iit perspektive

Sonja Kind | Gerd Meier zu Köcker

Evaluation concept for clusters and networks
Prerequisites of a common and joint evaluation system

cne:
Cluster and Network
Evaluation

During the past 15 years clusters and innovative networks have gained more and more importance as an element of economic development and innovation strategies of the European Union and its Member States. After years of cluster promotion and support the effects and impacts of clusters and networks require higher attention. Policymakers and programme owners are increasingly searching for information on how the desired effects ("impacts") have been achieved and what kind of changes in programme schemes lead to more efficient outcomes. Thus, the evaluation of clusters and networks is becoming increasingly critical and plays an evermore strategic role.

When evaluating clusters and networks both the retrospective analysis (ex post) and the vision of the future are important as well as the accompanying evaluation (formative) that often plays a decisive role to steer and control running processes.

The concept described here for evaluating clusters and networks was developed primarily in the context of the project "Expertise on developing a common evaluation/benchmarking system for all Hamburg clusters" for the Ministry of Economic Affairs, Transport and Innovation of the Free and Hanseatic City of Hamburg – Cluster Policy Department (IT3). This project was carried out between February and June 2011 by the iit – Institute for Innovation and Technology in cooperation with dsn Analysen & Strategien | Kooperationsmanagement.

A concept or evaluation design respectively finds itself facing several challenges: A common evaluation system should be applicable to clusters and networks throughout Europe. Therefore it is mandatory to take into consideration prerequisites of clusters within their individual policy and geographical contexts as well as key characteristics such as: research-driven versus industry-driven; a small or large share of public funding; structure; governance; age and stage in the cluster life cycle and size.

The evaluation system presented here was developed by iit in close cooperation with cluster policy makers, programme owners and cluster managers. It provides a practical approach applicable to different types of cluster programmes, clusters and networks throughout Europe.

The evaluation system is based on the following considerations:

▶ **Applicability and validity for the evaluation of any cluster**
The evaluation concept must be applicable to any cluster while taking into consideration their individual heterogeneity regarding such criteria as industry sector, size, age, structure, etc. The evaluation system must therefore find a balance between individual cluster specific indicators and common overall indicators applicable to any cluster.

▶ **Appropriate mix of methodologies**
Both quantitative and qualitative indicators should be assessed in order to reveal the cluster's success and potential. The results can also trigger learning, resulting in the improvement of processes among different stakeholder groups.

▶ **Transparency and acceptance of the evaluation process**
The evaluation process should be open and transparent right from the beginning to achieve the desired validity of results and acceptance of the people involved. Thus, relevant stakeholder groups should be included in processes such as the conception of questionnaires and interview guidelines.

▶ **Practice-oriented and implementable recommendations**
The evaluation system should lead to practice-oriented results and derive hands-on recommendations for cluster managers and policy-makers.

▶ **Compatibility to already existing monitoring/ evaluation systems**
The evaluation system should be compatible with regard to already existing monitoring and evaluation systems or other monitoring concepts.

▶ **Tolerable effort – time and resources**
The evaluation should use already available data and avoid redundant questioning. The effort for the actors involved should be reduced to a minimum. There is a need to balance between the interest in revealing a "full picture" and the effort that is associated with in-depth surveys.

▶ **Mutual learning**
To contribute to mutual learning, the evaluation results should be discussed among programme owners, cluster managers and cluster actors. The desired exchange should not be limited to a single programme, however. The learning process could be more open and include the national and transnational perspective (e.g. workshops to discuss lessons learnt).

▶ **Evaluation interval**
The evaluation should be repeated biannually.

The evaluation subject:
Cluster evaluation has to distinguish between three different dimensions of cluster policy intervention

The following figure shows the three policy dimensions that are addressed by policy intervention and that have to be considered when evaluating clusters and, finally, innovation.

▶ **The dimension of framework conditions:**
Clusters need to develop within favourable framework conditions to support the activities of their cluster actors. There are general framework conditions that are important for all clusters. Examples include specific infrastructures, labour force skills or institutions, but also regulatory issues such as work migration or taxation. Stability-oriented macro-economic reforms and structural reforms are also important elements of favourable framework conditions.

▶ **The dimension of cluster actors:**
Within a cluster there are actors that interact, thereby contributing to the constitution of the cluster. The cluster consists of companies, research institutions, universities and other relevant actors in a given geographical space.

▶ **The dimension of the cluster management organisation:**
The cluster management supports the dynamics among the cluster actors. The cluster management's excellence is critical to the overall success of the cluster.
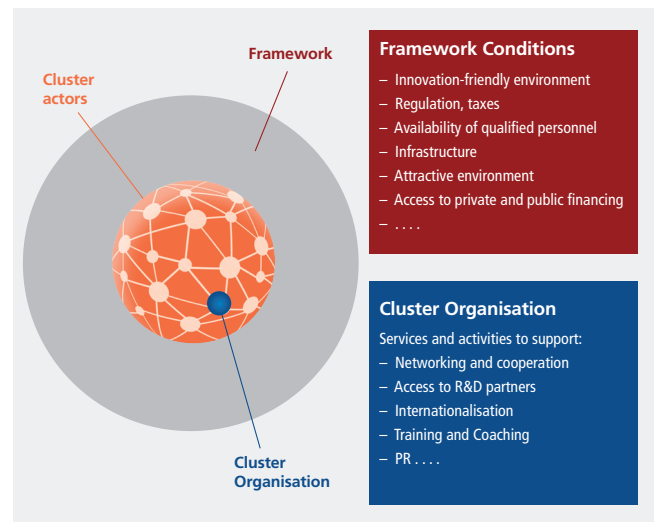

Figure 1: The nutshell model of cluster intervention, Source: VDI/VDE-IT 2010

Evaluation Subjects

The evaluation system addresses three different "Subjects of Evaluation":

▶ Cluster policy
▶ Cluster management
▶ Cluster actors

Cluster policies are conceived and implemented by policy-makers and programme owners. The programmes in Europe cover a wide array of different rationales, objectives and instruments, but their common target is to develop clusters by setting adequate framework conditions and supporting the cluster management organisations. Cluster programmes are embedded in a wider policy context and thus the evaluation has to consider the influence of other regional, national and international innovation and economic policies as well as framework conditions.

Cluster management excellence has been proven to be a prerequisite of world-class clusters. The evaluation system will usually assess the cluster management together with cluster actors due to the strong functional dependence of both units. Evaluation indicators therefore often cover the cluster initiative and its actors as well as the cluster management organisation.

The Evaluation System

a. Objectives of the evaluation

The objective of the evaluation is to contribute to mutual learning across the three different levels cluster policy, cluster initiative and cluster management organisation. Based on the lessons learnt, the cluster policy, cluster actors and the cluster management should improve performance, effectiveness and sustainability.

b. Steps in the evaluation process

The evaluation concept includes four crucial steps. These four phases build the framework for the evaluation of cluster policy, cluster initiatives, and cluster management. The evaluation process starts with 1) the identification of evaluation targets, specification of the evaluation subject and agreement over evaluation criteria. This takes place in close cooperation with different stakeholder groups. In the next step 2) the evaluation is carried out and the results are then 3) discussed and reflected. During this stage of the evaluation process, again the stakeholder groups are closely involved and during joint working processes new perspectives for further improvement are derived. The evaluation is accomplished 4) with the documentation of results including recommendations.

c. Evaluation of cluster policies

The evaluation of cluster policy takes place on a higher aggregated level compared to the evaluation of the cluster initiative and cluster management organisation. The governance and organisational implementation of the cluster policy is analysed as well as the embeddedness of the cluster policy within the innovation and economic policy context. On this level the overall results of the evaluation of the cluster initiative and the cluster management are summarised and recommendations for future adjustments of the cluster policy derived.

Cluster policies are embedded in complex interaction processes that very often cannot be influenced (e.g. economic situation, business cycles). They also interact with other policy measures that either directly support the cluster policy, e.g. qualification strategies within the region, or that indirectly influence companies, research institutes or universities (e.g. tax, infrastructure).

Cluster policy evaluation focuses on three analytical levels:

1. Interaction and organisation of cluster policy (governance) on the political level
2. Coherence and consistency of cluster policy objectives and cluster initiatives
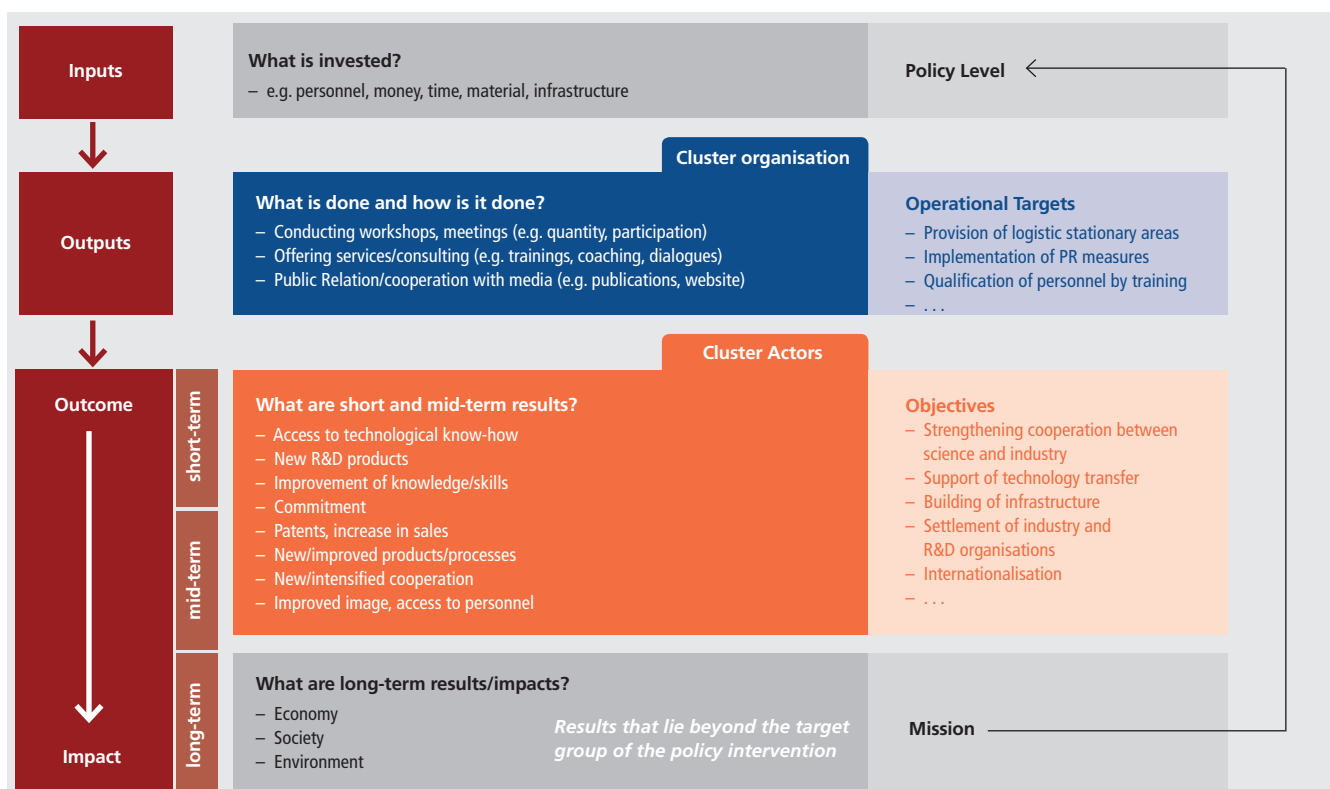3. Strategy and future development including monitoring practices.

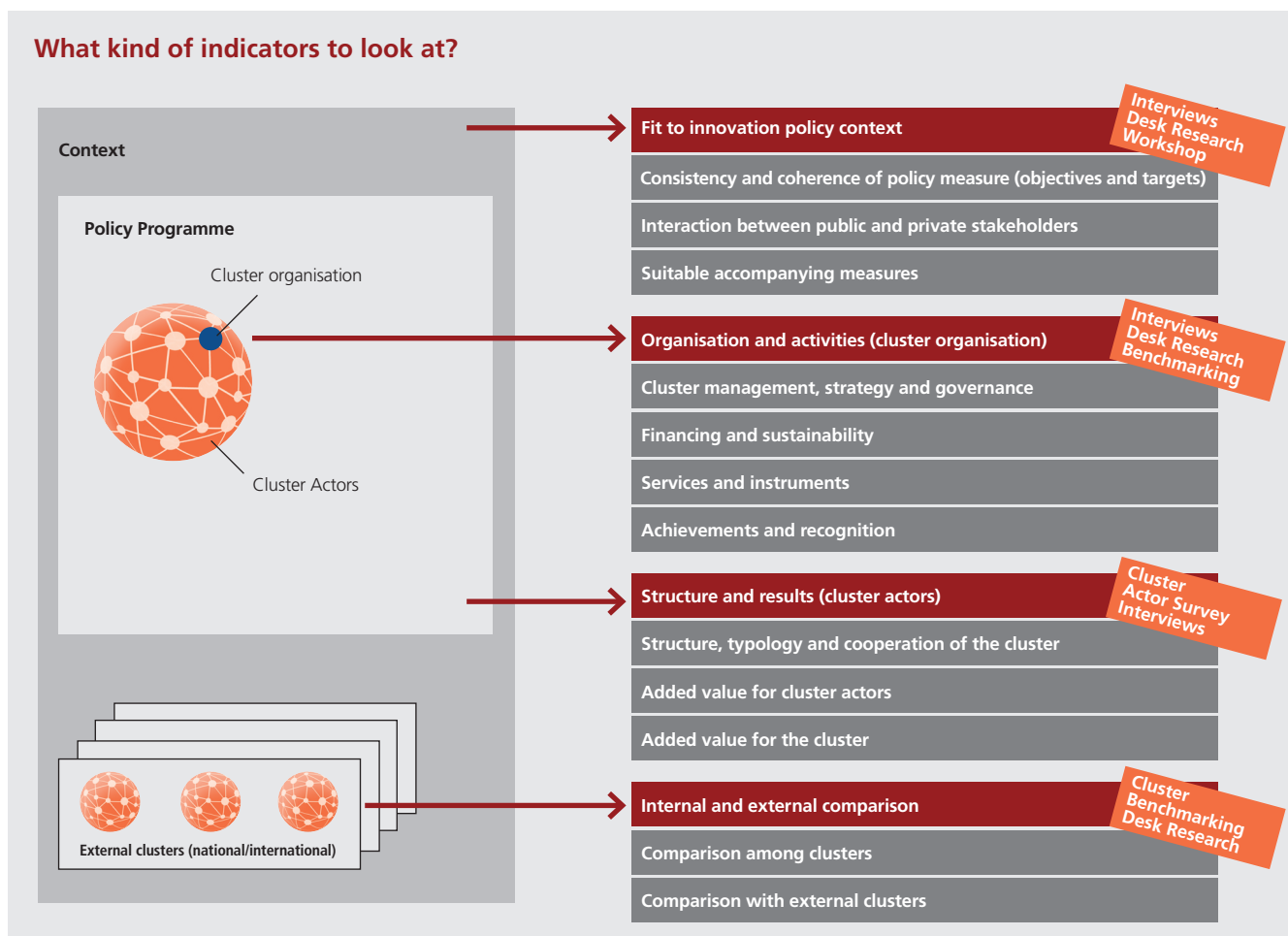Figure 2: Cluster and Network Evaluation Model, Source: iit (2011)

What kind of indicators to look at?

Context

Policy Programme

Cluster organisation

Cluster Actors

External clusters (national/international)

Fit to innovation policy context	*Interviews Desk Research Workshop*
Consistency and coherence of policy measure (objectives and targets)	
Interaction between public and private stakeholders	
Suitable accompanying measures	
Organisation and activities (cluster organisation)	*Interviews Desk Research Benchmarking*
Cluster management, strategy and governance	
Financing and sustainability	
Services and instruments	
Achievements and recognition	
Structure and results (cluster actors)	*Cluster Actor Survey Interviews*
Structure, typology and cooperation of the cluster	
Added value for cluster actors	
Added value for the cluster	
Internal and external comparison	*Cluster Benchmarking Desk Research*
Comparison among clusters	
Comparison with external clusters	

Figure 3: Indicator groups and methodologies for the evaluation of clusters and networks, Source: iit (2011)

d. Evaluation of cluster initiative and cluster management organisation

The judgment of the performance and effectiveness of the cluster initiative and cluster management organisation is a crucial element of the evaluation system.

Key questions that will be answered are: How has the competitive and innovation capacity of the cluster actors developed over the past years and what was the contribution of cluster policy and cluster management?

Evaluations are usually based on the following assumption that there is a link between input (e.g. provided resources), produced activities directly linked to the measure (output) and intended results that occur within the target group (outcome). Results that are indirectly caused by the intervention and occur beyond the target group of the measure are called impacts. The typical definition of input, output and outcome is as follows:

▶ "Input" includes financial, personnel and other resources that are invested. These kinds of input are somewhat variable to the extent that various types of cost (personnel cost versus material cost) or qualification of personnel (by targeted education measures) can be influenced. Regarding the evaluation of clusters, main inputs are the competences and qualification of the personnel working within the cluster initiative and cluster management organisation as well as available budgets.

▶ "Output" encompasses any achievements or activities that are countable such as materials, goods, publications and particularly services that are produced by the evaluation subject (a programme, project, etc.). In the cluster context outputs are for example brochures, training activities, consulting services, meetings, conferences, etc.

▶ "Outcome" describes the results that were intended by the intervention, for example a change in attitude or behaviour of the target group, as well as benefits for the target group. Unintended results that occur within the target group are not defined as outcome. The target group of the cluster policy is mainly the cluster initiative and its actors as well as the linked cluster management organisation.

► "Impacts" are the results caused by a policy intervention that do not occur in the target group. Impacts can only be measured (if at all) beyond the target group in so called social systems in particular in organisations, social areas (e.g. regions, neighbourhoods) or in networks of actors within policy fields (e.g. qualification system of a federal state, health system of a nation). Impacts in the contexts of clusters usually mean effects on the economy, society and/or environment.

Usually it is hardly possible to draw direct cause and effect conclusions between the performance of the evaluation subject and its impacts. This is mainly due to the fact that very often outputs and impacts occur in different timeframes and impacts are influenced by numerous other, additional factors independent of the evaluation subject.

The parameters described above are summarised in fig. 2 that helps to describe relationships and serves as an evaluation model for the assessment of cluster management organisations and cluster initiatives.

Indicators and methodologies to evaluate clusters

The evaluation concept includes a broad set of indicators that can be summarised to "indicator groups" directly linked to the different observation levels of the assessment: cluster policy and context, cluster management organisation, and cluster actors. Last but not least the results can be compared to other clusters of the same or other cluster programmes. The figure 3 gives a brief overview of relevant indicator groups and suitable methodologies.

During the evaluation process, the stakeholder groups involved in the assessment select the most relevant indicators out of a total set of available indicators. The selected indicators are operationalised into questions. Moreover, the target group to be addressed is linked to each indicator and a certain methodology is recommended. In practice, there is a table describing the indicator, the addressed target group and the methodology applied. The answers to the questions are either surveyed by questionnaires or by interviews. Depending on the indicator, the same question should be answered by different stakeholder groups. Some of the relevant data is already documented and will be analysed by desk research.

Evaluation of clusters should consider:

► Levels of cluster policy intervention (framework conditions, cluster policy, cluster management, cluster actors)

► The maturity stage of clusters

► Levels of achievements (output – outcome – impact)