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Little pieces of a large puzzle

Sustainable change
through evaluation impact

Rapport 0122

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Sustainable change through evaluation impact

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Preface

The Commission has designated ongoing evaluation as the evaluation method for the 2007–2013 programming period of the EU Structural Funds. In the eight Swedish programmes it has been specified as ongoing evaluation and interactive research (följeforskning). The ongoing evaluation and interactive research is conducted on several levels – of the implementing organisation, in the evaluation of the eight programmes and of large strategic projects. A textbook (Brulin and Svensson 2012, forthcoming) and a reader has been produced to grasp the new evaluation approach, (Svensson et.al. 2009). The ongoing evaluation and interactive research aim is continuous improvements and learning. The ambition is that this programming period actually ensures that it is delivered in accordance with the overall objectives for the priorities "Regional Innovation Environments", "Entrepreneurship and Business Development", "Accessibility" and "Regional Attractiveness". In order to secure quality in the evaluation work, a joint course in "learning through ongoing evaluation" has been developed in cooperation with HELIX at University of Linköping and the Swedish Social Fund.

The challenge for the ongoing evaluation and interactive research is to ensure that experiences and knowledge are fed back to the regional development actors and project initiators and to the Structural Funds partnership, which prioritises the project applications. Another challenge is to ensure that the requirement of actions which promote integration and diversity, equality and environmentally sustainable development characterises the project. Also learning and knowledge formation in public debate as well as in research should be enhanced by this evaluation approach.

This is the synthesis report from the ongoing evaluation and interactive research of 60 ERDF projects. Malmö University and APeL- FoU is responsible for the content.

Göran Brulin

Responsible for the ongoing evaluation and interactive research of the ERDF programmes in Sweden, at the Swedish Agency for Economic and Regional Growth

Summary

The implementation of the eight Swedish ERDF programmes involves a large number of projects in which innovative and entrepreneurial environments are developed and regional attractiveness is enhanced. Many projects show good results in terms of new initiatives, new methods and new forms of collaboration between academia, business and public agencies, but also in terms of new businesses and jobs created. The projects, and the regional ERDF programmes funding the projects, are expected to be in line with the revised Lisbon Strategy, the Europe 2020 Strategy and the Swedish national strategy for regional competitiveness, entrepreneurship and employment 2007–2013. It is therefore important to describe and analyze the projects in the Swedish ERDF programmes as little pieces of a large puzzle involving far-reaching ambitions, not least regarding prerequisites for innovation and growth.

From this perspective, the impact of ongoing evaluation on strengthening the project's abilities and efforts to create sustainable change is of great interest. The concept of ongoing evaluation was introduced for the current programming period and around 120 major projects in the Swedish ERDF programmes have made use of it. In the study on which this report is based, we conducted a systematic review of final evaluation reports from ongoing evaluations at project level in Sweden. The empirical base of the study includes half of the existing ongoing project evaluations. As a complement to the review of reports, we also conducted seven case studies in order to obtain a deeper understanding of the projects, their ability to achieve long-term effects and the role of the ongoing evaluations. The analysis was carried out by using three mechanisms for sustainable change, namely, *active ownership, collaboration and developmental learning*.

The study has shown that ongoing evaluation is still an immature 'profession' and the reports reveal varying degrees of quality in the performance of the evaluations. In some cases the efforts of the evaluators have contributed to important improvements in the projects, while in other cases the evaluator's efforts can be seen as a traditional monitoring of objectives and short-term results. A learning – interactive and supportive – evaluation is important, because many projects struggle with significant problems concerning, e.g. organization, steering and efforts in relation to overall objectives. But the study has also demonstrated that many successful projects do not only exhibit

expected quantitative results, but also appear to create sustainable change in line with regional, national and EU strategies. The seven case studies presented in the report illustrate how ongoing evaluation has helped to improve the projects and generate long-term effects.

Contents

Introduction

In spring 2011 the Swedish Agency for Economic and Regional Growth – SAERG – commissioned Malmö University, in collaboration with APeL FoU,[1] to elaborate a meta-analysis of ERDF funded projects in Sweden and the EU. The aims of the study were to highlight and communicate the important results and lessons learned from the projects and to show whether the projects would actually lead to long-term effects with regard to innovation, entrepreneurship and regional growth. Our task also included exploring what the different project strategies might lead to in terms of results and long-term effects and how these differences could be explained. The task also included elaborating on the ways in which ongoing evaluation has been used and has been instrumental in improving the prerequisites for long-term effects.

Ongoing evaluation in the EU and in Sweden

The task of ongoing-evaluation is to contribute to an effective implementation of the Structural Funds programmes in line with the revised Lisbon Strategy, the Europe 2020 Strategy and the Swedish national strategy for regional competitiveness, entrepreneurship and employment 2007–2013. This will be done by the evaluators identifying, documenting and communicating results that lead to long-term effects, structural changes and strategic impact. The national strategy emphasizes the importance of evaluation and learning:

> *The Government's intention is for a systematic follow-up and evaluation process to be part of the work carried out on the regional development policy and the European Cohesion Policy. The aim of this is to improve the program work from start to finish – from planning to implementation. There is a constant need to increase our knowledge of the world around us and of how different measures can best be combined in order to be effective and reach our goals.*[2]

The importance of evaluation and knowledge formation is further emphasized in Europe 2020,[3] which is the EU's growth strategy for the present decade. Here the goal is to make the EU a smart, sustaina-

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[1] Mats Fred and Josefin Aggestam, evaluators at Malmö University (www.mah.se/utvardering), Erik Jakobsson and Lennart Svennson, researchers at APeL R&D (www.apel-fou.se).

[2] The Ministry of Enterprise, Energy and Communications, 2007 p.49.

[3] See e.g. http://ec.europa.eu/europe2020/index_en.htm.

ble and inclusive economy. It is expected that these three mutually reinforcing priorities will help the EU and the Member States to deliver high levels of employment, productivity and social cohesion. Europe 2020, consequently, stresses that in the next period the Structural Funds are to contribute to smart, sustainable and inclusive growth. This is dependent on the ability of so-called "smart specialization", which means supporting a resource-efficient programme implementation and avoiding the duplicated funding of similar projects, a lack of synergies and inefficient ways of coordinating development efforts. This requires an extended knowledge formation among the different actors involved. Ongoing evaluation is one of the tools used for this joint learning process. The demand for a resource-effective implementation – in line with the ideas of smart specialization – calls for learning by ongoing evaluation at the regional level, between regions, in national arenas and at trans-regional level.

In the current programming period (2007–2013), ongoing evaluation in Sweden is performed at three levels:

- In the implementation of the ESF and ERDF programmes.
- At the eight regional programmes level.
- At the project level.

This report deals primarily with ongoing evaluation at the project level and the importance of evaluation in helping projects to generate results and effects in accordance with the strategies.

At the regional programme level (the eight Swedish Regional Fund programmes), ongoing evaluation has shown that the programmes have made a difference to innovation.[4] New linkages and contacts have been established between academia, SMEs and large companies. The evaluation also shows that a surprising amount of resources (given the Commission's expectations on experimentation) have gone to R&D based innovation projects involving existing companies and industries. The aim of these projects has been to develop knowledge, competencies and solutions that provide a platform on which existing companies can develop their processes and products. An illustrative example of the importance of new knowledge and innovation relates to the causes of stoppages in the production process in the paper industry, and how these stoppages could be reduced within the framework of an R&D-based ERDF project. The stoppages lead to high income losses for the companies and coming to terms with this problem illustrates the impact of a project on a region's industry. As the industry becomes more rationalized, and competitiveness is strengthened by day-to-day innovations of this kind, it is more likely that internationally focused companies will remain in the region.

But the programme evaluations also point to an uncertainty for the future when it comes to financing innovation activities. For instance,

[4] Brulin & Svensson (2012).

in northern parts of Sweden innovation system projects are characterized by short-term financial solutions and high expectations on companies and organizations in the region when it comes to making use of the results.[5] Many of the projects also focus more on the early stages of the innovation process and put less emphasis on commercialization. In those cases where commercialization has taken place, this often occurred outside, or after, the ERDF-funded projects, which means that the results were not accounted for in the projects.

The programme evaluations point to the risks involved when projects receive funding for three years but lack a clear idea of financing beyond this. In fact, this seems to be a fairly common situation. In South Sweden, innovation systems are organized as platform projects both as a response to this problem and as a way of securing the sustainability of project results.[6] These platform projects are not primarily intended to support the development of individual innovations, but to promote a regional innovation system. Region Skåne (Skåne Regional Council) has played a leading role in the development of these platform projects. The regional ERDF programme is seen as a tool for implementing what has been agreed on in regional strategy documents.

A common problem for the larger platform- and/or innovation system projects has been to communicate the aims and ambitions of the projects and to establish the projects beyond the inner circle of involved actors. In some cases the projects seem to have had vague aims which have been difficult to communicate. In other cases the projects have been complex, which has in turn made communication and dissemination more difficult. In the southern parts of Sweden, the complexity of the projects has been seen as an obstacle to sustainability and structural change, because this may have inhibited the projects from developing into dynamic clusters.[7]

Even though the platform projects promote sustainability, the evaluators of the Skåne-Blekinge programme warned against these types of organizations because it was feared that they could easily become self-centred and focus on financing their own activities instead of serving as a platform for innovation.[8]

The projects and the use of evaluation

In a report from SAERG,[9] some of the most common findings related to the ERDF projects are:

- The objective/target structure and project logic in many projects needs to be improved.
- Projects need to be defined more clearly in relation to regular activities and the overall objectives of the programmes.

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5 Ledningskonsulterna 2011.

6 Sweco 2011.

7 Sweco 2011.

8 Sweco 2011 .

9 SAERG report 0079.

- The division of mandates, roles and responsibilities in major projects needs to be clarified.
- A more active ownership of the projects is needed.
- Projects need to be better at developing learning structures in order to change, improve and strengthen the national regional growth policy.

The report states that more effective forms for the feedback of experiences and knowledge are necessary. More coordinated action for ongoing evaluation and learning in order to generate more benefits for regional growth is also requested. The important challenge is to create an evaluation culture that makes the implementation of results easier and which supports the initiation of new projects. Project owners need to be better at making demands and specifying requirements concerning the use of evaluation. The evaluators also need to be more professional in their role.

Ongoing evaluation is a relatively new phenomenon, which can explain why the methods have to be improved.[10] It can, however, be seen as a great achievement that ongoing evaluation is now linked to several multi-million investments, which is quite a new departure. Ongoing evaluations and knowledge formation are not only vital in projects funded by ERDF, but also in many other development programmes and projects, with access to greater financial resources than the Swedish ERDF programmes.

Background

With this report our aim is to contribute to an understanding of how the objectives of the ERDF programmes can be achieved. In the light of this, we have analyzed the mechanisms behind the development projects. However, such an analysis cannot simply be based on the outcomes in terms of the projects' own documentation of the number of new jobs and new firms created. Instead of a narrow focus on short-term result data, the analysis must be based on indicators that capture the effects of structural change, strategic impact and regional growth. Our data is based on ongoing evaluations at the project and programme level.

How can structural change be promoted by a programme? We know that the traditional way of dealing with structural change is no longer adequate. During the 1950s, 1960s and 1970s, the Swedish Model was very successful in promoting structural change. This was based on a close partnership between unions and employers, a rational and standardized production system, support for mobility, investment in training and research and a centralistic and solidarity-based wage policy. A number of very large and competitive Swedish companies were also established on the international market.

[10] Svensson et.al, eds.(2009).

Today, in a globalized economy and rapidly changing world, this model is no longer adequate. In a global economy with strong regions, a new strategy for growth is needed with innovation, entrepreneurship and competence development as central elements.[11]

These global change processes have to be addressed at a regional level. This is a paradox of the globalization process. It is at the local and regional level that companies, customers, researchers, consultants and public authorities cooperate in order to promote innovation and growth. In such dynamic and innovative systems – called clusters or industrial districts – trust and close relationships can be created through networks.[12] Productivity is becoming less dependent on an effective production system, and more based on the capacity for innovation, which is not an internal task but something that is developed in closed cooperation with local and regional actors13.

> *From a spatial perspective rooted in evolutionary economic geography, regional innovation systems have played and will continue to play a strategic role in promoting the innovativeness and competitiveness of regions ... Essentially, the RIS approach has strengthened policy by the attention it directs towards the need – perceived by policy makers at OECD, EU-member state and regional levels – for constructing regional advantage. The regional innovation system can be thought of as the knowledge infrastructure supporting innovation in interaction with the production structure. It is necessary to think in post-sectorial or 'platform' terms to capture the full flavour of this contribution.*[14]

According to these research findings, a future policy for growth must be based on regional cooperation between companies, authorities, politicians, R&D centres, unions and entrepreneurs in order to promote innovation. The regional growth agreements and regional partnerships in the Social and Regional funds are in line with this strategy for change. The new regional change policy, which was introduced when Sweden became a member of the EU, is based on regional agreements with the state.[15]

The Commission's focus on innovation prior to the new programming period of 2007–2013 can be summarized as follows. It was not known exactly how an increased focus on innovation could be achieved, only that it should be based on a powerful initiative for regional experimentation in new forms and approaches. Different opportunities for linking and increasing knowledge spillovers and learning between science, companies and public institutions should be tested. The ambition was not to transfer scientific knowledge and research findings in the linear model manner, but to integrate differ-

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11 Brulin, Ellström and Svensson 2012.

12 Porter 1998; Markusen 1996; Brulin 2002; Berggren and Brulin 2002; Berggren, Brulin and Laestadius 1999.

13 Cooke et al 2007.

14 Cooke et.al. 2007 p.297.

15 Brulin and Westberg 2000.

ent kinds of knowledge and praxis about commercialization with theoretical knowledge. The question we raise in this report is whether a member state such as Sweden can be said to have lived up to these expectations? What has been achieved and what conclusions can be drawn from the programmes thus far?

In order to answer these questions we have to understand more about how regional innovation can be organized and how the policies used in the EU have shifted from a more linear to a more flexible model of innovation.

Different models for innovation

Research on innovative environments has defined different models and core qualities. According to the Green Paper "Europe needs to make a step change in its research and innovation performance".[16] As the Innovation Union pointed out, this requires research and innovation to be better linked. We should therefore break away from traditional compartmentalized approaches and focus more on the challenges and outcomes that could be achieved by linking research and innovation funding more closely to the policy objectives. Developing a simplified set of instruments and rules is also crucial, while leaving room for flexibility where it is needed.

In the Green Paper it is argued that:

> *An important role needs to be played by the future Cohesion policy, which serves to build research and innovation capabilities at the regional level through smart specialization strategies, yet within the context of the EU's broader policy objectives. The Commission Communication on the future of Cohesion policy points to reinforced strategic programming, increased concentration of resources and greater use of conditionality and incentives to enable a stronger impact on Europe 2020 priorities including research and innovation. The Common Strategic Framework for EU research and innovation funding should therefore build strong complementarities.*[17]

Traditional innovation theories and models relying on formal relations and planned instrumental activities, such as basic research and technical spread, have been strongly criticized. Applications followed research in 'the linear model'. Ideas originated in basic research and were further refined in laboratories and in development departments. The result should be delivered to mass production. According to the innovation system approach,[18] new products and business ideas cannot be developed in a linear, sequential chain of order. There is no linear logic from invention to product, to production and marketing. Innovations are instead an effect of an interactive working system.

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[16] Green paper (2011) p.4.

[17] Green paper (2011) p.7.

[18] See Cook (2007).

The innovation system approach has come to affect innovation policies in many countries. In contrast to traditional theories, this approach points to the mutuality of and interaction between enterprises and institutions in cluster dynamic innovation systems.

If we are not looking for an 'innovation machine', perhaps because many great inventors now emphasise the importance of a psychologically supportive micro milieu rather than than the system structure, there is a good case for pluralism. Researchers who emphasize random, subjective and relation-based innovation processes are sceptical of the innovations system approach as the only alternative due to its focus on system and scale. An alternative model for successful new innovations is relationship building. Here the guiding metaphor is the economy as relations. Regions could be defined as stocks of relational assets. A region's chief asset is not its institutional system, but its set of relations, which naturally take a long time to develop and are difficult to imitate. The innovative development of products, processes and services always contains a great deal of experimentation. By and large, successful innovation processes reflect how the different actors interact, rather than how big or how many they are.

The complex relation between discovery and practical application is the key issue in the innovation process. It is the close relationship with the business community – more than the critical mass or advantage of agglomeration – that shapes the innovative environment. The experimental network economy leads to increased significance for the local and regional dimension. If Europe wants to increase its performance in creating impact from R&D funding it has to apply fresh models that support innovation. The challenge today is that innovation processes are run in so many different forms[19] – orchestrated innovation, open innovation, user-led innovation etc. As a result of these new models and new thinking there has to be a substantially greater degree of creativeness in how innovation programmes are designed and interrelate. It is no longer possible to mechanically organize innovation as a linear sequential process, where scientific knowledge and research results are channelled from academia via laboratories and applications to commercial use. Neither is it sufficient to try to "force" (member) states to invest more GDP resources in R&D funding to secure a shift towards innovation-based growth. There is a Swedish paradox here that is also a European paradox and which has meant that relatively large R&D programmes have ended up with poor innovation outcomes.

Research questions

In our study the research questions – or rather areas of interest – guiding the research are:

- Do the ongoing evaluations live up to a desirable standard? Do they include learning activities, interactivity, change process support, theory-based analyses and a critical approach?

[19] Von Hippel (2005).

- Do the projects meet the goals and the purpose of the programme? Are the projects performed in line with regional, national and EU strategies for innovation and change?
- What can be learned from different types of projects in terms of how they are organized and put into practice? Are the projects innovative? Do they build on former collaborations and earlier experiences?
- Has experience and knowledge been generated that can be used in forthcoming projects and programmes? Do the projects create multiplier effects? Have the projects and the evaluators participated in public debate and shared the learning produced within the projects?

Method

In our study we conducted a systematic review of 40 final evaluation reports and were also in contact with or read reports from an additional 20 projects in Sweden.[20] In all, the empirical base of the study includes 60 ongoing evaluations, which is equivalent to half of the ongoing project evaluations procured in ERDF projects in Sweden during this programming period. The additional 20 projects were mainly projects in which the final evaluation report had not yet been compiled but could nevertheless widen our understanding. The Swedish final reports were partly downloaded from SAERG's website,[21] partly given to us directly by the evaluator or project management, and partly received from our contacts at SAERG. The study was carried out between June and December 2011. Although the research teams at Malmö University and APeL R&D had primary responsibility for how the study and the analysis were structured, the work was carried out in close cooperation with the group responsible for the ongoing evaluation of ERDF programmes at SAERG.

It turned out that the evaluation reports were not very accessible and obtaining them required considerable "research". In order for the reports to serve as an important empirical basis for learning easier access to them would be desirable. An evaluation that is not published and communicated will not be useful for learning. Non-accessible reports prevent projects, regions, SAERG and other key actors from drawing conclusions and thus prevent improvements being made in the wider implementation of the programmes. A lack of availability will not lead to a better fulfilment of the overall objectives.

The original idea was to analyze both Swedish and European evaluation reports at the project level, although in actual fact project level evaluation reports from other European countries could not be found. In our study there was little or no possibility of getting hold of evaluation reports from other countries at the project level. Evalsed, which is an ERDF funded "online resource providing guidance on the

[20] For full listing of projects see appendix.

[21] www.tillvaxtverket.se.

evaluation of socio-economic development", states that even though it is under development it has focused on programme evaluations and has a database of evaluations categorized by type, country and language.[22] In this we found five reports in English, five in French, five in German and two in Danish – none of which were at project level. In an e-mail from Kai Stryczynski [23] and Charlotte Thomas,[24] they state that evaluations are always carried out at the member state level. Despite this response we decided to contact SEEDA (South East England Development Agency), EEDA (East of England Development Agency) and East Midlands UK for evaluations reports at the project level. We visited their national and regional websites and contacted them by e-mail, but none of these organizations had any project level evaluations on their websites or the possibility of providing us with what we were looking for by e-mail.

The 40 Swedish final evaluation reports were all subjected to a systematic analysis (based on a qualitatively-oriented internal questionnaire) from which we collected relevant information. The questions concerned e.g. what kind of actor performed the evaluation, the nature of the evaluation, the main results and the identified effects of the project. Here it is important to note that the systematic review of reports does not tell the whole story about the projects. Important results and effects might in fact stem from the projects that are not included in the reports. Also, in many cases the evaluators are not very outspoken about what significance they consider the ongoing evaluation has had for the project. The additional 20 evaluations that we scrutinized less thoroughly have obviously also contributed to the knowledge underlying the analysis and conclusions in the report.

The ambition with the systematic review of evaluation reports was to acquire a good overall picture of the projects, their short-term results and long-term effects and the importance of the ongoing evaluations – how they were conducted and what impact they had on the projects. As a complement to this we also conducted seven illustrative case studies in order to obtain a deeper understanding of the projects, their ability to achieve long-term effects and the role of the ongoing evaluations. The selection of cases was made on the basis of the review and the analytical framework presented in the next chapter. The case studies are largely based on document studies, although in several cases interviews with evaluators and/or and project managers were also conducted.

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[22] http://ec.europa.eu 2011-08-18.

[23] Deputy Head of Evaluation Unit at DG for Regional Policy.

[24] Secretary to Head of Unit/Acting Director, Unit C4 Evaluation, European Commission.

Analytical perspectives

Distinctions between activities, output, results and effects in development work or in a project can be identified in a logic model or programme theory that aims to clarify the logic behind a project.[25] Which activities lead to which results and which results lead to which effects? Programme logic or programme theory is thus a structured way of working with causal relations in development efforts. This means that there is logic at work in the thinking and planning of a project in which the causal relations between the various elements and stages of a project are in focus.

Figure 1 **Example of a logic model.**

The usefulness or the value of development work can be assessed from different starting points in a programme theory such as that presented above. This can cover the following:

- Number and types of *activities* implemented (output) and their results.
- Short-term *results* of activities and output.
- Long-term effects, i.e. whether results are applied and become an integrated part of an activity or contribute to strategic impact (on agreements, rules, laws, policies, steering documents or public debate). If programmes and projects promote learning processes and knowledge formation in other development activities we can talk about long-term multiplier effects i.e. where effects are formed, value added and leverage obtained.

Such long-term multiplier effects from projects in the Regional Fund are particularly interesting. Prioritized projects in the areas of regional innovation environments and entrepreneurship/business development are expected to initiate learning and development processes that lead to a greater innovation and entrepreneurship capacity. Like "ripples on the pond", experiences and knowledge from the projects are disseminated to contribute to greater dynamics in regional growth processes. Evaluating multiplier effects is difficult, however, since causal relationships are often unclear.

[25] Se e.g. Donaldson, 2007; Rogers & Funnell, 2011; Brulin & Svensson, 2012.

In this perspective, the activities and results of a project should be regarded as instruments for achieving multiplier effects and sustainable change. Sustainability depends on how different components of development work are linked together. Activities such as experimenting and trying out new approaches are crucial in developmental processes. As not all the activities in a project are successful, a large number of attempts and experiments are sometimes required in order to achieve innovative solutions. The results that stem from successful activities indicate what is successful in the short-term in development work. At the same time, we know that short-term results do not automatically lead to long-term effects.

This especially applies to multiplier effects that often occur in unexpected and surprising ways. Experiences and results from projects have to be transformed and applied to new contexts if they are to develop a life of their own and become autonomous. If the results are to be sustainable when the projects have been completed, they have to be adapted to new (internal and external) conditions and requirements. Our primary focus is on the relationship between results and effects because knowledge about this is lacking. Often, when project logic is used, the focus is on isolated activities and short-term results.

Since public funds are used to finance programmes and projects, the managing authorities and the EU Commission have set up a number of indicators and rules to ensure that projects are carried out correctly. However, problems occur when projects experience that there are too many indicators to take into account and that steering by rules characterizes the management of the project. This often leads projects in the wrong direction, i.e. towards short-term results and large numbers of activities. We believe that the most important conditions for achieving sustainable change can be summarized in three mechanisms, or driving forces, explaining causal relationships.

These mechanisms are: *active ownership, collaboration and developmental learning*. The key element underpinning these mechanisms is ongoing feedback from experience and knowledge formation. These mechanisms are discussed in greater detail in a new book about running programmes for sustainable development.[26] The first mechanism – active ownership – is analyzed by using a theory of project organization as an analogy to theories about work organization. In the analysis of the second mechanism – collaboration in order to generate joint knowledge formation – theories relating to innovation systems, networks and cluster formation are covered. The third mechanism, developmental learning, is included to create multiplier effects in large projects, and when analyzing this mechanism theories of learning are combined with theories of implementation, dissemination and strategic impact. Development work leading to sustainable change can be studied as an interaction between these three mechanisms.

[26] Brulin & Svensson, 2012.

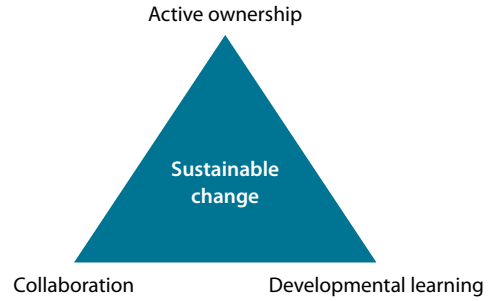

Figure 2 **Mechanisms for sustainable change (Brulin & Svensson, 2012).**

In this report we use these analytical perspectives and apply them to the empirical material on which the study is largely based, i.e. project evaluation reports. Naturally, the state of these mechanisms in the projects will to some extent depend on the context or environment in which the projects operate. In some contexts previous experiences e.g. of close collaboration and experienced project owners, could make the conditions more favourable.

Research findings

In this section we present the results of the study. The basis for this is a systematic review of ongoing evaluation reports from projects in Sweden and seven illustrative case studies of Swedish projects. The review aims to give a general picture of the projects and their evaluations. The case studies are also intended to provide us with a deeper understanding of the projects, their ability to achieve long-term effects and the role of the ongoing evaluations. In our analyses of this somewhat extensive material we have come across several examples of ongoing evaluations that have been instrumental in dealing with deficiencies and providing greater clarity in the projects, which obviously has a bearing on the performance and effectiveness of the Swedish implementation of the Structural Funds programmes.

Characteristics of the evaluations and the projects

One interesting finding is that there does not appear to be any similar ongoing evaluation at project level in other EU member states. The evaluations are generally conducted at member state- or programme level. The evaluation approaches also seem to differ. Sweden advocates an interactive and supporting approach, while several of the other member states use more traditional methods, such as cost benefit analysis, control group approaches and counterfactual evaluations. Although in their reports many of the Swedish evaluators refer to the thoughts and ideas about ongoing evaluation that were developed and put into writing by SAERG,[27] in practice the evaluations conducted in Sweden are very different in character.

Major consulting firms are the most common category of evaluators, followed by small consultancies. Research groups in universities and colleges are also included as evaluators, but not very often. However, some university researchers are engaged by consulting firms. Many evaluators carry out their work using an interactive and consultative approach, but a significant proportion of the evaluations can be regarded as summative, with an emphasis on the end of the project period. This approach is contrary to the very idea of ongoing evaluation advocated by SAERG. The idea with ongoing evaluation is to follow the project from the beginning, work closely with the project (managers, steering groups and owners), give feedback from the evaluative processes and take part in the development of the project.

[27] SAERG, report 0069.

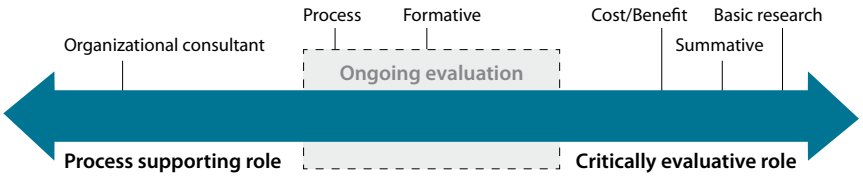

Figure 3 **The nature of evaluation**

Several evaluators have played a supporting role combined with a critical perspective (positioned in the middle, see Figure 3), although many have played a critically evaluative role but have not really supported the different processes of the projects (to the right in Figure 3). These evaluations could perhaps be compared with more traditional evaluations, where the evaluator takes a more distanced approach to the project and where the bulk of the work, and perhaps the most important part, connects directly to the final report. Quite a few evaluations are strong supportive, but have no apparent critical, evaluative role. This role resembles that of an organizational consultant.

These differences in evaluation approaches are reflected in the analysis presented in the reports. More than half of the evaluation reports are quite descriptive in nature and do not contain much analysis. The most common approach, though, is reports based on an empirical analysis where conclusions are drawn from empirical observations.[28] There are also examples of reports that actually use theoretical perspectives, concepts and models, although these are few and far between. In connection to this, or perhaps as a result of the strong descriptive and empirical nature of the reports, many evaluations focus on the activities, outcomes and short-term results of the projects, rather than on long-term effects and structural changes.

A lot of results are presented in the projects and the evaluation reports discuss them in different ways. The vast majority of evaluations answer the question of whether the project has achieved its goals or not. Many of the projects seem to have reached their goals and some have even exceeded them. We find descriptions of projects that have resulted in new ways of working, new forms of collaboration, new ways of disseminating knowledge and the development of new methods for change. However, there are also examples of projects that have had too many goals, where the logic (programme theory) has not fitted the project and where the results have mainly benefited universities.

With regard to long-term effects, we essentially found discussions about what the evaluator or representatives of the project believed the long-term effects would be, or how the project would lead to long-term effects. Some of the evaluators are unable to say much about long-term effects, since such effects can only be expected in the future and cannot be identified in the present. Some indicate that the project

[28] This also includes interviews and studies of documents.

will continue as a solid business after the funding ends, while others point to less tangible things like processes of change that are emerging. There are also examples of evaluation reports that point to what needs to be done in order to achieve long-term effects. For example, some reports stress the need for collaboration between relevant players if the project is to lead to long-term effects, while others point to the need for the project owner to take responsibility for the results.

In general, the evaluations have a "local" character in terms of results and effects. Few of the evaluations deal with the overall objectives of the programme and the Swedish national strategy. The results and effects that are described are related to the immediate surroundings and the involved organizations.

When it comes to the horizontal criteria,[29] these are usually given little or no space in the final evaluation reports, which indicates that the horizontal criteria are not considered to be of any real importance in the projects. It is somewhat remarkable that so many reports leave these criteria out altogether. In several cases the evaluation simply points to the notion that the criteria has no relevance in the project, or that the project simply does not deal with those issues. Very little criticism is directed towards the projects for not working with these criteria, and there is no discussion about what this might mean for the outcome of the project. This may have something to do with the vague connection of the horizontal criteria to the objectives of the programmes and the Swedish national strategy, although there are a few examples of some form of discussion and analysis concerning the horizontal criteria taking place.

Active ownership

Organizing an active ownership in large projects with a lot of actors seems to be difficult. An effective project organization does not appear out of the blue. In general, no in-depth discussion and analysis of project organization, ownership and steering is found in the final evaluation reports from the projects. In fact, only a few of the reports we came across had any kind of critical discussion and analysis regarding this mechanism for sustainable change. In some cases there is absolutely nothing in the text about the project organization and how it works - not even at a very superficial level. We should point out that this does not necessarily mean that the projects do not have active owners or effective steering groups. Many evaluation reports simply do not dwell on these issues. In fact, more than half of the final evaluation reports in the review do not address the issue of whether or not a steering group actually steers the project.

Some reports do reveal major shortcomings in terms of ownership and control, such as steering groups that do not actually control the overall focus and development of the projects, which might indicate a

[29] Environment, gender equality and diversity.

lack of active ownership. In many cases steering groups regard themselves as reference groups rather than forums with operational responsibilities. This seems to be a fairly common phenomenon. A weak point like this in the project organization can obviously have an important impact on the project's ability to implement results and create long-term effects.

Below we present three illustrative case studies that demonstrate the importance of active ownership in order to maintain the sustainability of the changes and results that have occurred throughout the project. We will first of all look at a project called 3M, in which several potentially important processes of change were initiated and developed, but where the results may not be sustainable due to of a lack of active ownership. The second case is Syster Gudrun, a project that successfully reached its short-term goals but initially suffered from a dysfunctional steering group that jeopardized the possibility of implementing important results from the project. Thirdly and finally, we describe the project DARE and look at how the project organization led to problems relating to the development of the project.

Case study | 3M

3M is a project that has achieved many results, some of which have a great potential for change and development. The project has promoted a more integrated approach concerning competence and other issues related to business development, such as cluster dynamics and service development. But 3M can also be used as an illustrative example of lack of active ownership, which means that the results from the project have not yet been dealt with at a strategic level. Interesting concepts were not exploited when the project ended, although this very scenario was clearly highlighted as a risk by the evaluators during the course of the project.

3M stands for 'Meeting place' (Mötesplats), 'Broker' (Mäklare) and 'Motor'. This project consisted of three sub-projects based in the county of Hälsingland. One sub-project was about creating meeting places, processes and structures that improved the conditions for exchanges between researchers and companies. A key feature was the creation of an "R&D driver" in the region with a view to starting up more businesses and encouraging existing businesses to grow. Another sub-project was intended to stimulate entrepreneurship in service production. One of the key elements here was to establish an entrepreneurial forum in service development, with a view to facilitating and accelerating the transition from traditional industrial sectors in the region. The final sub-project aimed at developing a common technical infrastructure for communication and learning in the county. This was a pure investment project.

The 3M project has some interesting strengths and weaknesses that can be learned from. The owner of the 3M project was the economic association Hälsingland Education, owned and operated jointly by the

six municipalities in the province. Through this association the region has done something that can be considered unique, namely organized long-term cooperation between the municipalities to develop a common regional infrastructure for adult learning. In this work different projects have historically been significant, and the 3M project has helped to strengthen and develop an existing basis for collaboration. Hälsingland Education has operated as an intermediary over a number of years, with great success. A new and challenging element in 3M was the focus on innovation and entrepreneurship. Previous projects conducted by Hälsingland Education have mainly focused on training and skills issues. With 3M it became necessary to seek more interaction and integration between business development units and community learning centres within the municipal organizations.

Significant change has been initiated by the 3M project, particularly the attempt to bring researchers, companies and entrepreneurs together, as well as efforts to match municipal community learning centres with municipal entities working with business development. With 3M, an attempt has thus been made to bring together relevant actors and find a more integrated approach to competence issues and other matters related to business development, such as cluster dynamics and service development.

One of the most interesting things that 3M has touched on and supported is the cluster of service companies in one of the municipalities. The companies in this cluster are engaged in information brokerage in various fields, including construction engineering. This is based on matching the supply of and demand for information, knowledge and skills. The cluster today employs about 1,000 people. One already existing idea that the entrepreneurship project has supported and developed is to create a regional competence forum for distance independent services, of which local learning centres could be vital components.

Another interesting concept, developed within the innovation project, is a regional R&D centre whose purpose is to contribute to sustainable regional development. Researchers at the centre are to work interactively with business and working life. Learning evaluation is to become the main profile of the centre. Through this the local learning centres can take a step forward in their attempt to link researchers to business and industry and thus proceed with research-related development work.

However, the 3M project also illustrates what we call a lack of active ownership. This lack of active ownership is something that in fact jeopardizes the sustainability of development work and the changes that have been initiated. This is something that the evaluators repeatedly discussed with the project management team. It seems that during the progression of 3M the project owner and the steering group did not provide much direction about how to act at critical times. The project management team was often left to deal with difficult issues

and strategic choices in the projects without input from the owners represented in the steering group.

Several of the processes initiated by the 3M project require regional coordination, although the lack of active ownership during and after the project makes it uncertain whether such coordination will be incurred. It is doubtful whether Hälsingland Education will be able to take the processes forward, with regional coordination and efficient organization, and it is at the same time likely that no other regional player will be able or willing to assume the role of the intermediary. This presents a dilemma that needs to be dealt with politically.

One weakness of 3M, which is typical of many of the projects we have studied, is that companies have not become involved as partners. With companies as the target group for the activities and processes of change, having business representatives in the project organization would probably have been a great advantage. The clear organizational and cultural division that still exists between learning centres and business units in the municipalities also presents a problem. As already mentioned, a central feature of 3M was to bring about more of an integrated approach for municipal learning centres and municipal business development units. However, in some municipalities the response from the business development units has been rather weak. The integration of 'education' and 'business' has not come very far in the municipalities, although this integration was indeed highlighted as a critical issue. It would seem that in many places the sectored division is still more or less intact. These problems have been both made visible and discussed in the context of 3M, not least by means of the ongoing evaluation.

The challenges can hopefully become part of a continuing and more strategic work in the future, where skills issues, business issues and social issues are integrated in a new way. This, however, requires that the highest political leadership in the municipalities and the region, as well as different regional actors, adopt a comprehensive approach to these issues.

Case study | Syster Gudrun

The project Syster Gudrun (Nurse Gudrun) has successfully explored how modern technology can make health- and medical services more accessible and in this way streamline and raise the quality of nursing and care. The project has put Blekinge on the map as an interesting region in terms of IT in nursing and care. The project is also an example of the impact of ongoing evaluation when it comes to active ownership, organization and steering. The project initially suffered from a dysfunctional steering group, although this changed over time largely due to the ongoing evaluation.

The project Syster Gudrun is a collaboration project between Blekinge County Council, Blekinge Institute of Technology, Affärsverken i

Karlskrona [30] and the Municipality of Karlskrona aimed at creating a full-scale information technology labs in health care organizations. The basic idea has been to find out whether and how modern technology could make health care more accessible without a loss of quality for the individuals concerned, and at the same increase efficiency. The short-term aims of the project are:

- To create production-oriented full-scale information technology labs in health care organizations in Blekinge and parts of Skåne.
- To build a full-scale research-based lab at the Blekinge institute of Technology.
- Develop a web-based platform for dialogue regarding public health care as a complement to the national telephone-based health care advisory service.
- Increase IT competence health care and thereby serve as inspiration, a disseminator of ideas and an educator.
- Professional development of health care employees.

According to the evaluators the project has achieved these goals. The production-oriented and the research based labs are up and running and will continue to operate after the project funding ends. The web-based platform for dialogue has been developed and the receiving organizations are ready to take over. The use of IT in rehabilitation and neonatal care has been implemented at Blekinge Hospital. The planning of health care at a distance has also been implemented at Blekinge Hospital and in several municipalities in Blekinge.

The project has also, according to the evaluators, managed to generate considerable interest in the different media [31] and the evaluators themselves have contributed to a public debate by publishing articles.

The evaluators interacted closely with the project's management and owners throughout the project process. They gave interim reports every six months in which the project and its development were described. The interim reports also had different themes. For instance, one of the reports focused on the processing role of the evaluation, another on the steering group and a third on the horizontal criteria. All the reports, including the final report, describe the *advantages and disadvantages* of the project and include suggestions about how to move forward. The evaluators also took part in meetings with the steering group and conducted nine seminars with the project staff and the steering group. The seminars seem to have had a huge influence on the project. Based on interviews, observations and/or research studies, the seminars provided an arena for learning where

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[30] Affärsverken is a Karlskrona-based company that builds, develops and operates infrastructure in the municipality of Karlskrona (www.affarsverken.se/english).

[31] http://svt.se/svt/jsp/Crosslink.jsp?d=33782&a=839402
http://www.bltsydostran.se/nyheter/karlskrona/syster-gudrun-aker-till-almedalen%282845802%29.gm
http://www.ltblekinge.se/omlandstinget/mediaservice/pressmeddelanden/pressmeddelanden2011/systergudrunakertillalmedalen.5.39634a231309b646bcc8000544.html

discussions could be held on the basis of empirical or theoretical perspectives and serve as a basis for change. This joint learning led to the evaluation becoming an important tool for development in the project and has in fact changed the project's organization and its way of working.

One major impact of the evaluator's work concerns the functioning of the steering group and the ownership of the project. This also includes discussions about the implementation of the results. Early on in the process the evaluators noted that the project had a dysfunctional steering group. By this the evaluators meant that the steering group did not consist of people with a mandate to engage in strategic discussions and decision-making at the organizational level. There were initially in fact no obvious recipients of the results and the steering group lacked representation from organizations with a mandate to make decisions.

The evaluators pointed to the importance of a steering group represented by actors with an interest in the project and the ability to make actual changes in the recipient organizations. This was also the focus of one of the interim reports and one of the seminars. These discussions had an impact on the project and the composition of the steering group was changed. This change, the evaluators believe, had an impact on the overall results of the project and made it easier to implement the overall project results, as well as those from the subprojects, in the recipient organizations.

The evaluators also experienced that a simultaneous combination of the role of critic and supporter was not an easy task, especially when suggesting major changes in the organization of the project. The building up of trust requires a certain amount of closeness to the project, although distance is also necessary in order to criticize when this is necessary.

Another example of the ongoing evaluation's impact on the project relates to the horizontal criteria. Early on in the project the evaluators noticed that no efforts were being made in relation to the horizontal criteria and asked why this was the case, both in an interim report and in a seminar. As in the case of the steering group, this changed the project's way of working. Guidelines were developed for how to work with these issues and make them visible. It is therefore clear that the ongoing evaluation provided the project with an arena for discussion and development.

Case study | DARE

DARE (Development Arena for Research and Entrepreneurship) is an interesting attempt by two universities in Northern Sweden to create a sustainable innovation system promoting university-based entrepreneurship, commercialization of research and increased collaboration with external partners. However deficiencies regarding ownership, steer-

ing and the integrity of the project initially had a negative impact. The ongoing evaluation has played an important role in clarifying shortcomings and suggesting improvements. Ownership and steering have been considerably strengthened on the basis of the results of the ongoing evaluation.

DARE is an innovation project run in cooperation between Luleå University of Technology and Umeå University. A central aspect of the project is collaboration between the two universities, industry and the community, i.e. Triple Helix. The vision of DARE is a sustainable innovation system based on the knowledge that the two universities represent, which contributes to high quality innovation and regional development. DARE aims to create favourable conditions for growth by developing an entrepreneurial culture in the two universities and strengthening a professional innovation support system. The tasks that the universities have assigned to DARE are to create opportunities for university-based entrepreneurship, the commercialization of research and an increased collaboration with external partners. The project, which began in 2007, is financed by Vinnova, ERDF, Luleå University of Technology, Umeå University and Skellefteå Municipality and is scheduled to end in 2015.

The operational work of the project is carried out in four focus areas, at both universities. The focus areas are:

- The collaborative university, focusing on strengthening universities' interactions with industry and society through culture, competence and the structure of interacting activities.
- New commercial tools, focusing on developing new tools, methods and processes that stimulate the commercialization of research results and increases the effectiveness of the aid agencies working in this field at universities.
- An innovation support university, focusing on developing, deploying and implementing a business platform to support the development of business ideas among students, researchers and staff at universities in their utilization of research.
- An entrepreneurial university, focusing on actively contributing to developing a more entrepreneurial attitude among students and staff.

Examples of the results that DARE has generated include meetings and activities aimed at creating regional foresight and incentives for entrepreneurship, as well as activities that are more directly aimed at the commercialization of ideas. An annual Entrepreneur Week has been established at Luleå University of Technology, with events for students, researchers, entrepreneurs and the general public. At Umeå University's Uminova Innovation,[32] a process called "Catch and

[32] Uminova Innovation AB – a company at Umeå University – contributes to commercializing business ideas. Focus is on business ideas from researchers, employees and students at the university and the university hospital in Umeå and on innovative ideas from companies in the region.

Release" has been introduced; a process that has resulted in some successfully performed releases for further commercialization.

The case of DARE demonstrates the importance of ongoing evaluation in order to highlight problems associated with project organization, ownership and control. As the project is funded by both ERDF and VINNOVA, it has been subject to the procured ongoing evaluation warranted by the ERDF funding and an international peer-review evaluation team appointed by Vinnova. The two evaluation groups came to similar conclusions. When reference is made to 'the evaluators', below, it refers to the evaluators linked to the ERDF funding.

In addition to analyzing the current situation in the project, the evaluators also conducted a stakeholder analysis. Both these analyses were based on interviews. A number of internal and external critical factors emerged, including e.g. the organization of the project, the functioning of the steering group, the allocation of responsibilities, the connection between sub-goals and overall objectives, efforts concerning the horizontal criteria, external communication and regional support and anchorage. This corresponded well with several points in the evaluation performed by the team appointed by Vinnova. On the basis of the critical factors the evaluators defined a number of development needs for DARE, namely:

- Ensure the implementation of improvement measures.
- Ensure the integrity of the project.
- Focus more on the horizontal criteria.
- Improve anchorage within the universities.
- Strengthen the external dimension and anchorage in the region.

Since the evaluation specific areas of the project have been reconstructed. For example, the steering group and the project management have been significantly strengthened. Greater focus has been placed on certain vital efforts and the number of efforts has been reduced to the four focus areas mentioned above. These focus areas are now better coordinated compared to the previous six sub-goals and correspond better with the overall objectives of the project. The evaluators believe that a more coherent project and implementation logic now exists, which is the basis for ensuring the integrity of the project and the overall objectives. This, in our opinion, constitutes a good example of how ongoing evaluation can 'activate' a crucial mechanism in development efforts, in this case active ownership.

Collaboration

Regarding the descriptions and analysis of collaboration in the evaluation reports there is more to be desired. As mentioned above, the issue of project organization in many evaluation reports is seldom discussed. The most common type of collaboration in the projects themselves and in the innovation environment in which the projects take place can be characterized as Triple Helix, i.e. collaboration

between academia, industry and public agencies. In most cases the collaboration seems to be formalized and binding and more often than not the dominant actors in the Triple Helixes are the public sector and/or academia. In several projects the concept of Triple Helix has little or no relevance, for the simple reason that one of the spheres of the Triple Helix is missing, usually academia or industry.

Collaboration seems to be an important mechanism for sustainable change. However, organizing a dynamic, effective and innovative collaboration between different stakeholders is a difficult task. In the following we take a closer look at two projects and how they dealt with these issues. We first of all look at UMIT, a project that has achieved significant results and has succeeded in organizing effective collaborations with support from the ongoing evaluation. The second example, AFOC, illustrates the difficulties of creating effective regional collaboration in a complex innovation environment with an unclear division of roles.

Case study | UMIT

The project UMIT,[33] based at Umeå University, with a focus on industrial IT and simulation technology, has achieved significant results e.g. in terms of new business opportunities, product development and enhanced competitiveness. UMIT also serves as an example of how a project can use ongoing evaluation to gain knowledge in areas where this is lacking, in order to move the project in a desirable direction. The evaluators conducted an analysis of environments similar to UMIT, with a focus on collaboration issues and what is necessary for long term sustainability to be achieved. The study and the recommendations from the evaluators served as a basis for change and development.

UMIT, a strategic project, was initiated in 2009 by Umeå University within the focus area Applied Information Technology. UMIT Research Laboratory is an environment for research in computational science and engineering with a focus on industrial applications and simulation technology. The project has facilitated the bringing together of researchers in a new research laboratory at Umeå University, which opened in May 2011. The vision of the UMIT Research Lab is to become a world-leading platform for software development and attract companies like ABB, Ericsson, Google and Microsoft.

The UMIT Research Lab focuses on interdisciplinary research, education and collaboration with industry and society. The research results create new opportunities for technological and scientific simulations and completely new software and services for the processing of large amounts of information. Deliverables include new models, methods, parallel algorithms and high-quality software targeting emerging HPC platforms and IT infrastructures. Solutions are tested together with industry partners in sharp application projects targeted at new competitive products and job opportunities.

[33] UMIT stands for Umeå University, Mathematics, Information and Technology.

Funders of UMIT are The Swedish Research Council, the Baltic Foundation, Umeå Municipality, ERDF and Umeå University. ProcessIT Innovations [34] and industry companies co-finance specific project activities. Examples of industries in which UMIT has partners are mining, paper, automotive and IT. Currently, UMIT includes seven research groups with 45 researchers and project staff. Six professors are funded by The Swedish Research Council. UMIT operates 20 projects with more than 20 industry partners. One ambition is to have a staff of 75 people by 2015.

After a little more than two years UMIT has achieved significant results. Obviously the research laboratory in itself is one. Furthermore, a trainee programme – UMIT Industrial R&D Trainee Programme – has been started. The project has conducted 12 recruitments to the laboratory, including a research manager, a research group with PhD students and post docs and two associate professors. Also, the UMIT activities have led to the creation of about 20 external jobs in industry and academia. The project has also generated new techniques and software. In addition, UMIT has added value to industry partners e.g. in terms of new business opportunities, assistance in product development, energy savings and enhanced competitiveness.

The idea is that UMIT will become a permanent unit within the university and, furthermore, become a world leader in its field. This will be achieved by developing strong and vibrant collaborations between key players in academia, industry and the region. The evaluators' efforts helped UMIT see that the collaborations needed to be strengthened and the evaluators therefore suggested that they should conduct an analysis of successful environments like UMIT in order to learn more about collaboration and what is necessary for long-term sustainability. The evaluators thus explored environments that have been successful in developing collaborations and creating strong organizations by interviewing strategically selected individuals representing ministries, agencies, funders and innovation environments. The evaluators also contributed with more theoretical references and perspectives, based on the literature in this field. This presents an interesting example of how ongoing evaluation can be instrumental in strengthening a key mechanism in development work, namely collaboration.

The evaluators' conclusions concerning strategic collaboration were as follows. Successful collaboration environments:

- are clearly characterized by the university's history, culture and role in the specific region
- are organized communities characterized by mutual understanding and mobilization of involved parties
- conduct strategic outreach and engage in strategic communication

[34] ProcessIT Innovations is a collaboration center at Luleå University of Technology.

- provide a strong culture characterized by entrepreneurial incentives and formalized partnerships.

On this basis the evaluators made the following recommendations to the project:

- Develop long-term strategies and strive to become an integral part of the regional agenda.
- Create mutual mobilization by becoming a natural meeting place for all involved.
- Work strategically with outreach activities and develop strategic communication.
- Strengthen the UMIT-culture to minimize the dependence on individuals and take advantage of the entrepreneurial spirit that characterizes the environment.

The study and the recommendations have been perceived as valuable and useful by the project management. On the whole, it would seem that the interventions of the evaluators have been appreciated and deemed valuable by the project management. Before undertaking the strategic task described above, the evaluators provided the project with an analysis of the current situation. They have also helped the project to focus on the long-term goals, even beyond the project period, and to focus on its performance indicators. The evaluators also conducted follow-ups by interviewing many of the actors in UMIT's networks, which among other things showed that the support for UMIT was great but that UMIT's role in the regional innovation system was somewhat unclear.

Case study | AFOC

AFOC is an innovation project that is in many respects successful, not least because it creates an effective partnership between Acreo Research Institute, industry and academia. But AFOC also illustrates the difficulty of creating effective collaborations in a complex regional innovation environment, where similar initiatives and activities takes place in parallel, different roles and claims need to be clarified and clear regional policies are lacking. These issues have been illuminated in the ongoing evaluation.

Acreo Fiber Optic Center – AFOC – is a project within Acreo AB [35] and its parent company Swedish ICT.[36] The project is part of a broader effort of Swedish ICT to establish a number of excellent research centres. AFOC is included in the national programme Institute Excellence

[35] Acreo is a Swedish research institute providing breaking edge results within the field of electronics, optics and communication technology. Turning academic research into commercial applications, Acreo offers value-adding technology solutions for growth and competitiveness in industry and society. See www.acreo.se

[36] Swedish ICT Research AB is partly owned by the Swedish State through RISE Holding and partly owned by the Swedish industry through the two industrial associations. Swedish ICT Research contributes to growth, profitability and new business creation based on world leading research and development in the areas of ICT – Information and Communication Technology. Swedish ICT works in close cooperation with Swedish and international businesses and society, and with the international research community. See www.swedish-ict.se

Centres – IEC – financed by VINNOVA, the Knowledge Foundation and the Swedish Foundation for Strategic Research. All IECs are run in collaboration with academic and industrial partners. AFOC is based at Acreo's Fiber Lab in Hudiksvall. In addition to national funding as described above, AFOC also has regional funding from ERDF, with a view to strengthening AFOC as an actor in a regional growth perspective. The first ERDF project (Stage 1) ran from 2007–2009 and the second project (Stage 2) will end in December 2011.

AFOCs activities include demand-driven R&D, problem-solving technology development, knowledge dissemination and technology transfer. The overall goals are to help partner companies' turnover and competitiveness to increase and to strengthen competence concerning fiber optics within the project's target groups. Around twenty participating companies and four university groups have agreed to invest skills, resources and cash in AFOC. The group of partner companies includes small, medium and large enterprises that currently use optical fiber in its products and that can take advantage of fibre optics in the next generation of products and services e.g. in monitoring and controlling manufacturing processes. AFOC's academic partners are the Royal Institute of Technology (KTH), Mid Sweden University, (Mittuniversitetet), the University of Gävle (Högskolan i Gävle) and Karolinska Institutet.

AFOC seems to work well as a research centre (IEC). Different stakeholders perceive and experience the benefits in different ways. From the perspective of the partner companies, the most essential aspect of AFOC is that it is a centre that assists with technical expertise and provides access to a relevant laboratory environment that is important for the development of new products. Being a partner in AFOC also provides new contacts and potential new partners, which may lead to new business opportunities. For Acreo as a research institute, AFOC means a more concentrated effort and greater focus in the field of fiber optics, both internally and externally. AFOC has strengthened Acreo's Fiber Lab in different ways, with more research excellence and a more formalized partnership with academia and industry. The companies are partners in AFOC, whereas otherwise they are usually customers of Acreo, in bilateral relationships. This change has been made possible by external funding through the IEC programme and ERDF. For AFOC's academic partners, the centre formation creates opportunities to create excellence within certain fields of research, which can provide access to European and international R&D platforms. The technical equipment at the Acreo Fiber Lab is unique to Sweden. Within AFOC there is a greater concentration of expertise and senior researchers than in the universities. AFOC also provides opportunities for the funding of graduate students.

The overall objective of AFOC Stage 1 was to contribute to increased growth and competitiveness in Swedish industry and among participating companies, and furthermore that the competence concerning

fiber optics should increase in the target groups. More specific qualitatively formulated targets were e.g. to involve graduate students, to participate in strategic planning at regional and local levels and to develop manufacturing processes and measurement methods. The assessment of the ongoing evaluation was that AFOC largely met its objectives. Very few of AFOC's partner companies are located in the region, which obviously presents a problem in relation to the regional growth perspective. Another complication was the severe recession that occurred during the course of the project.

The ongoing evaluation has drawn attention to the complexity and lack of effective collaboration in the regional innovation environment. There is a certain ambiguity about the role of AFOC in relation to the regional innovation system Fiber Optic Valley,[37] in which AFOC represents a very substantial component. AFOC has primarily focused on technology and Fiber Optic Valley primarily on business development and market opportunities, although there is also a significant overlap between these two organizations' domains, e.g. concerning research projects, dissertation projects, laboratories etc.

The evaluators have pointed to the fact that a much clearer political direction of the regional innovation environment is required in order to utilize the potential for development and growth. More of a systems approach is needed at a strategic regional level in order to take advantage of the many possibilities that fiber optics has to offer, including new applications that could lead to new businesses and the expansion of existing ones. The ambition to create excellent research should not compromise the possibility of development work at a more pragmatic level, i.e. working with the products and services that have the potential to generate new businesses and encourage the expansion of existing businesses in the region.

The results and comments from the ongoing evaluation have to some extent been absorbed by actors in the region and have contributed to a new awareness. The political, strategic steering of Fiber Optic Valley has become clearer and the boards of the association and the company are seriously discussing the different roles of the actors from a more holistic perspective.

Developmental learning

Very few final reports describe learning processes or activities that are specifically aimed at learning, and few describe ongoing evaluation as a mechanism for change in the projects. Despite this, it is reasonable to assume that different kinds of learning and change have taken place as a result of the evaluators' activities and reports. Many evaluators are not outspoken or explicit about this in their reports, but sev-

[37] The core business of the organization Fiber Optic Valley is to assist the growth of global and local companies working with products and services based on fiber optics. This is achieved through support in the form of research, training, financing, contacts and business development combined with and unique test environment for technical tests and behavioral science studies. Fiber Optic Valley is largely funded within Vinnova's Vinnväxt program. See fiberopticvallew.com

eral do mention the importance of ongoing dialogue with the project leaders. Several evaluators have also produced interim reports. The concept of learning rarely appears in the evaluation reports. Almost no reports at all discuss the multiplier effects of the projects and there seems to be a lack of awareness that ERDF programmes, according to the national strategy, are supposed to promote learning that leads to multiplier effects. However, in some cases it would appear that processes leading to multiplier effects have taken place, even though the concept of multiplier effects is not actually used.

As already shown in the above examples, learning through ongoing evaluation can be instrumental in improving the projects. But innovative change cannot be organized in a linear way. There must be room for experimentation, chance and adaption to new circumstances. Below we take a closer look at two projects where developmental learning has been an important factor, both for the results produced and for the sustainability of the projects. The first is FindIT, a project in which the use of ongoing evaluation has been of great importance for the development of the project and for the assessment of what should be considered as its important results. The second is a project called I^2, in which the ongoing evaluation identified a number of critical factors, such as the lack of support for the entrepreneurs taking part in the project in the development of business models.

Case study | FindIT

The project FindIT – Forum for Industrial IT-solutions – is primarily aimed at strengthening the competitiveness of companies working with industrial IT in the Gävleborg region. As a result of the project an existing competence centre called FindIT has expanded its contacts with SMEs both quantitatively and qualitatively. FindIT clearly illustrates how developmental learning can be achieved through ongoing evaluation. The evaluators have contributed to a new understanding of what is important in a long-term perspective. This has meant, among other things, highlighting issues of efficiency and the long-term competitiveness of SMEs, instead of focusing primarily on indicators in terms of new jobs and new businesses.

The project was an effort to further develop a competence centre in the field of industrial IT based on the needs of small and medium-sized businesses in the Gävleborg region. The overall goal was to strengthen competitiveness through smarter and more efficient business system solutions. Cooperation between companies and industries on industrial IT was an important element of the project. The project owner was Sandviken Municipality, through the technology park, Sandbacka Park.

FindIT spans several different industries and target groups. This has been a difficult challenge for the project because all these different categories have different information needs and development interests. It has required great efforts on the part of the project to identify and understand the various categories and what their interests and

needs are within the broad field of industrial IT. The evaluators believe that the project has now identified the relevant categories. Contacts with the small and medium-sized enterprises have been expanded both quantitatively and through enhanced information exchange. The evaluators perceive the enhanced exchange of information as an indication that the companies' confidence in and expectations of the project have increased. In other words, the project's legitimacy to act in the business has been strengthened.

FindIT illustrates how developmental learning can be achieved through ongoing evaluation. The evaluators have in fact contributed to a new understanding of what is important and worthwhile for the future, even if this goes against the logic of the regional fund programme. The project has, with the help of the evaluators, come to realize that it is important to find complementary ways of evaluating the results and impact of the project. This means highlighting issues of efficiency and the long-term competitiveness of the SMEs, instead of focusing primarily on indicators in terms of new jobs and new businesses. The evaluators had a crucial role to play in illustrating the effects of the project and also those that may occur after the project period is complete.

Firstly, this new understanding means that the number of employees working with business system solutions needs to be reduced, and that the competence of the employees needs to be increased. Secondly, the 170 companies working with business systems solutions in the region probably need to be reduced by half and significantly upgraded in terms of competence in order to be able to collaborate with international suppliers such as SAP.[38] Thirdly, FindIT needs to make sure that business system solutions, such as innovation in services, become a natural feature among the companies in the region. When e.g. the headquarters of the large engineering group Sandvik moves to Stockholm the challenge will be to upgrade in the Gävleborg region in order to show that the region is at the forefront of service innovations, such as business systems development. This may be the only way of working towards a more competitive region.

The evaluators made the project management aware of the fact that, in order to be successful, FindIT probably needed to actively worsen the core indicators: new jobs and new firms! However at a systems level, FindIT has delivered results in accordance with the overall quantitative targets specified in the project application. However, in the longer term it is likely that there will be fewer companies and fewer employees, but better skills.

Case study | I²

The project I² (The Intelligent Inland Route) 39 was directed at the automotive testing industry and the telecom industry and was operated by

[38] SAP is the world's leading provider of business software.

[39] Full name in Swedish: Den intelligenta inlandsvägen.

two research centres at Luleå University of Technology. Good results were achieved, not least in terms of new contacts and networks. I² also demonstrates the value of ongoing evaluation, as the evaluators identified a number of critical factors. In this case the ongoing evaluation was instrumental in pointing out issues of great importance for the sustainability of this development effort, i.e. the ongoing evaluation promoted developmental learning.

I² has focused on the need for wireless connectivity for vehicles, both in connection with development and testing and in everyday life as a traveller. The overall aim of the project was to promote knowledge growth and the development of new technologies in the automotive and telecom industries respectively. The project should be seen as part of Test Site Sweden, which is a national resource for demonstrations and validation of research results, with a view to developing an innovative environment for developing and testing future solutions in the automotive field. The project aimed at creating a wireless heterogeneous network infrastructure, with the E45 road as the backbone, developing technology and knowledge in order to eventually be in a position to offer test facilities and regionally developed test methodology. The project aimed at a structural change in the Swedish automotive test industry that could take business to a new dimension. The project owner was Luleå University of Technology, through the two research centres CASTT [40] and CDT.[41]

Results have been achieved in terms of new contacts and networks, for LTU as well as for the testing contractors and IT contractors. The transparency between the players has increased and their collaboration has been strengthened. The project has demonstrated the possibilities for the test industry to become more technology and knowledge intensive and more systemic in order to provide comprehensive solutions in testing, thereby improving their competitiveness. The test industry players have a potential to change from being providers of test facilities to being test companies. A new cluster formation has occurred as the test industry in western Sweden and northern Sweden has tightened. The objective to create a fixed, wireless infrastructure was not achieved, though, because the project instead focused on developing a portable infrastructure solution, which has now been implemented and well received.

However, the project has not worked so much with business development for the entrepreneurs. The commercialization efforts have primarily been focused on opportunities to commercialize the technology developed in the project, i.e. the transfer between university and entrepreneur, and not on developing the business models of the entrepreneurs participating in the project. This problem has been well known to the project management, but they have found it difficult to steer this heavy research project along a more demand-based route.

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[40] Center for Automotive Systems Technologies and Testing.

[41] Centre for Distance-spanning Technology.

The evaluators do not find this surprising given that the project was conducted by a technical university and actors within the university with a main focus on the technology itself.

This case illustrates how ongoing evaluation can be very useful in pointing out issues of great importance for the sustainability of the project results. The case can be described as an evaluation contributing to developmental learning. The researchers identified a number of critical factors. The project was based on collaboration between two different institutions, which required good communication and close cooperation in order to produce the overall results expected from the project. It was recommended that communication and cooperation with the project's target groups, i.e. test contractors and IT contractors, be intensified. The results that were to be commercialized needed to be consistent with an existing demand and real needs. The objectives and indicators were not fully in line with what the project owners believed they could accomplish. They considered it difficult to obtain research results that made it possible to build services and products within the time-frame of the project.

These critical factors were concretized by the evaluators and were expressed as a number of needs that they saw had to be met in order to give the project the best possible conditions for achieving the goals. The recommendations were given at the end of the project period, however, and point towards the future. The recommendations from the evaluators were:

- Develop structures to facilitate management by objectives.
- Develop a platform and routines for internal collaboration.
- Structure and focus on external collaboration.
- Develop procedures for dissemination and commercialization.
- Concretize work on the horizontal goals.

This case also demonstrates the importance of an early start for an ongoing evaluation of a project in order to take advantage of the analysis and recommendations from the evaluators before it is too late.

Ongoing evaluations and long-term effects

The case studies illustrate how ongoing evaluators have brought about changes in some projects. These changes have been of great importance in terms of the projects being able to generate long-term effects. The most obvious problems that the evaluators have detected and analyzed are listed below. The problems are largely interrelated.

- Deficiencies concerning organization and steering have prevented projects from generating results and effects that were potentially achievable. Through the efforts of ongoing evaluators the organization and steering of projects have been improved, which has resulted in projects performing better.

- Too many or too divergent ambitions and goals and/or too much focus on activities and short-term results have contributed to projects losing sight of their overall long-term goals. Ongoing evaluations have helped projects to sort out what is really important and what should be prioritized in order to achieve the long-term targets set, even if this to some extent goes against the quantitatively-oriented logic that is included in programme and project descriptions.
- Effective collaboration inspired by the concept of Triple Helix is difficult to achieve. Projects have struggled with this task in different ways. Ongoing evaluations have contributed with important knowledge input and new insights to projects in order to make collaboration efforts more successful.
- Projects inspired by the concept of Triple Helix have put little emphasis on the later stages of innovation, e.g. developing new business models, although this is what participating entrepreneurs often need. Ongoing evaluations have pointed to the need for more demand-driven innovation efforts.

Concluding analysis

Can growth be promoted through publicly funded change projects? Will the thousand projects funded by the Regional Fund in Sweden – in all 17 billion SEK for the whole period – lead to sustainable change? In this report we have attempted to address this issue. Our conclusion is not definite, but is somewhat tentative in nature. The focus is primarily on regional innovative change, which includes 40 per cent of the total funding in the Regional Fund.

One way of evaluating the success of a programme is to focus on its activities and short-term results, such as the reported number of new jobs. From this perspective the programme is a great success. According to the official documentation, already in the present programming period some 4,700 new jobs have been created in Sweden through ERDF projects. The problem with such an evaluation is that we know very little about what these numbers stand for in terms of "real jobs" and how long-lasting these jobs will be.

Instead, our focus has been on regional innovative change processes that can lead to more competitive and knowledge-based companies. We want to understand and analyze the change processes and try to find indicators that show how sustainable the results really are. How will the projects add to, promote and reinforce the regional growth processes? There is a lot of money in the Swedish Regional Fund programmes, but this is still only a fraction (3–4 per cent) of the total amount allocated to regional change efforts. To really have an impact the funding from ERDF must add to and support these more encompassing regional efforts through an interactive and joint learning process. In this way, the regional policy for growth will be renewed and strengthened by the projects and structural change will be based on innovation, entrepreneurship, accessibility and attractive regions.

An open approach to innovation

A new approach to innovation is needed. Our study confirms the conclusions presented in a lot of research projects and in political strategies for innovation. The increased funding of R&D has to be clearly linked to new models that transform research knowledge and scientific results into commercially viable innovations. In this respect, ERDF programmes with a clear innovation focus are needed. In this programming period alone Sweden has experienced ERDF programmes with a clear innovation focus. The Swedish focus could, in

the light of the orchestrated, open and user-led innovation notions mentioned above, be tailored to support "open innovation" in the regional environment. All kinds of SMEs and large "traditional" firms have taken part in the projects. The objective in the Swedish programmes has predominantly been to support innovation regardless of whether the knowledge stems from research results or science. The open approach has meant that the projects have tried to establish Triple Helix linkages between the business community, academia and public agencies. The aim in many of the projects has been to strengthen these linkages and contacts.

The open approach to innovation means that different actors have to be invited to take part in innovation projects. However, if ERDF programmes are to promote innovation programmes that support SMEs and large firms in the final steps of innovation processes and link generated knowledge to R&D, they have to be designed with this in mind. The projects in the Swedish programmes have been too research-oriented and have not put sufficient emphasis on cooperation and supporting the final steps of innovations that can make a difference. In short, the programmes have to become more demand-oriented. The demands of the business society, SMEs and large companies should guide the programmes. The programmes should to respond to the specific needs of businesses, companies and intermediates to a much higher degree. In other words, they have to become more user-led.

Mechanisms for sustainable change

The case studies and the results of our review point to the importance of three mechanisms for sustainable change: active ownership, partnership collaboration and critical learning through ongoing evaluation (see Figure 1).[42]

Active ownership

Organizing active ownership in a large project is difficult, especially when a lot of a region's stakeholders are involved. An effective and transparent organization will not come about by itself. As shown in the 3M example, the lack of active ownership is something that could in fact jeopardize the sustainability of the interesting initiatives and changes that have occurred as a result of the project. The same applies to Syster Gudrun, a project that showed very positive outcomes but initially suffered from a dysfunctional steering group and a lack of active ownership. In both these cases the projects changed over time and the steering groups and owners became more active, largely thanks to the ongoing evaluations. This also had an influence on the strategy for the implementation of results and illustrates how learning evaluation can be useful in correcting weaknesses in a project organization. The third case, DARE, is also an example of a project that had

[42] See Brulin & Svensson 2012.

problems regarding project organization, ownership and control. In this case the ongoing evaluation contributed to the strengthening of the steering group and the establishment of an implementation logic. This clearly helped to ensure the integrity of the project and increased the likelihood of achieving the overall objectives.

In projects where the steering group has been rather weak, the ongoing evaluation seems to have strengthened the relationship between the evaluator and the project manager. Several evaluation reports describe a close interaction between evaluators and management. When there is no active owner or steering group to engage in dialogue with, the discussion takes place between evaluators and project management. This in a way makes the project management the "contracting actor" and means that the interest and focus of the project management may guide the evaluation too much. This could explain why so many evaluation reports are descriptive and are more interested in reporting outcomes and short-term results than long-term effects and sustainability.

Collaboration

Collaboration has been found to be an important mechanism for sustainable change. Organizing dynamic, effective and innovative collaboration between important stakeholders is a difficult task. Some of the above cases illustrate how this has been dealt with. The project UMIT is a good example of an effective collaboration having been organized between the university, the region and leading industrial partners; something that has in turn resulted in new business opportunities, assistance with product development and enhanced competitiveness. As the evaluators point out in their report, the present challenge for UMIT is how to establish the collaboration in a long-term perspective.

While AFOC is another example of a project with good results, it is also an illustration of the difficulties involved in creating an effective collaboration in a complex regional innovation environment without clear political strategies and clear operational roles for the relevant players in the environment. Here a more holistic, strategic approach to the regional innovation environment is required in order for AFOC to become the player it potentially could become. In both these cases the ongoing evaluation has stressed the importance of strengthening collaboration.

In most cases, the collaborations in the innovation projects seem to be formalized and binding i.e. the different players are "stakeholders" and contribute to the collaboration efforts with working time and money. The collaboration usually does not take place within loosely connected networks. In many cases the dominant actors in these Triple Helixes are the public sector and/or the academic stakeholders. But in quite a few cases it is not even relevant to use the concept Triple Helix at all because one of the spheres of the Triple Helix is missing, usually academia or business.

Developmental learning

Innovative change and entrepreneurship in a region cannot be organized in a linear way. There must also be room for experimentation, chance and adaption to new circumstances. In a complex and quickly shifting context, a learning approach to change is a necessity. The learning has to be of a developmental kind – that is innovative and double-loop learning. This means that learning also contributes to reflection and analysis – on and of the means and objectives in a project. Ongoing evaluation is one way of supporting developmental learning in order to make a project more sustainable. The project FindIT illustrates how developmental learning can be achieved through ongoing evaluation. In the project the evaluators contributed to a radical new understanding of what an important effect of a project was. The evaluators also showed that it was important to find complementary ways of evaluating the results and impact of the project. This means highlighting issues of efficiency and long-term competitiveness of the small and medium-sized businesses, instead of focusing primarily on indicators in terms of new jobs and new businesses.

Another example was the mechanism developmental learning "activated" in the project I². Here short-term results have been achieved, transparency between the actors has increased and their collaboration has been strengthened. However, the project has not really addressed business development for the participating entrepreneurs. Although this problem was recognized it has been difficult to steer this heavy research project along a more demand-based route. The focus of the university owning the project has been on technology, not the market. I² is not alone in this problem. We found several examples where the "logic of science" to some extent seems to have taken over the project. In these cases the results were described in terms of number of articles published, number of PhD students employed, number of promoted associated professors or that the results of the project have stayed within academia.

In both I² and FindIT the ongoing evaluation was used to identify a number of critical factors. Ongoing evaluation can be important in dealing with unrealistic assumptions, unforeseen problems, conflicting objectives or a technical or academic bias in a project.

Developmental learning can be promoted in different ways. Ongoing evaluation in the projects is an essential element in developmental learning. We will now take a closer look at how ongoing evaluation has functioned in the projects we have studied.

Ongoing evaluation

In all the above cases the ongoing evaluations have had an impact on the development of the projects. But not all the ongoing evaluations have had this character or impact. The role of evaluator varies a great deal and ranges from a traditional critically evaluating role to one of an organizational consultant. As indicated above, in the middle of

that range we found several good examples of evaluators who have found a balance between closeness and distance, critique and support and also have had impact on the projects and their ability to lead to long-term effects.

In order to have an impact on the sustainability of a project an evaluation has to be theory-based, which makes it possible to critically analyze long-term effects. The analytical model presented in Figure 1 is an example of how a theory can be based on research.

Theory-based evaluation

In the UMIT example the evaluation contributed with theoretical perspectives, based on the relevant literature in the field. This was not at all common in the evaluation reports. The majority of the reports have a descriptive and/or empirical focus to their analyses, which tends to make the results very case-specific and therefore difficult to draw more general conclusions from. DG Regio and the Member States are now (winter of 2011) in the process of discussing the development of evaluation for the forthcoming period (2014–2020). In a "draft guidance document" they stress the need for more theory in the evaluation practice:

> *Theory-based evaluations can provide insights into why things work, or don't. The main focus should not be counterfactual ("how things would have been without") rather it should produce understanding of how change and development are enhanced.*[43]

The analysis carried out by established theories makes it possible to identify which mechanisms are needed to make a project result sustainable. Instead of superficial indicators, a deeper understanding of innovative processes can be reached.

Prerequisites

Another aspect concerns the prerequisites for carrying out an ongoing evaluation. For example, what is an evaluator's mandate and what kind of resources are available? Our study cannot answer these questions, but SAERG [44] found in a previous study that the contracting actors in the projects often have inadequate knowledge regarding ongoing evaluation.

Our study has shown that the evaluations have been conducted in very different ways. SAERG believes that the role of the evaluator has to be specified early on in the process. If this is not done the evaluator runs the risk of getting too close to the project, serving as an assistant project manager, or becoming more of a control person.

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[43] The Programming Period 2014-2020 Monitoring and Evaluation of European Cohesion Policy - European Regional Development Fund and Cohesion Fund – Concepts and Recommendations Draft guidance document

[44] SAERG report 0079.

In the Syster Gudrun project the evaluators were seen as both a positive element and a control function, especially when suggesting major changes to the project organization.[45] The evaluators advocate that a clear definition of the role should be made in the early stages of the process. The organizations being evaluated also affect the possibility of working as intended with an ongoing evaluation.[46]

[45] Albinsson and Arnesson, 2011.

[46] Svensson et al 2010.

What can we learn for the future?

What can be learned from this study based on ERDF projects in Sweden that will be of benefit in the future? A lot, we think. The ambitions will be higher in the new programming period and the projects will be more complex. The need for learning, collaboration and an effective project organization will be more pronounced and more difficult to accomplish.

Europe 2020 has the following three priorities:

- Smart growth – developing an economy based on knowledge and innovation.
- Sustainable growth – promoting a more resource efficient, greener and competitive economy.
- Inclusive growth – fostering a high-employment economy delivering economic, social and territorial cohesion.

These three priorities are mutually reinforcing in that they offer a vision of Europe's social market economy for the 21st century. These visionary objectives cannot be attained in a simplistic way by using a linear programmed logic. The strategy for smart growth is expressed in the following way:

> *To organize a sustainable change process these priorities and targets have to be mutually reinforcing. Smart growth means strengthening knowledge and innovation as drivers of our future. This requires improving the quality of our education, strengthening our research performance, promoting knowledge and innovation transfer throughout the Union, making full use of information and communication technologies and ensuring that innovative ideas can be turned into new products and services that create growth, quality jobs and help address European and global societal challenges. But, to succeed, this must be combined with entrepreneurship, finance, and a focus on user needs and market opportunities.*[47]

In the next programming period higher demands will thus be put on the funds and programmes in different ways. The programmes will probably become slimmer and more focused. They will have to be carried through in a smarter way, thereby eliminating duplicated

[47] Europe 2020, p. 9–10.

work, the compartmental implementation of different programmes and the running of similar projects that don't learn from each other.

ERDF programmes that focus on innovation should cooperate with ESF programmes that support competence mobility and up-grades. Such cooperation cannot be enforced from above. On the contrary, horizontal learning processes within and between programs will have to be formed. Theory-based impact evaluations that produce solid narratives backed up by firm qualitative data of what is working and what is not working will also be needed to secure an implementation that leads to synergies and performance- and sustainable innovation-based regional growth.

Our study shows that projects can make a difference in terms of innovation, entrepreneurship and regional growth. A lot of activities have been initiated and, as we have seen, important short-term results accomplished. Cooperation between stakeholders and actors in a region has also been established. Learning – as a way of dealing with complexities and unforeseen events – is being organized in new ways. Many projects are innovative and have a potential to support regional growth and entrepreneurship.

In Sweden the focus on innovation in the Structural Fund has meant that the area of regional innovation environments has been given a stronger position in the eight Swedish Regional Fund programmes. In these programmes, it is argued that finances from the Structural Fund should be used to support the growth of a more innovative and knowledge-based working and industrial life.

But our conclusions are tentative. Innovation projects are difficult to evaluate. Innovation is complex and a highly risky venture, and there is no guarantee that public funds invested in a project will generate innovation. Simplified models that try to identify direct causal relationships, such as a return on investments, are often misleading. An innovation hardly ever occurs in isolation, but always in the context of structured relationships, networks or in a broader social and economic context.

If projects are to lead to long-term effects, it will be necessary to develop and strengthen regional innovation environments and promote innovation-based entrepreneurship. The programmes should support projects that make it easier for industry to develop new, attractive and high value-added products and services for introduction to the market. In particular, the aim is to increase the returns from scientific knowledge and research by ensuring that projects contribute to the development of regionally innovative environments and clusters that facilitate collaboration between universities and university colleges, companies and public agencies. The capacity of companies to assimilate research and technological development is regarded in the programmes as vital for contributing to increased growth driven by innovation. Developing working methods and approaches

that improve the transfer of knowledge in industry, and also between industry and the research community and other actors, should be an important part of innovation projects. The programme initiatives are in many respects based on creating knowledge spillovers and dynamic collaborations with industry that go beyond a mechanically functioning innovation system. Making ”innovation systems” more dynamic so that they more closely resemble clusters will be important aspects of Regional Fund projects. Our study has illustrated some of the cases where this cooperation has been established and strengthened, although we have also documented the difficulties of getting the companies – especially the SMEs – actively involved.

Many good ideas that could well become innovations often lie hidden in rationalization processes. Such ”hidden and overlooked” results have a tendency to disappear when results and effects are reported. In addition, such initiatives are of great importance for strengthening existing companies – those directly involved as well as those indirectly affected, such as suppliers. The ongoing evaluation must detect and visualize these ”hidden” results and stimulate public debate about innovation processes in organizations.

The importance of using public programme initiatives to encourage existing companies to leverage knowledge formation processes in their ”home areas” should not be underestimated. However, in this respect Regional Fund projects deviate from innovation system initiatives by expressly focusing on knowledge spillovers between research and companies. One effect of the Regional Fund could be that the ”entrepreneurial university” really begins to take shape, even though we have seen few examples of this in our study.

Another problem is that in many projects the focus on commercialization is often weak. But the difficulties of developing commercial products and services from developmental projects are not unique to public innovation systems. The challenge is that innovation processes are currently being run in many different forms, which means that there must be significantly greater openness in how innovation projects should be organized.

If the visions in Europe 2020 are to be fulfilled, the new projects must be based on close cooperation between public authorities, universities, R&D centres and companies. Setting up innovation systems in which the three different spheres – academia, public agencies and industry – ”mesh” with each other sounds promising, but is not in itself a solution. Initiatives that create more cluster dynamics are required. It would also be desirable that representatives from industry involve themselves more in Structural Fund partnerships and in the monitoring committees. Although the importance of active ownership is stressed in this report, it is a function that has to be carried out at local, regional, national and transnational levels.

Even though the Regional Fund programmes appear to be working with the right things – solving the Swedish and European paradox of a lack of knowledge spillovers between research and industry – it is not always done in the right way. The problems may have been due to a project having the wrong project owner, which may in turn explain a lack of active ownership. Projects have become too large and the requirements from funders have often been too weak. The lack of a clear evaluation culture in earlier programming periods may also have contributed to the unawareness of universities and university colleges that the project must work and deliver in accordance with its goals.

Our findings strongly point to the necessity of discussing how projects should be assessed and evaluated. It is difficult to determine the usefulness and profitability created by the projects. Planning-steered evaluations risk reducing rather than increasing clarity. Within this framework, projects are required to submit detailed reports of the number of innovations, prototypes, spin-offs and company start-ups, jobs created etc. This type of follow-up can hardly be appropriate for a three-year innovation project. The actual time frame from idea to innovation is substantially longer. The route to market launch is always full of surprises and unexpected difficulties.

Ongoing evaluation shows that funding from the Structural Funds has played a vital role in promoting innovative change. This funding has been crucial in building up both the organizations and the continuity of the activities. There is some uncertainty concerning future financing in many projects. A worst-case scenario would be that the initiatives to get the innovation systems to function more as dynamic clusters are simply one-off attempts with no lasting effects. At the same time, there is much to indicate that seeds have been sown that will enable joint knowledge formation to germinate and grow, and that the scientific community will see new opportunities for both commercialization and entrepreneurship.

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Appendix

List of projects included in the study	
1	Hållbar besöksnäring i Västernorrland 2008 2015
2	Innovationsnav för kunskapsinriktad idrottsutveckling, folkhälsa & elit
3	The Packaging Arena
4	Smeax
5	ARENA NetPort.Karlshamn
6	Väl nedgrävda pengar
7	PRIM Processer och Relationer i Innovativa Miljöer
8	DARE
9	FÖRST
10	Ökad konkurrenskraft för Miljöteknikföretagen
11	3M
12	Sweden cleantech incubators
13	Cleantech invest
14	Svensk modell för ren tillväxt
15	Nordiskt centrum för animerad filmproduktion
16	Bieffekter av bioenergi
17	TIC Teknikinformationscentrum
18	Acreo Fiber Optic Center
19	Automation Region
20	Företagspartner Öst
21	Midscand
22	InnoWent högskoledelen
23	Våga & Växa & Vinna
24	I 2Den intelligenta inlandsvägen
25	Entreprenörcentrum Norrbotten och Västerbotten
26	Peak Innovation
27	InnoWent Teknikdalen
28	Attityd 2010
29	Fortsatt utveckling av Östersunds skidstation
30	FindIT
31	Framtid Funäsdalen
32	Kreativa Ragundadalen
33	Skogen som resurs i hållbar samhällsutveckling
34	Färgfabriken Norr
35	IRU Fas 2
36	UTCED
37	Ekologisk omställning av efterkrigstidens bostadsbebyggelse
38	Strategisk besöksnäring i Västernorrlands län
39	Marintekniskt forum
40	Turismutveckling i Värmlands och Örebro län
41	Motorfunktionen Lärcentrum som lokala utvecklingscentrum
42	UMIT
43	Expedition Framåt kompetensutveckling för tillväxt
44	Syster Gudrun
45	Tillväxt Biskopsgården

List of projects included in the study	
46	Utveckling Nordost
47	SÖM: Fosie
48	HAMN
49	Hovsjöhus
50	Blekinge Health Arena
51	Bästa resan
52	Xovation
53	Hållbar stadsomvandling Malmö Stad – Fokus Rosengård
54	Malmö nya medier
55	NovaMedTech
56	Bergslagssatsningen Kultur & turism
57	Produktion Botnia
58	MediaSense
59	DSA – Dala Sports Academy
60	Bergskraft Bergslagen

Tillväxtverket
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