

How can impact-oriented monitoring make the effects of research funding visible

Why focus on impact?

In recent years, a growing number of research funders, such as the German Academic Exchange Service (DAAD), the Alexander von Humboldt Foundation, and the Volkswagen Foundation, as well as the German Federal Ministry of Economics with its EXIST funding program, have changed their reporting structures toward a stronger focus on impact. In contrast to traditional reporting, which focuses on activities and immediate results of funding, impact orientation also takes into account intended impacts after the end of the funding activity itself. However, the actual monitoring (and, where applicable, measurement) of impacts can only take place several years after the monitoring system has been established.

Research funders can pursue different objectives with impact-oriented monitoring. These objectives vary depending on the funding organization and funding portfolio. The primary concern for research funders is to clarify the function(s) that impact-oriented monitoring is intended to fulfil. The most common functions of impact-oriented monitoring are:

- Create transparency regarding the effects of one's own funding activities internally/externally and being able to communicate about own contributions to overarching objectives (accountability);
- Enable and improve long-term management of funding activities through an improved understanding of the effects of funding activities (strategic management);
- Support the further development of funding activities (at program/organizational level) (program management);
- Provide impulses for reflection processes on potential effects among beneficiaries (internal learning);
- Create a robust data basis for in-depth analyses, especially for evaluations (knowledge management).

Focusing funding activities on impact does not just mean being able to communicate about the effects that have been achieved. Impact orientation should also be understood as a process of reflection within the funding organization, in which particularly program objectives and impact mechanisms, as well as existing data collection structures should be discussed.

What is impact-oriented monitoring?

The key element of impact-oriented monitoring is gaining an understanding of possible (desired) long-term effects (outcomes and impacts). Research funders must be clear about intended the contributions of funding activities towards the overarching objectives before it is possible to assess whether these contributions can be observed. This can be achieved with the help of so-called impact models, which describe the connection between the funding stimulus (e.g., scholarship/project funding) immediate project results, and medium- and long-term effects as elements contributing to the formulated goals of a research funder.

What are impacts? The most common and primary impact categories in research funding:

Outputs (immediate results)	Outcomes (medium-term effects)	Impacts (long-term effects)
Publications resulting from funding	Influence on scientific discourse	<ul style="list-style-type: none"> ■ Strengthening Germany's position as a science hub
New scientific collaborations	New exchange formats, including new journals	<ul style="list-style-type: none"> ■ Strengthening specific scientific disciplines
New skills acquired by beneficiaries	Career development of beneficiaries	<ul style="list-style-type: none"> ■ Change in research practices

Impact-oriented monitoring broadens the focus on the effects (Outcomes)

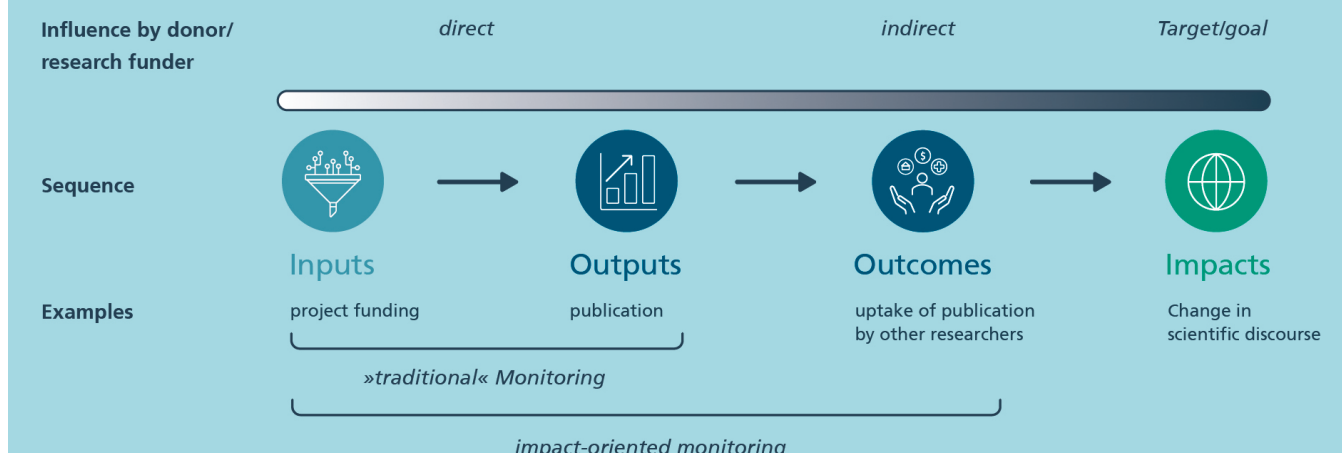


Figure 1: Impact-oriented monitoring broadens the focus to include impacts. Own depiction based on : Belcher, B. M.; Davel, R.; Claus, R. (2020): A refined method for theory-based evaluation of the societal impacts of research. In: *MethodsX*, 7, S. 100788; Griniece, E. et al. (2020): *Guidebook for Socio-Economic Impact Assessment of Research Infrastructures*. © Fraunhofer ISI

Other instruments that be used to represent impact models include logic chart models, theory of change models, and impact pathways.

Instead of thinking in terms of inputs and implemented activities, impact-oriented monitoring focuses on the desired impacts. This shift in perspective is the defining characteristic of impact-oriented monitoring.

Furthermore, impact-oriented monitoring can be used not only to examine the impacts of individual funding activities, but also help to examine the interaction between different funding activities, i.e. different funding programs etc. (funding portfolio).

Impact-oriented monitoring consists of two central components:

- An impact model (typically based on an input (activity)-output-outcome-impact logic) that summarizes the key impact expectations in a way that reduces complexity and links them logically to funding activities.
- A measurement system that assigns specific indicators to individual elements of the impact model. Depending on the objectives and data availability, both quantitative and qualitative indicators can be used.

Relationship of impact-oriented monitoring and evaluation

	Monitoring	Evaluation
Key Actors	Internal	External
Temporal Dimension	Continuous	At selected points in time
Implementation	Integration into the implementation process	Independent, with a separate budget
Key question	»What's happening?«	» How well and why does something happen? What are the consequences?«
Focus	Program implementation and progress	Record and evaluate progress and results, conclusions/ recommendations for further development
Position of impact model	Focus on inputs/ outputs, easily measurable outcomes	Focus on outcomes and impacts
Data collection	(Rather) quantitative	Multi-method approach (Triangulation)
Report formats	Regularly, overview-oriented	Specific points in time, in-depth presentation

Insights from practical experience

Based on our hands-on experience in supporting research funders to set up their impact-oriented monitoring systems, we derived the following guidelines for how to design impact-oriented monitoring in practice:

Overarching objectives can help prioritize monitoring functions and the focus of analysis.

When setting up a system for impact-oriented monitoring, it is important to clarify what function(s) impact-oriented monitoring should fulfill and where the priorities lie. The specific configuration of the impact-oriented monitoring system has various implications for its design and focus.

Typically, impact-oriented monitoring will combine the assessment of individual programs and the entire funding portfolio. The aim is to achieve a close integration between the various organizational levels without ignoring the specific characteristics of the individual funding programs. An iterative process has proven effective for the implementation, starting with the overarching objectives and critically reflecting on and modifying them on the basis of the individual funding programs. It is desirable to standardize key elements of the framework (language, core objectives, terminology). Such a modular approach also facilitates adjustments in case the funding portfolio changes over time.

Above all, the introduction of an impact-oriented monitoring system is therefore also a learning and communication process for the actors involved in designing and implementing funding programs and the funding portfolio.

Develop targeted indicators

Even if the development of indicators appears most tangible, sufficient time should be allowed for discussing the expected impacts and impact relationships and describing them in impact models. Once the intended mechanisms of the funding have been clearly specified, development of indicators is a straightforward task.

In order to ensure an efficient data collection, standardized impact pathways can be used across different programs to describe the main funding logics. Even though funding programs often serve different objectives, target groups, or funding instruments, they frequently share common elements that need to be identified in terms of impact logic and indicators. In many cases, it is not so much the indicators themselves that differ between programs, but rather their relative importance and interpretation with regard to goal achievement.

While quantitative indicators often seem like the obvious choice, the type of underlying data and desired reporting formats should always be taken into account. This depends, among other things, on the type of recipients (e.g., early-career vs. established scientists), the scope of funding activities (number of recipients), the funding philosophy, and also the homogeneity of the expected effects (assessment with one indicator vs. multiple indicators necessary).

Relationship of impact-oriented monitoring and evaluation

Impact-oriented monitoring cannot replace evaluations; both approaches have specific objectives and different temporal dimensions (see also the table on page 2). However, they complement each other in terms of data provision, identification of key issues, etc..

Impact orientation as a (continuous) process of change

For efficient impact-oriented monitoring, the conceptual development should be closely linked to the clarification of the roles of the stakeholders involved from the outset: Who collects data? Who makes assessments/interprets the results and how? How is it made available to other actors? Moreover, the technical implementation must also be taken into account: Where is data collected? Is monitoring data compiled centrally? How can data be aggregated and assessed across different funding programs?

The transition to impact-oriented monitoring is a lengthy (~one year) and organization-wide co-creative process that requires reflection and capacity building among various stakeholders within the organization (funding management, strategy development, press department, etc.). This enables research funders to critically examine their previous funding activities, initiate internal learning processes, and be able to communicate internally and externally about the effects of their funding.

Fraunhofer ISI has extensive experience in competently supporting this co-creative development process and assisting research funders in developing impact-oriented monitoring systems.

Further information available at:

[Evaluation and impact research - Fraunhofer ISI](#)

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