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## **Portfolio evaluation: Evaluating the instrument portfolio of the “founder contest ICT innovative”**

– a case study to illustrate evaluation challenges

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# **Portfolio evaluation: Evaluating the instrument portfolio of the “founder contest ICT innovative” – a case study to illustrate evaluation challenges**

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# 1 Introduction

Implementing independent but interrelated policy measures to support one specific political target (portfolios of policies) are of increasing interest in programme planning and implementation but even more important in monitoring, optimising and steering of programme families that already exist. This leads to new challenges when it comes to evaluation. Portfolios are understood as a group of parallel programmes or individual measures that are directed towards the same target group of participants and which may be evaluated jointly (Fischl/Kulicke/Wessels 2013). The programmes or measures within a portfolio should be considered as partially independent (they could also work as standalone programmes or measures), but also interdependent (with e.g. synergies or distorting effects).

Portfolios can be made up of regions, certain fields of technology or innovation, or agencies with the same target group. Problems related to the definition and grouping of these portfolios concern steering, legitimising, competition, allocation (Jörg in Fischl/Kulicke/Wessels 2013). The increasing orientation of innovation policy towards a challenge oriented policy and systemic change leads to increased use of programme portfolios, which try to address different aspects of the innovation system in an integrated way. This means that portfolios become more frequent in innovation policy, even if integrated evaluations of such portfolios remain rather rare up to now.

## 2 Evaluating programme portfolios

A variety of dimensions adds to the complexity of portfolios<sup>1</sup> and therefore raises a number of problems in terms of comparability and overall assessment. These include the following:

- **Number of instruments:** Various different instruments might be grouped into one portfolio that have different mechanisms of impact related to them. The systemic approach of actual innovation policies is implemented by portfolios of instruments which address very different aspects of the respective system like cooperation of stakeholders, legal and fiscal framework conditions, aspects of learning and education and so on.
- **Diversity of stakeholders:** Grouping different programmes into one portfolio means that the number and diversity of stakeholders increases. These include different subgroups within the target groups of the programme.
- **Variety of goals/overlapping goal systems:** If a portfolio consists of different programmes or measures there will probably be a variety of goals. In general those goals should match with each other and should also be the reason for grouping these programmes into one portfolio. But there may still be diverging priorities or even opposite subgoals. This means that there may be effects going into different directions, which pose a challenge for assessing if goals have been met.
- **Institutional frameworks:** There may be different institutions involved in one portfolio. This might be true for programme agencies as well as different governmental bodies as pro-

gramme owners. Challenge oriented policy strategies tend to include several ministries with interrelated, but also competing programmes and measures.

- **Industries/application fields:** If the field of technology or innovation is not the reason for establishing a certain portfolio, it is likely that there will be a variety of different fields of innovation or different industries resembled in one portfolio. Converging technologies and systemic approaches bring together very different technologies, e.g. for the case of electro mobility, the traditional industry of car manufacturers must now interact with energy suppliers etc.

The increasing complexity and interconnectedness of programmes and instruments on one side leads to increasingly complex evaluation designs. Evaluations have to fulfill more tasks and requirements at the same time which are interconnected and complex in itself. This increases the requirements regarding the design of an evaluation, the role of the evaluator, and the methods employed.

To evaluate a portfolio – and this point we would like to illustrate in this article – makes an evaluation multidimensional and raises its complexity. Among the dimensions are:

- **Evaluation function:** Whereas the legitimising function is prevalent in an ex-post perspective, the learning function becomes predominant in a formative or ex-ante evaluation.
- **Diversity of programme owners:** The agent commissioning an evaluation and responsible for its implementation may become a conflict-

<sup>1</sup> Portfolios are also referred to as funding ecologies (Van den Besselaar/Sandström 2013).

ing issue between the different ministries responsible for programmes within a portfolio.

- Diversity of stakeholders: At the same time as the diversity of programme stakeholders rises evaluation stakeholder variety rises. Stakeholders might be the same but there might also be new stakeholder groups emerging for evaluation or certain groups might have a higher stake in evaluation than in the programme itself.
- Parallel time frames: Not only an ex-post, a formative or an ex-ante-perspective is expected, but often two or even all three perspectives are to be addressed in one evaluation. This is reflected by the time frames the evaluation takes into account.
- Number and diversity of methods and instruments: The more diverse the evaluation objects, the more and diverse the evaluation methods and instruments that have to be tailor-made for each specific evaluation question to be answered.
- Variety of evaluation goals: The more complex the evaluation regarding its function, number of stakeholders, and time frames, the more complex the goals of the evaluation itself.

### 3 Case study

Portfolio evaluations in a strict sense are still rather rare. A case study of a programme evaluation currently carried out will be used to illustrate the different requirements. This case study is the “*founder contest ICT innovative*”<sup>2</sup> which is being organised by VDI/VDE-IT GmbH on behalf of the German Federal Ministry of Economics and Energy. This case study is more a “quasi” portfolio evaluation as it consists of one single programme. However, it comprises the main elements of a portfolio as it integrates different policy measures. The parallel but interdependent measures could also work as standalone instruments as well as plurality of role models and functions of the evaluation itself. The case study therefore is a single programme holding the characteristics of a portfolio because it consists of a portfolio of instruments.

#### 3.1 Founder contest ICT innovative

The “*founder contest ICT innovative*” comprises a portfolio of different instruments that are directed at different target groups and follow hypotheses that are to some extent interconnected but also to some extent independent from each other.

Generally, the founder contest aims at supporting startup companies, which focus on products and services in the information and communications technology (ICT) sector. It is organised as a biannual contest that awards considerable prizes as seed money for startups (BMW 2013).

Goals of the contest are to raise the number of startups in the ICT industry as well as to help startups be more successful. Long-term goals are a better exploitation of startup potential in ICT, to

create employment in a thriving industry and a contribution to more entrepreneurial spirit in Germany altogether.

The portfolio of instruments of the “*founder contest ICT innovative*” comprises the following policies:

- All participants of the contest receive an individual written feedback on their business idea.
- The winners are entitled to a set of measures which include the prize itself of up to 30.000 Euros, individual coaching days from professional experts, the chance to participate in an individually conducted strategy workshop, the participation in workshops and seminars covering relevant aspects of founding an ICT-company.
- Another activity is the organisation of a public award ceremony in which the winners are being honoured. Sometimes the award is presented by the German Federal Minister of Economics and Technology in person. This event is widely announced and covered in print media and – more importantly with respect to the target group – in online media.
- Another activity is organising a congress for young ICT companies in Berlin which aims at networking for the community.

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<sup>2</sup> “Gründerwettbewerb – IKT Innovativ”  
([www.gruenderwettbewerb.de](http://www.gruenderwettbewerb.de))



Figure 1 shows the expected results of the founder contest on three different dimensions: output, outcome, and impact. Activities carried out are the organisation of the contest itself, which means receiving sketches on business ideas, evaluating their quality and finally choosing the winners.

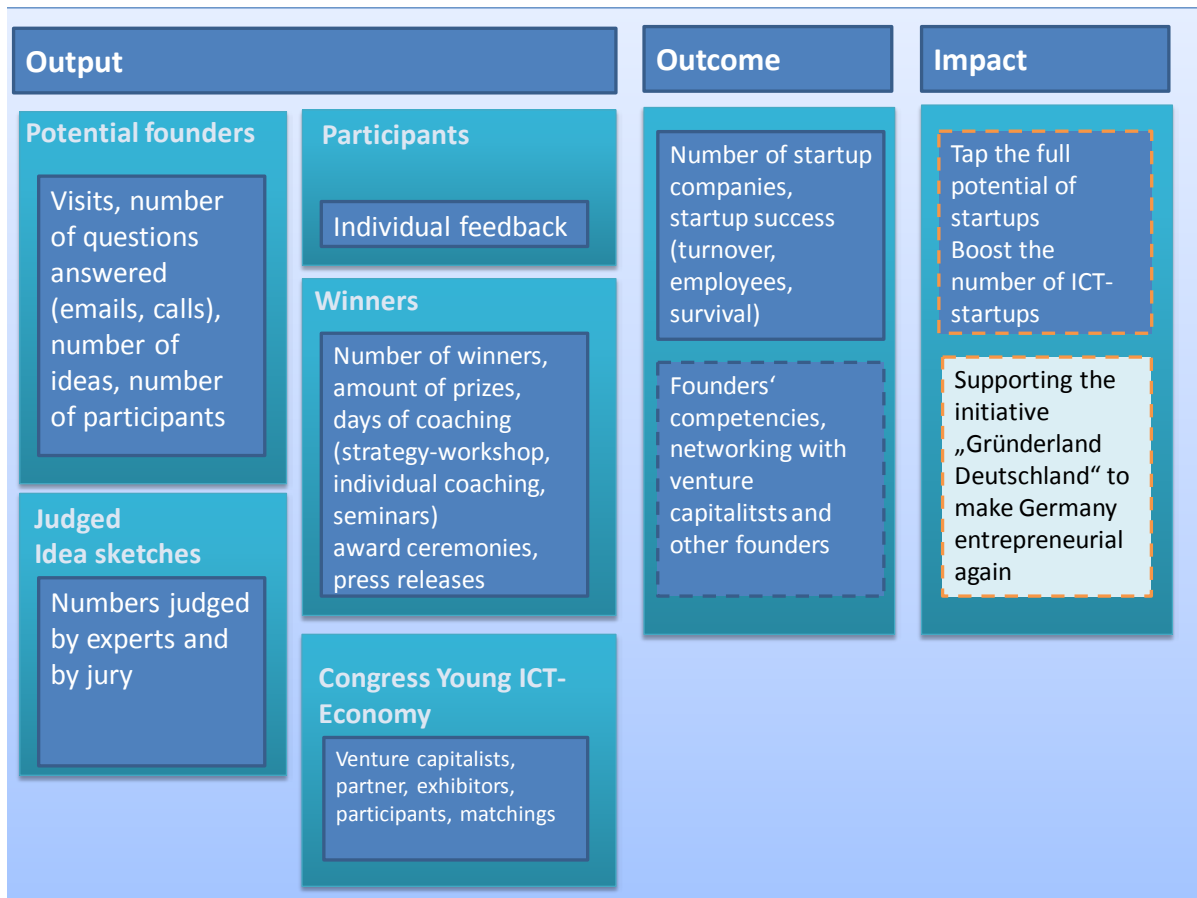


Figure 1: Results of the founder contest

The programme theory behind this portfolio can be divided into five different areas in which specific hypotheses on causal relationships on the impact paths can be identified. The hypotheses cover causal pathways on feedback, competencies, financing, public relations and networking.

Overall it is led by the central hypothesis that a bundle of measures organised by a single organisation

and specifically adjusted to the startup at hand will have a greater impact than single measures or single measures organised by different agencies.

### **3.2 Impact assessment and formative evaluation of the founder contest**

The impact assessment and formative evaluation of the founder contest is being carried out by VDI/VDE-IT's Institute for Innovation and Technology (iit). iit is a separate organisational unit within VDI/VDE-IT. The evaluation team is not involved in organising the contest itself but benefits from close organisational links with the management team, which makes access to data easy and the evaluation efficient.

Reflecting upon the complexity of the programme's approach, the ongoing evaluation is differentiated to reach different goals, to cover different time frames, to address a set of stakeholders and recipients of evaluations results, etc. It covers five main tasks which will be illustrated in more detail:

1. longitudinal study of the participant's activities,
2. portraits of successful companies as positive role models,
3. concurrent survey to improve the contest,
4. scanning developments on the context of the contest,
5. mid-term evaluation on effectiveness and efficiency.

#### **3.2.1 Longitudinal study of participants' activities**

The basis for impact assessment is a longitudinal study of the participant's activities as well as an analysis of data obtained from the contest to assess how it affected (and supported) the start-ups' behaviour. For this task a panel has been set up, which allows for an in-depth quantitative analysis of the long-term development of the participant's

start-ups (Kerlen/Wangler/Wessels 2013). Once a year, participants are asked to give feedback on the development of the founded companies. With this data, the indirect effects of participation in the founder contest can be shown. The panel is a cornerstone of the summative evaluation at the end of the programme.

This element is essential in order to account for the effects of the intervention. Clients are not only the agent commissioning the contest, but also the wider public and auditing authorities within the ministry.

#### **3.2.2 Portraits of successful companies as positive role models**

The quantitative approach of the evaluation is complemented by a more qualitative access to information. Some of the more successful companies are portrayed as positive role models for other founders. So far the evaluation team realised eight standardised case studies to cover the different background situations at the beginning of the process, the internal as well as the external success factors and especially the continuation of the founding story after participation in the contest. The information was collected by in-depth interviews complemented with data from proposal, surveys, as well as internet and edited in case study format.

The field work for this part of communication work is done by the evaluation team, because it is interconnected with the qualitative research into obstacles and success factors of founding businesses in this industry. The evaluator has to be aware of the trap that might arise from the fact that suc-

successful founders are being looked at to find success.

### **3.2.3 Concurrent survey to improve the contest**

A concurrent survey allows comprehensive, timely and targeted feedback of the contest (Kerlen et al. 2012; Kerlen/Wiedemer/Eckardt 2012; Kerlen/Eckardt 2013). In this survey, the experiences of the participants are collected, summarised and analysed – with the aim of improving the support given to the contestants while further developing the programme's contents and approach.

The main instrument to collect data for a yearly adaption of the measure is a survey to all participants. Items covered include feedback to procedures of participation, benefits of participation, main problems in starting a company/ reasons not to start a company, characteristics of start-ups. In addition to this it provides critical judgments about the funding procedures, but also important insight in the perception of the founders environment as well as in new trends and developments.

### **3.2.4 Scanning developments on the context of the contest**

Informing all involved actors of the above-mentioned tasks and also producing own insight is the task of scanning developments on the context of the contest. For example, a longitudinal analysis of all German and the major European start-up, business plan, and entrepreneurial development contests is part of this work package. Secondary, analyses and interviews are the methods mostly employed in this task. But there is also one set of questions included in the concurrent survey that focuses on a specific topic, like internationalisation

aspects, female entrepreneurs or new models of financing start-ups by crowd funding.

The measure itself had continuously to be argued against similar activities of other players of the innovation system, to prove that there was no redundancy and still a need for an intervention by the German Federal Ministry of Economics and Energy. Due to the very dynamic development of the policy in favour of start-ups on national and regional levels, the scanning of the developments had to be realised systematically, even to adapt the measure to new trends and developments.<sup>3</sup> The measure itself was seen as one step in a chain of different support measures, so the matching and connection capability had to be maintained by adaption to environmental changes.

### **3.2.5 Mid-term evaluation**

The mid-term evaluation was realised in a period when continuation of the measure was potentially to be decided due to the end of the legislative period. The results were meant to document causal relationships between the specific instruments and the expected effects like closer networks between start-ups and potential financing institutions or participation of start-up teams and the success of their new-born company (Kerlen/von Drachenfels/Wangler/Wessels 2013). The data used for this exercise was mostly collected by the surveys already introduced.

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<sup>3</sup> For examples on outputs of this task see Kerlen et al. (2012a); Kerlen et al. (2012b); Kerlen/Wangler/Wessels (2013).

## 4 Conclusion: Challenges for evaluation

Main challenges of a portfolio evaluation are to select best empirical access to different measures, to collect relevant data as well as to aggregate individual evaluation results. It is necessary not to eclectically select favourable data to prove success, but to find an approach to define appropriate indicators and collect all relevant data.

An annual survey which collects the perceptions and assessments of the target group towards the different measures offered by the portfolio programme leads to comparative data about these measures. The case studies give access to an assessment of the interdependence of these measures, to show the patterns of use by the target group itself of those instruments.

The evaluation also looks at independent influencing factors and additional external measures of the programme “environment” in a mid-term perspective. By this, a greater picture of publicly funded support programmes and instruments for startups in Germany can be designed and the core object of the evaluation (the programme itself) can be compared to other measures. From the viewpoint of the target group, the boundaries between the evaluated programme and other measures are rather artificial; the decision about using a supportive opportunity is not taken on the basis of formal ownerships of ministries or funding agencies. The startups expect the German government to design a systemic supporting scheme where different measures interact in the best possible way.

Important for a success of this procedure is also that the evaluation team finds an appropriate role. It should, on one hand, act as an independent evaluation unit with a neutral view of the process

to be evaluated. The use of high quality survey data makes sure that the perspective of the target group is included in the evaluation process.

The evaluation team should, on the other hand, support the programme owners and the programme agency in further developing the measure. Because of the trustful interaction with the programme agency, the evaluation team can realise a critical but constructive discussion also based on internal process details of the measure implementation. The evaluation team therefore acts in some respects as a coach for the programme agency.

This double role asks for double competencies of the evaluation team members. Furthermore, considering the use of a mixed-method approach, a team is needed with qualifications spanning from qualitative research to multivariate analysis, complemented by expert knowledge in ICT industry with experience as an independent opinion maker as well as facilitator and coach. Methodological competencies in evaluation have to be combined with expertise in the area of startup support to be able to participate in a qualified discussion with the programme management about specific aspects of the programme and fulfil the role expectations as a coach. In this setting with different stakeholder expectations, the role clarification of the evaluators for themselves and for others becomes essential.

Complicatedness and complexity of portfolios correspond to a raising complexity of portfolio evaluations. To find proper answers to the resulting evaluation demands is not only true for portfolio evaluations. But it is a showcase highly suitable to illustrate the challenges.

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