

# How can policy influence innovation in networks?

## *Regional innovation policy in practice*

Thomas Hoholm

*thomas.hoholm@bi.no* Norway BI Norwegian Business School

Synnøve Rubach

[sr@ostfoldforskning.no](mailto:sr@ostfoldforskning.no) Norway Østfold Research

Bjørn Erik Mørk

*bemork@ifi.uio.no* Norway University of Oslo

Paper for the IMP 2012 Conference in Rome.

Track: New Global Interaction Patterns (Håkansson, Olsen and Bakken)

WORK IN PROGRESS<sup>1</sup>

PLEASE DO NOT QUOTE WITHOUT THE AUTHORS PERMISSION

### **Introduction**

Should innovation policy seek to develop innovation networks or should they rather stimulate innovation in networks? Globally, particularly put forth by innovation institutions within the OECD and the EU, innovation policies have for the last decades been based on ideas about inter-organizational relations and so-called ‘triple helix’ relationships as the perhaps most important means for enhancing innovation. In particular, the notions of clusters and of innovation systems have had a huge impact on European (and other) innovation policies, emphasizing local geographical co-location and interaction as the key to enhancing and expanding innovation. However, when examining closer these policies they often seem to lack a deeper understanding of the substantial aspects of local networks; what they consist of, and how they are shaped and maintained. They are recently also criticized for not understanding the importance of *international* network relationships as explanation for successful innovation (Fitjar & Rodriguez-Pose, 2011). Moreover, most industries today are globalizing related to competition, how they are organized, how knowledge and information flow, etc. Hence, many policies and policy instruments aiming for the creation and fostering of innovation networks (or clusters or innovation systems) seem to rest on relatively naïve conceptions of networks. In this paper we present a case study of a regional innovation policy initiative in Norway which has adopted these ‘global’ ideas about innovation policy, in order to enable a discussion policy practices for constructing and developing networks for innovation and learning. By contrasting this with insights from industrial network studies (IMP) (Cantù & Corsaro, 2011; Håkansson et al., 2009; Shih, 2010; Waluszewski, 2006; Ingemansson & Bygballe, 2011) and practice-based organization studies (Nicolini et al., 2011; Mørk et al., 2012), we seek to shed light on the challenges of policy interventions when

---

<sup>1</sup>This paper is not yet fully developed. The case study needs elaboration, and the analysis is incomplete. We still hope the paper may form the basis for some discussion of emerging versus constructed networks, and our sketch for an analytic framework to study such phenomena. Moreover, the global aspect is so far mostly implicit in the case study: we intend to develop connections to how these regional innovation network practices are closely connected to ideas about innovation carried by international institutions like OECD and the EU, as well as related international research on innovation systems and networks. Inputs to such developments are appreciated.

aiming for the development of innovation networks in practice, as well as discussing the role of policy instruments from an interaction oriented perspective.

Our discussion is based on a longitudinal case study of two regional innovation projects (VRI I and VRI II). The empirical basis for our discussion is partly a recent study of a large project with several sub-projects within the Programme for Regional R&D and Innovation (VRI I, 2007-2010), a support program for regional innovation in the Research Council of Norway (Rubach, 2011), and partly an ongoing study of the second project in the same region (VRI II, 2011-2014). These projects span several industrial sectors and run over 3-4 years each. Data has been gathered through participant observation, interviews and documents throughout the lifetime of the projects.

One followed after the other within the same geographical region ('East'), and both were funded by the same program within the Research Council of Norway (RCN) together with a regional fund. However, as the initiation and execution processes differ in some interesting ways, this enables us to discuss how different perspectives on innovation across firms will (and indeed *do*) influence innovation policy practices and thereby their potential outcomes. From these empirical materials we investigate what can be achieved via policy practices (political and economic/funding); more specifically:

- How may policy initiate and stimulate innovation networks? (And how do innovation networks come about at all?)
- To what extent can policy initiated networks become self-propelling? To what extent is it meaningful to have as a goal for them to become integrated in the core business (i.e. the business network)? Or do they serve their purpose (for instance knowledge-generation) over the time span of the project (such networks are often project-based)?
- If they are not self-propelling; to what extent should policy initiated (constructed) networks then be sought to be kept alive through 'external' resources and for how long? What can be possible motivations for keeping them alive? What happens when (economic and political) support/resources are removed/withdrawn?

This paper is organized as follows: In the following section a brief review of related research will be presented, and three different perspectives described. Thereafter the methodology is outlined, before we describe some of the findings, followed by an analysis. The paper ends with a discussion and a conclusion.

## **Innovation and innovation policy in an interactive perspective**

### *Innovation policy in the innovation systems literature*

It is widely acknowledged that innovation often comes out of meetings between science, technology and markets (economic actors). Through interaction over time new constellations of actors may gradually become more and more stable and at the same time mutually dependent on each other (Van de Ven et al., 1999). Henceforth, in the innovation systems literature, development of regional innovation is argued to need instruments and policies that are adapted to local conditions (Tödtling & Trippl, 2005), and related to regional knowledge bases (Asheim & Coenen, 2005). This is seen to be developed through systematic learning, both during own development of practice, and from others with similar experiences (Gustavsen, 2011).

*(To be expanded...)*

### *Emerging versus constructed networks*

The classic OD text of Cummings (1980) draws a distinction between the exchange approach and the power/dependency approach. In the exchange approach relationships are characterized

by a high degree of cooperation and problem solving (Cummings, 1980), where the linkages are symmetrical (Schmidt & Kochan, in Cummings, 1980: 325). Here the foci are on exploring areas of mutual benefit, maximizing joint benefit, and thus on ‘complimentary exchanges’ (Cummings, 1980). In contrast in the power/dependency approach relationships are characterized by a high degree of bargaining and conflict (Cummings, 1980), where the linkages are asymmetrical (Benson, Schmidt & Kochan, in Cummings, 1980: 325). Relationships may be formed even when one organization is motivated to interact while the other is not. The motivated actor is powerful enough to induce the other to interact – so-called power/dependency linkages (Cummings, 1980).

This is partly similar to our comparison of what we call ‘constructed’ and ‘emerging’ organizational networks, where the aims of constructed networks tend to resemble Cummings’ exchange approach, and the dynamic of emergent networks include conflict and friction (Hoholm & Olsen, 2012). However, to balance Cummings’ view, we would argue that (1) conflict is likely even in constructed networks, and that it is likely to threaten the network and lead to its fragmentation if strong enough, and (2) there are lots of complementary exchanges also in emergent networks, alongside power games, friction and conflict (Håkansson & Waluszewski, 2006). In other words, in practice these ‘ideal types’ of network formation are mixed. Still, for the purpose of our analysis and discussion, we argue that it may be useful to draw (and amplify) such a distinction.

#### *The power of primary objects*

Nicolini et al. (2011) offer another view of collaboration problems across practices. By using conceptualizations of practice objects from theories like Activity Theory (objects) and STS (epistemic objects, boundary objects), as well as infrastructure theory (infrastructure objects), they arrive at a typology of objects of collaboration. While tertiary objects (infrastructure) and secondary objects (e.g. models, maps and prototypes) are crucial facilitators of collaboration for innovation, primary objects (e.g. object(-ives) of inquiry in research) are seen to be initiating and driving collaboration and innovation to a larger extent. Primary objects are typically objects that are unfinished, and thus put at the center of activity. This ‘lack in completeness’ (Knorr Cetina, 2001:181) creates both passionate participants (driven by ‘want’), and a potential for conflict – of interests, of interpretations, of method, etc. In other words, we could say that primary objects carry visions for change, and mobilize multiple stakeholders across practices and groups in exploring the unknown, solving problems and seeking to realize the objects’ potential. According to Latour (1996), if the object is gradually realized and transformed towards a common vision (or program), it often happens through a sequence of translations, where e.g. an abstract idea gradually are translated into a new product, technology or organizing practice. From this perspective, policy and management initiatives aiming for nurturing collaboration across boundaries should consider whether the object operates at a primary level, and whether is attractive, engaging and strong enough to initiate and sustain collaboration among the participants.

#### *Proximity of practices*

Furthermore, from previous studies (Hoholm and Olsen, 2012; Hoholm & Håkansson, forthcoming 2012) we have seen that the proximity (technically and conceptually rather than geographically) of an innovation to established activity is strongly related to its potential for success. Within IMP it has long been acknowledged how business networks tend to shape relatively stable structures over time (Håkansson et al., 2009; Håkansson & Ford, 2002:133). Emphasising how interaction always has to start out from *something*, from some kind of established constellation of activities and resources, the concept of ‘friction’ has been

introduced (Håkansson&Waluszewski, 2001), explaining how innovation is hard to achieve due to the resistance one will meet from the established structure, and moreover, how such interaction is likely to produce unintended (and possibly destructive/de-stabilizing) effects. Friction may also contribute positively to innovation when the fit between the new and old is good enough, but in general friction is seen as a conservative force favoring historical values and structures, primarily because of previous investments. From this perspective the local and the global are connected, because “attention is directed toward *indirect* effects that are never merely local; such effects distribute across interfaces to other resources – also transforming them” (Hoholm & Olsen, 2012:page...). From this perspective, policy practices will have a hard time creating new networks. Policy practices that are not well aligned with the established interaction are likely to fail.

Hence, from an interactive perspective, we have at least three criteria for evaluating the potential success of innovation networks, also when they are policy initiated: 1. The degree of relationship symmetry (Cummings, 1980), 2.the power of the ‘primary objects’ (Nicolini et al., 2011), and 3. the proximity of the innovation network activities (and the innovation network vision) to already established activity (Håkansson&Waluszewski, 2001; Hoholm & Olsen, 2012).

## **Methodology**

### *The case study*

Greenwood and Levin (c2007: 2) state that “*case and case narratives occupy a central place in the learning process associated with becoming a competent AR [action research]practitioner.*” This paper is mainly based on the PhD thesis of one of the authors (Rubach). According to Yin (1981), cases can be used as a research strategy inexploratory, explanatory, and descriptive types of studies. Having an empirical inquiry, a casehas its strength in its ability to cover both the contemporary phenomenon and its context inthe examination phase. Therefore, Yin believes that cases are appropriate to answering howand why questions. An exploratory case study should then be suitable when the objective is tounderstand and study how participation in a network can contributed to local developmentprocesses in the companies. Stake (2000) points out that case studies are not a methodologychoice, but a choice of what to be studied. Cases can be used to refine theory, suggestingcomplexities for further investigation, or to help establish the limits of generalizability.

According to Stake (2000), the most unique aspect of the case study is perhaps the selectionof cases to be studied. He discusses the issue of whether the researcher has the possibility tochoose a specific case to work with or not. He states that intrinsic casework regularly beginswith cases already identified, but that instrumental and collective casework regularly requiresresearchers to choose their cases. The main point in selecting a case is to find one thatprovides maximum opportunity to learn. By this, Stake believes that we lean towards casesthat seem to offer a learning opportunity, but is critical with his observation that mostacademic researchers are supportive of the study of cases only if there is clear expectation ofgeneralizability to other cases. The case-by-case uniqueness is seldom an ingredient ofscientific theory, as he says. In agreement with Yin (1981), Stake speaks for selecting anextreme or an exemplary, and not a representative, case. Stake calls this an atypical case, andadvocates that there is a chance to learn a lot from an atypical case than a little from aseemingly typical case. Our selection of case has not followed all of these recommendations.Firstly, the case had to be chosen from within the regional VRI project portfolio, since this isthe project to which the PhD program is connected. Secondly, as time

passed, projects with the greatest promise of generating potentially relevant data had to be chosen. Thirdly, the project manager and the network members had to give access to the case.

The empirical basis for our discussion is partly a recent study of a large project with several sub-projects within the Programme for Regional R&D and Innovation (VRI I, 2007-2010), a support program for regional innovation in the Research Council of Norway (Rubach, 2011), and partly an ongoing study of the second project in the same region (VRI II, 2011-2014). These projects span several industrial sectors and run over 3-4 years each.

#### *Roles of the researchers and on how the research material was constructed*

The roles of the three authors of this paper has been different, and enabled us to have researcher triangulation. While one of the authors did her PhD study based on large parts of the material that we are drawing upon her, the two other authors have not been involved in collecting the data. Their roles have been more related to analysis of the material and co-authoring the paper. These two authors have both written their PhD thesis on innovation studies/organisation studies, and drawn upon practice-based studies.

By engaging with network participants in a “hands-on” manner and by combining this with exploration of their own subjective experience through interviews and conversations, it has been possible to say something about *what* and *how* and *why*. In this study qualitative methods were used to understand the complexity of the phenomena. Action research opens up the possibilities of using different approaches for data gathering (Greenwood & Levin, c2007: 98), and the same goes for grounded theory strategies where data generation methods are treated as tools to use rather than as recipes to follow (Charmaz, 2006: 10). In this research project, rich data have been gathered to supply a thick description of the field (Charmaz, 2006; Geertz, 1973).

The purpose of the interviews was to capture through structured data generations any changes in the participants approach (the factors involved) and thinking throughout the project. During the actual network activities (in action) it was difficult to find time and space to talk and reflect with the participants upon some of the issues related to my research question. The interviews have therefore represented a “quiet space” to focus specifically on these matters. Of course, the interviews also were meant to be a help and guidance for the researchers and the involved companies further development work related to the network..

In addition to interviews observations were important. First, data that describe the network and the workgroups’ activities were based on both meeting minutes and the researchers’ logs (reflections) from these different meetings. Second, the network and the workgroups have been described and evaluated with data from each company’s view based on the companies’ own stories and spoken words of how they joined the network initiative, how they have used it, and what they have got out of the network cooperation. This information was retrieved in three series of interviews that took place in each participating company: One in November/December 2008 (with five managers total), a second set of interviews in November/December 2009 (with five managers total), and a third set of group interviews with the representatives in each company in January 2010 (nine representatives in total). All of these interviews have been digitally voice recorded and transcribed.

#### *Analysis of the research material*

The focal point of the analysis in the thesis has been how participation in a network influence organization development processes. The analysis has emerged following the progress in the

project. This means that the initial generated data have been analyzed due to the assumptions we had at that particular point in time. Asking questions, collecting data, doing analysis and interpret, getting new questions and so on has been an ongoing process throughout the whole project period (Charmaz, 2006; Strauss & Corbin, 1998). To keep track of, to sort and to analyze the data, a computer program for qualitative data analysis called QSR NVivo 8 was used.

### **Presentation of the cases**

#### *VRI I: Partial success in establishing innovation networks*

VRI I was a prolongation of the Value Creation 2010 program (VC2010), which lasted from 2005 until spring 2007. VC2010 focused on cooperation for innovation for increased value creation in the food industry and the packaging industry in the region. The basis was testing of and research on tri-partite co-operation<sup>2</sup> and employee-driven innovation facilitated by action research. Five single company projects and four network projects were run in the region as part of VC2010. The results were better steered and controlled production processes (up to 20% increased efficiency), improved technological solutions, better work place conditions, better production planning and better working environment. The companies' previous experiences with tri-partite co-operation and collaboration across the organization were an important factor in these projects. However, these projects were also an important instrument for changing the organizational culture towards a more collaborative mode.

VRI is arranged differently compared to VC2010, where the initiative must consist of one overall project that promotes interaction between various regional parties and at least one research project related to the interaction project. VRI I was in one sense a prolongation of VC 2010 because the company based project initiatives processed in the research project. However, the project that promoted interaction between various regional parties included partly old (the food industry and the packaging industry) and partly new (energy and environment) sectors. The energy and environment focus area included (1) renewable energy/ICT and energy trading and (2) the recycling industry. New networks were established within both of these focus areas during the project period (2007-2010). Both the research project and the interaction project were still based on action research, where the researchers also were acting as development agents.

One company network was initiated by a heterogeneous group of companies in 2007. The network consisted of five loosely coupled companies at most that do not have a close business relationship with each other, as they are not in the same value chain or do business with one another. The network activities derived from the participating companies own needs and suggestions for cooperative task forces. As such, it was a horizontal network, which all along was tailored to fit the participants' needs. In May 2010 only three companies were still actively engaged in the network, as the fourth had to withdraw because of internal reasons. The discussions in the network focused on establishing of potential new workgroups, recruitment of new member companies and the aim and content of a possible Lean forum. During the autumn the project entered a critical phase where the facilitator's sudden decease and lack of resources on the research project side were incidents that created problems and soon the network died out. In addition, the regional partnership dealing with the application for the second project period decided to exclude further funding of this particular network.

---

<sup>2</sup>The County Council, The Norwegian Confederation of Trade Unions, LO, and the Confederation of Norwegian Enterprise, NHO.

Another initiative in VRI I was connected to an already existing network related to the recycling industry. This network came out of previous strategic processes in the region. A biogas work group was established as a sub-network, where both participants from the recycling network but also supplementary, relevant companies and organizations participated. The main network aimed to be a strategic, competence based network for the business area, whereas the biogas work group dealt with concrete business development. The biogas initiative was carried forward into a bigger regional initiative in the last part of VRI I and is now funded by [insert sponsor]. New initiatives with a particular need for developing innovative solutions (construction waste handling) were planned and worked up in the main network during spring 2010, and included in the application for the second project period.

*VRI II – first attempt 2010: Building on something new and something old*

The initial process during the first attempt at establishing VRI II started broadly with a workshop in February 2010. The idea was a broad, inclusive process where the needs and visions of the regional actors and first of all, the industry, were brought to the table. However, because the exploration phase up until an application had to be in place was found to be too short by the Confederation of Norwegian Enterprise, the industry was not directly included in the exploring of what to include in the second phase of VRI. The County Council took over the administration of the application phase, introducing new actors as process facilitators and editors. A “competition” was launched and a group established for evaluation the proposals set forth. The proposals went through two “gates” where they were evaluated and ranked, before they went through a political decision process in the County Council. *(It may be that the County Council had proportionally too much power in this triple helix cooperation??)* The processes of working up the proposals were very demanding for the contributors, and disproportional to what could be expected financially in return if the project was accepted. This created a lot of tension between some of the involved contributors and the evaluators.

The application which was set forward in September 2010 ended up including five initiatives. Three of the initiatives were new: The first aiming at establishing development projects of the creative industry, the second was related to development of healthcare technology and the third was had an aim of establishing a company network working with carbon emission reduction through employee-driven innovation (based on a completed pre-project). The last two initiatives had links back to VRI I. The first was linked to an existing Research Council funded cluster for energy and ICT industry focusing on establishing liaisons and the second were the prolongation and further development of the recycling network. Hence, the main sector focused in the first project were excluded mainly with the rationale that the initiatives now were ready to be continued and directed by the industry, or with other public funding. It was now time for new sectors to be given the opportunity in VRI.

In addition to the portfolio of initiatives included in the project promoting interaction between various regional parties, a research project connected to the three of the initiatives mentioned above (the recycling network, the creative industry and the company network working with carbon emission reduction through employee-driven innovation) was worked up and applied funding for. The research project was based on action research, and as in VRI I the researchers were supposed to work as engaged researcher in the interaction projects (Greenwood & Levin, 2007; Van de Ven, 2007). However, this first attempt at mobilizing funding for a second project period was rejected in November 2010 by the Research Council.

*VRI II – second attempt 2011: Starting from scratch*

The regions which did not get their application accepted by the Research Council were invited to improve their projects and send a new application for funding with deadline April 2011. A new program steering committee was established in the region, cheered by the County Council and with one representative each from NHO, LO, the University College, Innovation Norway and the Research Council. It was decided that none of the regional actors with economical interest in the project should be present in the program steering committee<sup>3</sup>. This committee decided to exclude all of the initiatives from the first application which was based on action research. Three initiatives were now worked up for the project promoting interaction between various regional parties. The first two were the same as in the first attempt: development of healthcare technology and the one linked to an existing Research Council funded cluster for energy and ICT industry focusing on establishing liaisons. The last initiative was new, focusing on energy efficient rehabilitation of buildings.

Hence, now none of the initiatives were based on tri-partite co-operation<sup>4</sup> and employee-driven innovation based on action research with grounding in the single company. None of the initiatives were grounded in emergent networks with established collaboration and/or innovation practices. The industries which earlier had been involved in VC2010 and VRI I, and which also had high impact in the region (recycling, food industry and packaging industry), were left out.

The research project was not in focus before mid February 2011, when relevant regional actors were invited for a meeting for discussing options related to this part of the total project. The Research Council had now stepped in acting as mediator in the process. During VC2010 and VRI I a solid knowledge building related to action research and this way of working with innovation and development had been built up, and it had resulted in a joint professional researcher network in the region across institutional borders. The projects had also resulted in two PhDs based on action research. Because of the regional partnership's turn away from action research, some of the researchers which had so far been involved in VC2010/VRI I decided that they did not want to participate anymore. A new national research partner was introduced by the Research Council. The project turned from research *in* action (VC2010 and VRI I), to research *about* action (Coghlan & Brannick, 2005:1) related to the project promoting interaction between various regional parties<sup>5</sup>. This second attempt at mobilizing funding for a second project period was accepted by the Research Council in June 2011.

#### *The aftermath of the change from VRI I to VRI II*

During this later process, it has been a strong turn away from applied research steered initiatives (and research based decisions) to politically steered initiatives. The industry has got less and less involved in working up the initiatives, and also in the initiatives themselves. These are now heavily steered from "outside" the companies themselves – and several of the actors within relevant industries are not yet included in the daily work in these initiatives. To provoke a bit, we can say that the process has gone from broad bottom up processes based on the need for research and development which had been picked up by researchers acting in the regional industry (VRI I) - to be based on politically decided areas (VRI II).

---

<sup>3</sup> However, Innovation Norway took the position as project leader for one of the initiatives which were worked up and applied for.

<sup>4</sup> The County Council, The Norwegian Confederation of Trade Unions, LO, and the Confederation of Norwegian Enterprise, NHO.

<sup>5</sup> The researchers' roles are often taken as given, mirrored through the research strategies applied, varying from **onlooker** to **actor** (Van de Ven, 2007: 270). Which role the researcher takes is intimately related to Gummesson's "access to reality", which is the researcher's number 1 challenge (Gummesson, 1991:11).

So, what happened with the networks from VRI I that were left out of VRI II? It turned out that the recycling network from VRI I was not able to run such innovation network projects without external support because they lacked the resources and capacity to manage the activities. Hence, they got problems maintaining substance and momentum in the network after the VRI I project ended. This is still the case, and the network has had no new common project initiatives. The network activities are running on a minimum level. Another network which was also left out of VRI II started falling apart when they were left out of the first application process for VRI II. This was despite the participants argued that they lacked resources to maintain network activities, and that they needed more members to increase activity levels. The only initiative which outlived was the Lean Forum idea, which now is a well established regional forum.

In order to discuss how innovation policy may influence, or even create, innovation networks (or innovation in or across established networks), we have made a table summing up the main (and amplified) features of the two perspectives, the first assuming that innovation networks can (and indeed should) be initiated and actively develop, and the other taking a more modest and long-term approach, where working with what already exists seem to be the key.

	<b>Constructed innovation/learning networks</b>	<b>Emerging business networks</b>
How they come about	Constructed by geographical co-location, facilitating of arenas for interaction, etc.	Emerging from economic and professional interaction.
How they are coordinated	Initiated/facilitated/managed	Actors managing within networks
Focus	Short to mid-term focus. Actor focus (social interaction/relations).	Long term focus. Substantial focus; activities patterns and resource combinations.
Drive	Consensus-driven (have to find and maintain common interests for it to work). Exploring areas of mutual benefit, maximize joint benefit – complimentary exchanges.  Dependent on designated drivers/managing	Friction and interaction driven. Network the (largely un-intended) outcome of numerous interactions over years. Relationships may be formed even when one organization is motivated to interact but the other is not, as some actors may be powerful enough to induce the other to interact. Power/dependency linkages.  Self-propelling
Core/non-core activity	Demands time-out and movement in space	Core business activities
Choice	Based on conscious choice to join (and to leave)	Many small choices and incidents gradually creating lock-ins and path dependence.
Local/global	Local/regional systems, successful local interaction leads to international competitiveness.	Global always effect of many/stable local interactions/networks (aggregation). Economic and professional reasons for denser and more far reaching networks (power concentration, technology, supply chains, etc)

Table 1: Comparison of constructed innovation/learning networks and emerging business networks

### Analysis

In our case study, the networks which were left out had not become self-sustainable, and the collaboration between the participants didnot continue after the VRI I project period. This could imply that the project engagementand funding didn't continue long enough to get the participation far enough in the innovation process (development-production-use (Håkansson et al., 2009:254)). In addition, the network participants did not get any help to establish the new solutions in relation to the existing ones within their own company/network. There were

local challenges in getting the new interactions (constructed network activities) to start moving within their existing system (Håkansson et al., 2009:26). As pointed out by Håkansson et al. (2009:258) the *use* of a new solution is, or should be, a central aspect of its development and production design. It could be claimed that the actual company internal implementation and use of the new solutions were not very strongly emphasized in the network project. A stronger focus on the required internal processes could perhaps have altered the outcome of the project.

Another interesting aspect in the case study was the change of research methodology. While the social science researchers were active participants and facilitators in VRI I (action research), they gradually changed into ethnographers in VRI II. This actualizes the questions of how to support the formation of innovation networks, how long such networks need this support, and why. On the one hand, one could argue that such networks should become self-propelling within a reasonable amount of time, or else they have proven not to be valuable enough for the actors. This could be supported by the ‘emerging’ approach, which would be skeptical to such initiatives in the first place, and which would prescribe close alignment with core activities in the established networks to the extent that mutual dependencies (and thus stability) would be strengthened from the initiative. On the other hand, one could argue that in order to get old and established industrial networks out of their ‘business as usual’ (produced by habit, lack of resources, lack of knowledge, etc), external initiatives is needed, and in some instances necessary to renew stagnant (or too weak) industrial networks. From the ‘constructed’ perspective, this could be supported by the arguments of giving the actors an arena for ‘time out’ and (collective) reflection, possibly creating new dynamics from which more power to innovate and induce change could grow.

### **Discussion: proximity and vision in constructed and emerging networks**

If successful, a vision as the one in VRI for changing the innovation modus in a regional sector may be translated into projects to develop e.g. welfare technologies or energy efficient buildings, which then may or may not be translated into actual innovative technologies or services, and ultimately innovation practices. An alternative (and not unlikely) outcome would be the translation of the vision and subsequent projects into more or less influential reports of the program. From the perspective of the innovation networks that were established in VRI I, it seems problematic to remove areas that were funded in the previous round, since these innovation networks may easily lose momentum and fall apart.

The networks in our study had not become self-propelling, and one obvious question is whether this should be the aim, or if this kind of networks needs continuous facilitation by designated actors; someone with a plan, a process, a vision, someone mobilizing the interests of the network partners (Haga, 2007). Or put differently; whether the primary object (Nicolini et al., 2011) of the program was strong enough to mobilize the enthusiasm and priority of the participants. Recent studies have emphasized the need for ‘mobilizing relevance’ and developing ‘relevance structures’ in order to give momentum to emerging networks (Koefoed, 2011; Garud&Karnøe, 2001). Particularly small businesses seem to lack the capacity for managing and facilitating innovation networks, even if they acknowledge the value of participating. And without such networks they may lose out on interaction and learning opportunities.

On the other hand, from an industrial network perspective, a main reason for such network initiatives being short-lived and sometimes with minimal impact is another side to the same issue; lack of proximity. Innovation/learning networks represent activities on the side of core

business. The effort to create arenas on the side of daily business is intended because of the need to have time and space for reflecting on different ways of doing things, and perhaps even to explore alternative interaction opportunities together with other network participants. But at the same time, this means that such activities are experienced as being less relevant to business; they happen (partly) with other actors, and they (partly) center on non-core (or not-yet-core) business projects and practices. This is further complicated when taking into account how industrial practices are integrated in global interaction of collaboration and competition, going beyond the reach of regional innovation projects. In this paper we explore how daily activities leave little/limited time and space available for developing new networks, which will often be experienced as ‘disturbing’ core business activities. Moreover, we emphasize how the lack of internal arenas to absorb and deal with learning in the network – and lack of internal anchoring (Rubach, 2011) may limit the impact of innovation networks.

A method for establishing and facilitating such internal arenas and anchoring is action research. Ragin & Amoroso (2011:33) state that the two fundamental goals of social science researchers are to understand the complexity of social life and to generate knowledge with the potential to transform society. Eikeland (2007) states that mainstream researchers are normally not into changing things, neither external nor internal to their research activity. Further, Eikeland states, their job *is* to describe, analyse, interpret, explain, and understand. More conventional social researchers can then be defined as researchers which do not (at least not intentionally) aim to change things (other than knowledge). The action researcher, on the other hand, is intimately related to the local problems in her context of research and she aims *to generate outcome locally of her research*. She aims at establishing a joint process of agenda setting, experiments, reflection, and analysis (Levin & Ravn, 2007:3).

In traditional models of research professionals generate their own ideas of what research questions to ask and the needs of the people “out here”, - whereas action research has a participatory approach which charges the participants themselves with the task of shaping the research question, defining the needs and the solutions. The participants can also take a role in defining the criteria or standards against which the results should be judged. Taylor et al. (2006, : 5) state that this result not only in collective, egalitarian relationships, but also in a common language in which key information is shared and expanded. This type of reflexivity is a central goal in action research, seeking knowledge acquisition by both the participants and the researcher (Greenwood & Levin, 2007), aiming at transforming our ways of knowing (Brøgger, 2009:116).

In this case, as in many Norwegian regions, action research oriented research institutes have served an important role in facilitating (implementing?) the ideas of constructing innovation networks. As emergent networks normally will neither have the capacity nor enough interest to work outside core business – whether it is for reflection based learning, or for initiating new interaction patterns for future (potential) innovation – if network construction is to work at all, it seems to need strong facilitation both to bridge differences (proximity) and to develop and uphold a strong enough idea/vision/program (primary object) for the process to gain momentum.

We could say that in the process of developing the application for VRI II, two conflicting policy perspectives have been confusing (or challenging) the actors. The first perspective, as discussed in this paper, is based on the idea that one should foster relationships between industrial and triple helix actors to increase the level of innovation in a region. This perspective seems to go well together with ideas about action research, worker participation and the collaborative mode between employers, employees and the state. The second

perspective became prevalent in the decision process related to which industries/sectors to include in VRI II. As it turned out, regional politicians found it important to alternate between different industries in the regions, hence excluding the previous sectors, in order to include new ones. This perspective seems based on ideas that regional democracy/politics should intervene in such processes in order to make strategic choices related to the regional political agenda and interests. This seems like a problematic development. The project of constructing innovation networks is an extremely demanding one in the first place, requiring a certain degree of proximity between the participants, as well as a strong primary object (or objective/vision/program) able to mobilize interest (or even passion) from the participants. By keeping the industrial actors on distance in the decision process, we fear that one is increasing the challenges of proximity and vision even more.

### **Conclusion**

To sum up, the main issues at stake here are twofold. First, there seems to be a lack of understanding for the substantial aspects of networks in globally influential ideas about innovation. From an IMP point of view, the substance of networks are to a large extent made of activity links and resource combinations, independent of who are subjectively counted as network actors in social network analyses, innovation systems mappings, or cluster analyses. In related theories, the substance of networks is analysed via concepts like heterogeneous engineering (Law, 1994), path creation (Garud&Karnøe, 2001), or practice (Orlikowski, 2000). From this point of view, networks cannot be made out of nothing; they are socially, culturally and historically situated, and are shaped by previous investments and common practices. Second, it is important to discuss what can be achieved via policy interventions and how. Hence, we have contrasted the two perspectives, and used empirical examples to illustrate our arguments. In particular we emphasized how constructed networks and similar policy interventions need strong 'primary objects', and how policy interventions should relate to established practice (emergent networks / ensure proximity) to maximize their benefits and impact.

## References:

Brøgger (2009)

Cantù, C. and Corsaro, D. (2011) "The formation of science and technology parks", in *IMP Journal* 5(1)

Cummings, T. G. (1980) "Interorganization Theory and Organization Development", in Cummings, T. G. (Ed.), *Systems Theory for Organization Development* (pp. 333-338), Chichester : Wiley

Eikeland

Garud, R. & Karnøe, P. (eds) (2001). *Path dependence and creation*. Abingdon: Lawrence Erlbaum Associates.

Haga, T. (2007) *Orchestration of networking processes*, PhD thesis, NTNU

Hoholm, T. and Olsen, P.I. (2012) "The Contrary Forces of Innovation: A conceptual model for studying networked innovation processes", in *Industrial Marketing Management*

Håkansson, H., Ford, D., Gadde, L-E., Snehota, I., and Waluszewski, A. (2009) *Business in Networks*, John Wiley & Sons

Ingemansson, M. and Bygballe, L. (2011) "Policy and industry views of innovation in construction", paper presented at the 27th IMP Conference in Glasgow 2011

Koefoed, A.L. (2011) *Hydrogen in the making – How an energy company organises under uncertainty*, PhD thesis, BI

Law, J. (1994) *Organizing Modernity*, Oxford, Blackwell Publishers

Mørk, B.E. , Hoholm, T. Manninen-Olsson, E. and Aanestad, M. (2012). "Changing practice through boundary organising: A case from medical R&D", *Human Relations*, Vol. 65 (2), February, 261 - 286.

Nicolini, D., Mengis, J., & Swan, J. (2011). Understanding the Role of Objects in Cross-Disciplinary Collaboration. *Organization Science*, (2002), 1-18.

Orlikowski, W. (2002) "Knowing in Practice: Enacting a Collective Capability in Distributed Organizing", in *Organization Science* 13(3), 249-273

Rubach, S. (2011) *Company Learning in a Network: A Dual Organization-Development (OD) Process*, PhD thesis, NTNU

Shih, T. (2010) "The Emergence of a successful business network – What was the role of public policy?", in *IMP Journal*, 4(2)

Waluszewski, A. (2006) "Hoping for Network Effects or Fearing Network Effects", in *IMP Journal* 1(1)