
- Acknowledging the differences between RIs and avoiding direct comparisons in impact assessments.
- No one-size-fits-all methodology for impact assessments; a customised approach should be taken.
- Taking into account the longitudinal nature of impact assessments and the need for data collection over time.
- Ensuring adequate resources for impact assessments and the development of internal expertise.
- Integrating impact analysis frameworks into RI governance systems.

IA methodologies, be they ex-ante or ex-post, addressing RIs in operation, vary significantly. In fact, there is no optimal methodology which could be recommended. They all have their strengths and weaknesses, and the choice depends on several factors, such as the objectives of the RI and of the assessment itself. Consequently, this report does not develop a one-size-fits-all type of a monitoring framework, but instead proposes an ESFRI approach to impact assessment. This approach stipulates that ESFRI will not undertake IA of RIs itself, and leaves the choice of the method and its implementation to be determined by the RIs and their stakeholders instead. It also presents

[1] Research Infrastructures - Council conclusions, 15429/22
[2] In alphabetical order: Jana Kolar and Georg Lutz (co-chairs), Karina Angelieva, Jelena Angelis, Barbara Brečko, Peter Wenzel Constable, Eric Guittet, Fotis Karayannis, Jure Plaskan, Michael Ryan, Dominik Sobczak.

recommendations aimed to develop the field further, increase the quality of IAs and their role and use in RI policy and management.

GENERAL RECOMMENDATIONS

1. **Understand the distinction between performance monitoring and impact assessment**. Although interconnected, these processes serve separate functions in ensuring that RIs achieve their objectives. It is crucial to recognise their unique roles for a comprehensive evaluation of RIs.
2. **Establish consensus on assessment objectives and impact dimensions**. A common understanding among the relevant stakeholders, including RIs, funding agencies, governments, and relevant RI bodies, is essential for determining the appropriate impact assessment methodology and dimensions. This consensus should be based on clear expectations of the objectives of an RI and the assessment itself.
3. **Avoid using impact assessments for direct RI comparisons.** Given the significant variations in objectives, organisation, size, and maturity among RIs, impact assessments should not be employed for simplistic comparisons. Instead, focus should be on clearly defined assessment criteria, customized to the specific RI, contextual factors, and outcome-focused benchmarking to identify individual RI impacts and inform decision-making.
4. **Adopt a tailored approach to impact assessment methodology.** Methodologies have inherent advantages and disadvantages, necessitating a customized selection process that considers factors such as assessment objectives, available resources, data accessibility, and intended assessment users.
5. **Prioritise scientific impact in assessments.** The primary purpose of RIs is to enable or enhance specific research endeavours. Consequently, the contribution of RIs to scientific excellence within a research field should be a crucial and central impact assessment dimension.
6. **Consider impacts beyond scientific achievements.** RIs also generate socio-economic impacts, such as increased innovation, economic growth, high-value jobs, knowledge for improved policymaking, or talent development. The extent and nature of these impacts should be determined case-by-case, following a mutually agreed framework between RIs and the relevant stakeholders.
7. **Recognise the differences between ex-ante and ex-post impact assessments**. While potential impacts during the design phase are inherently theoretical, operational phases allow for more concrete demonstrations of impact.
8. **Adopt a long-term perspective for impact assessments.** Impacts may take years to manifest following initial RI investments, necessitating both timing considerations during impact discussions and early initiation of data/information collection for impact assessments.

9. **Promote results of RI impact assessments.** RIs, governments, and ESFRI should utilise impact assessments to showcase RI contributions to science, society, and the economy. Comprehensive communication efforts will foster positive development and funding in the RI domain.

RECOMMENDATIONS TO POLICYMAKERS, FUNDERS AND GOVERNMENTS

10. **Conduct regular impact assessments for RIs with proper timing considerations**. Periodic assessments are crucial, but it is essential to recognise that certain types of impacts may not materialise immediately after initial investments. Allow for the adequate time when expecting the manifestation of impacts.

11. **Allocate sufficient resources for impact assessments.** Impact assessments can be complex and expensive, often involving long-term information collection and significant human and financial resources. Funders should provide adequate funding for the necessary level of impact assessment and align their expectations with available resources.

12. **Emphasize a customized approach for each RI.** A single, unified method for impact assessments is unsuitable for applying across all RIs due to varying objectives, scopes, and activities. Although some impact indicators may be shared across RIs, it is essential to adopt a tailored approach that accounts for each RI's unique characteristics and requirements.

RECOMMENDATIONS TO RESEARCH INFRASTRUCTURES

13. **Define relevant impact dimensions in a proactive way.** RIs are very different and cannot be assessed with a single method or single sets of indicators. However, RIs should reflect at an early stage not only on performance but also in what areas they would create impacts. Showcasing impacts is difficult and requires good information, often over a long period. Therefore, as for monitoring outputs and outcomes through the collection of KPIs, relevant impacts need to be clearly defined and outlined, and the relevant data and information need to be collected.

14. **Develop internal expertise for impact assessment**. Analysing the impacts of the RI requires specific expertise, which is important to develop in-house to be able to design the indicators and track them over time, analyse and interpret the collected data as well as adapt the assessment framework over time depending on specific needs. This will also be of significant help when/if external expertise is employed.

15. **A high-quality approach may require Internal and external impact assessments**. Both internal assessments, performed by RI's staff and/or stakeholders, and external, employing third-party experts, can be used for impact assessment. They both have advantages and disadvantages, and the choice will often depend on internal capacities and knowledge, resources available, goals of the impact assessment, etc. It may be beneficial to use a combination of both approaches to ensure a comprehensive and balanced assessment of impacts.

16. **Integrate an impact analysis framework into the RI governance system.** To follow up the RI's impacts over time in a coherent way, allowing to capture the evolution of these impacts

properly, the assessment needs to become a permanent activity of a RI, with dedicated human and financial resources.

RECOMMENDATIONS TO ESFRI[3]

17. **Recognise the importance of impact assessment for ESFRI.** Impact assessment is essential for policymakers to evaluate and direct investments. As a key player in shaping the European RI landscape, ESFRI should conduct periodic reviews of RIs' impact assessments to encourage knowledge-sharing and good practices. Additionally, ESFRI can facilitate mutual learning by including impact assessment discussions in workshops and other collaborative events.

18. **ESFRI's role should focus on guidance rather than direct assessment**. Although impact assessment is highly relevant for ESFRI, its contribution should be limited to offering guidance and promoting the exchange of experiences. ESFRI should encourage RIs and their stakeholders to perform periodic impact assessments, incorporating the results as supplementary information in regular performance monitoring.

19. **Contemplate conducting an impact assessment of ESFRI itself**. ESFRI may consider initiating an impact assessment of its activities, which extends beyond the selection of European RIs through the ESFRI roadmaps. This evaluation could help demonstrate ESFRI's influence on the European Research Area (ERA).

RECOMMENDATIONS TO THE EC

20. **The EC is invited to consider further supporting the development of the impact assessment methodology**. In particular, in addition to the methodology and the indicators, case studies would be of significant added value, as they support the demonstration and dissemination of the methodologies and foster their broader uptake.

Main questions for discussion

1. Is the proposed ESFRI approach suitable?

2. Are the recommendations to the various stakeholders valid? Are there some relevant ones missing?

[3] ESFRI is composed of national delegates and the EC. This section contains recommended activities of the countries and the EC, through ESFRI, while recommendations to the EC alone are addressed in the following section.