

Unraveling a large-scale innovation process: A focus on the dynamic interplay within the Triple Helix

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1 Explanatory research on policy programmes

Increasingly we hear that government ministers “*adopt the phrase ‘what matters is what works’ as their leitmotiv*” (Martin and Sanderson, p. 245, 1999). Evidence of what works is to be provided through substantially increased research and evaluation programmes in government departments and greater use of pilot projects to test out new approaches (Sanderson, 2002).

This paper is about a large-scale programme on innovation in Small- and Medium sized Enterprises (SMEs) and strives to deconstruct ‘why it worked’. Unraveling this programme is a legitimate exercise since a large amount of public money is spent on innovation programmes and little insight is gained in the effectiveness of actual programmes carried out. Many EU programmes to assist SMEs seem especially prone to failure (MacDonald, Assimakopoulos & Anderson, 2007). Given the high failure rate of such programmes, there is a growing need to explain *why* some programmes seem to work and others do not (Nauwelaers & Wintjes, 2002; Sanderson, 2002; Alasoini, 2006; Macdonald *et al.*, 2007; Massa & Testa, 2008). From the very limited literature on the subject (e.g., Macdonald *et al.*, 2007; Massa & Testa, 2008), we learn that the cause of failure always seems to come down to a lack of collaboration quality between the main triple helix-stakeholders in the programme, e.g., academics, policy makers/funding bodies, intermediary agencies and entrepreneurs. But thorough explanatory research into the topic is non-existent. In this analysis we have the unique opportunity to learn from the design and implementation of a large-scale innovation programme in order to identify the aspects in the programme developments that contributed to its perceived success or failure. Empirical data on this large scale policy programme is available and allows to unravel the actual dynamics of processes in changing contexts. Evidence-based knowledge of this kind supports policy learning and thereby adds to effectiveness of future innovation programmes. It meets “the need for more ‘policy intelligence’ in this complex field” (Nauwelairs and Wintjes, 2003).

1.1 Focus on programme management

The programme under study, named ‘Strategic Innovation in the Euregion Meuse-Rhine’ (SI EMR) is studied via a retrospective case study. It was considered a success by all participating actors in the political, academic and business arena. The research focus is directed to the dynamics on the management level and particularly zooms in on the interactions between the different triple helix stakeholders. It analyses longitudinally *how* programme management relates to the multiple actors involved in shaping the management of a large-scale policy programme. As such, the research builds links between individual actors, their actions and interactions, programme-level outcomes and programme context. The aim of this research is to understand these links shaping the management of large-scale policy programmes that assist SMEs to strengthen their innovation capacity. The concept of ‘relational practices’ is used as the unit of analysis. A relational practice is defined as a task-oriented interaction, characterized by a certain quality of interacting, among at least two actors (Bouwen, 2001). It has a consequence for the relationship and leads up to some perceivable outcome. This unit of analysis, used within a “relational constructionist” perspective, focuses on *how* actors enact their interactions and relationships (the actual “doing-things-to-each-other”), make meaning together (Weick, 1995), and in so doing, shape the process of organizing and change (Bouwen, 1998; Bouwen & Hosking, 2000; Bouwen, 2001; Bradbury & Lichtenstein, 2000; Lambrechts *et al.*, 2009). These relational practices are highly embedded; they both shape and are shaped by the wider organizing (here: programme) context (Jarzabkowski & Spee, 2009; Lambrechts *et al.*, 2009).

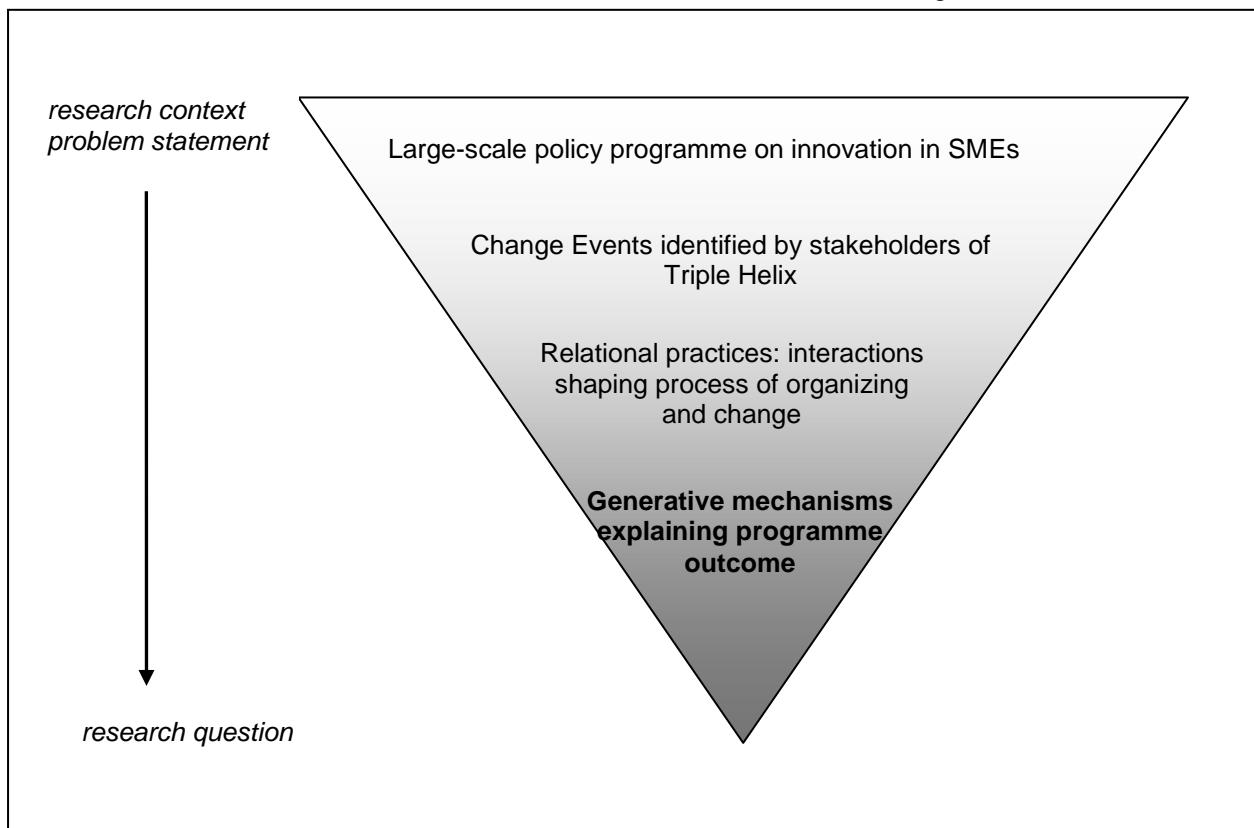
This research will not focus on *all* the relational practices shaping the process of the programme. The ambition to capture ‘everything in sight’ would most likely result in ‘death by data asphyxiation’ (Pettigrew, 1990), meaning that the sheer volume of data “can create a sense of drowning in a shapeless mass of information” (Langley, 1999, p. 693). We therefore only study relational practices that are associated with ‘change events’ (Van De Ven & Poole, 1995, 2005) or ‘rare events’ (Christianson *et al.*, 2008) as narrated by the actors involved. These events are basically critical episodes of change (Bouwen, 1998; Bouwen & Hosking, 2000) or breaks in continuity (Christianson *et al.*, 2008) that are deemed as highly significant by the actors in respect to shaping the process, direction and perceived success of the programme. It is in those change episodes that the process of

the programme is very obviously ‘in-the-making’ between the actors (Bouwen & Hosking, 2000). In fact, we use a process research approach (Pettigrew, 1990; Van de Ven & Poole, 1995; Tsoukas & Chia, 2002; Langley *et al.*, 2009). It focuses on how things evolve over time and why they evolve in this way. The process data we collect consist largely of stories about what happened and who did what when – that is, events, activities, and choices ordered over time (Langley, 1999). In order to analyse the process data we build on means of conceptualizing events and of detecting patterns among them. Most common pattern is linear sequence of “phases” that occur over time to produce a given result (e.g., Burgelman, 1983; Rogers, 1983).

1.2 Understanding driving mechanisms

In the search for underlying structures and patterns of action this study strives to *explain* how a particular outcome is constructed. From analyzing management-multiple actors relational practices associated with critical change episodes, this research sets out to unravel and discover the underlying ‘generative mechanisms’ or ‘motors of development’ (Tsoukas, 1989; Sminia, 2009) that drive large-scale policy programmes: *Why* did the programme evolve the way it did? In figure 1 the research domain is displayed. Tsoukas (1989) argues that while data themselves can yield empirical regularities, abstract conceptualization is required to imagine the “generative mechanisms” that are driving them. For him, understanding comes from the combination of the two. Through the use of process methodology the research aspires to discover valid generative mechanisms that explain regular patterns in event sequences. It thereby moves beyond rich descriptions of micro-processes to substantiating outcomes as called for by Jarzabkowski and Spee (2009). Providing insight concerning generative mechanisms and their associated process trajectories, “allows for judgments on the favorability of the course of the process” of large-scale policy programmes “as well as the necessity to intervene or to let the process run its course.” (Sminia, 2009, p. 97).

Figure 1: Research Domain



Building new theory about “*how* and *why* the management of a large-scale policy programme comes about through relational practices that are set up with multiple actors” and “which generative

mechanisms can explain perceived programme success and failure" contributes to an understanding of the management of a programme in the triple helix. It answers to the call for more micro-processes (change) management research since the macro focus of (strategic) change is seen as too remote from (1) what the management actors *actually* do and (2) the *effects* of their managerial actions on other actors involved (Johnson *et al.*, 2003). Before this contribution can be made however, it is important to stress that this qualitative study of micro processes in the management of a large-scale policy programme concerns unfolding research. The concluding chapter of this paper presents preliminary results while stressing that this work in progress demands more research to formulate profound conclusions. In the following paragraphs we will introduce the case-study, the methods used to collect data, and the data analysis.

2 From data to analysis in qualitative research

This research uses the well-established approaches of Eisenhardt (1989) and Yin (2003) to develop theory from a case study (see also Eisenhardt & Graebner, 2007). These approaches are further combined with the process methodological insights of Langley (1999), Jarzabkowski and Spee (2009) and Sminia (2009), on how to build theory from process data, and recent insights on how to do 'good' qualitative research in the management field by Pratt (2008, 2009). The qualitative case study research strategy (Yin, 2003) has the following advantages to us: (a) offers "an in-depth understanding of the situation and meaning for those involved. The interest is in process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (Merriam, 1998, p. 19), (b) has a revelatory character (Stake, 2000): there is room for unforeseen discoveries from data, (c) offers the opportunity to develop theoretical insights (Eisenhardt, 1989; Weick, 2007) in response to our research aims and focus.

2.1 Case study: Strategic Innovation EU-region Meuse-Rhine

The large-scale policy programme under study is chosen for theoretical, not statistical, reasons. Following this theoretical sampling logic we have chosen the case which is likely to replicate or extend the emergent theory (Eisenhardt, 1989). The programme SI EMR ran from 2004 to 2008. Through Interreg funding provided by the European Union together with funding from regional government bodies, 5,8 million Euro was assigned to design SI EMR to improve the innovation capacity of 650 SMEs, in order to support regional welfare. Interactions on the management level is characterized by the involvement of multiple actors: programme management (UNU-MERIT, Maastricht University), programme partners (Hasselt University, AGIT, Spi+), European and regional government bodies supporting the programme financially, and 18 consultant firms. 189 Trained consultants assisted each participating SME individually, by means of an academic tool, to make strategic choices in the innovative performance of those SMEs. One of the challenges for programme management was creating and maintaining involvement of all the stakeholders. Throughout the programme and based on its evaluation, SI EMR was perceived as a success by all participating actors in the political, academic and business arena. The appreciation scores for the programme of the participating SMEs were high with average scores above 8 on a scale of 1-10.

2.2 Collecting qualitative data

This research relies on qualitative data sources and collection methods. Qualitative data and methods are very appropriate for investigating complex processes that unfold over time. Following Eisenhardt (1989, p. 542) "qualitative data are particularly useful for understanding why or why not emergent relationships hold. When a relationship is supported, the qualitative data often provide a good understanding of the dynamics underlying the relationship, that is, the "why" of what is happening". Multiple data collection methods are combined. Data are collected from (1) in-depth interviews with programme management and the multiple stakeholders, and (2) document analysis (preliminary reports, meeting minutes, training material, evaluations, etc.). Interviews fulfill a crucial role since they can provide us with a nuanced feel for management interactions and explains the interviewees perception in the light of the context of different key players on the political, managerial, business and consulting level. Combining multiple data collection methods makes triangulation possible providing

stronger substantiation of the findings. During the in-depth interviews interviewees will be asked to describe in as much detail as possible the programme developments in terms of critical change episodes or events (Van De Ven & Poole, 1995, 2005; Bouwen, 1998; Bouwen & Hosking, 2000; Christianson *et al.*, 2008) that are deemed as highly significant from *their* perspective in respect to shaping the process, direction and perceived success of the programme. In order to answer the research question, the analysis will then focus on the relational practices that are constitutive of those critical change events.

These process data bring ‘stories’ (Langley, 1999) that give us an overview of what happened and who did what when and how. Focusing on relational practices centers on who is involved in significant change events and who is not, what actions are taken by whom, and what the effect is of these actions on other actors and on the development of the programme. We strongly believe that the particular contexts shaping the relational practices on these moments need to be specified. They underlie the meaning an actor gives to another actor and interaction. The notion of interpretive flexibility applies to this methodological approach (Bijker, 1995). It acknowledges flexibility in how actors think or interpret programme related aspects.

2.3 Visual mapping to structure and analyse data

The visual representation of the programme is based on the understanding that programme developments can be analysed as a change process (Pettigrew, 1987). It implies a study on mechanisms and processes through which changes are created. The point of departure in this analysis of strategic change, is the notion that formulating the ‘content’ is inherent connected to its ‘context’ and ‘process’. The ‘content’ category marks out the precise areas of transformation under examination. The ‘context’ assists to outline the environment in which the programme is situated. And the ‘process’ of change refers to the actions, reactions, and interactions from the various parties as they seek to move the programme from its present to its future state. We use these theoretical insights to construct the organizational map of SI EMR. It presents key-aspects in the programme developments and thereby legitimates and validates the learning process in the programme.

The stories we collected from interviews are analyzed with the aid of a visual mapping technique (Langley, 1999) representing the linear sequence of “phases” (e.g., Burgelman, 1983; Rogers, 1983) that occur over time to produce the results of the programme. The findings on the actors, activities, nature of exchange and influential contextual aspects are visualized and presented in a timeline. Does it, for example, concern formal deadlines, social aspects like image or network aspirations that underlie a critical interaction between parties in a specific programme phase? Visual graphical representations are particularly attractive to us for the analysis of process data because they allow the simultaneous representation of a large number of dimensions, and they can easily be used to show precedence, parallel processes, in the passage of time. With a focus on how relational practices associated with critical change episodes interrelate and play out over time, theoretical categories or dimensions are identified in the data. The most prominent processes in the management of SI EMR, abstracted to the meta-level, represent generative mechanisms driving and shaping the process of the programme. In this case study we use a “detailed analysis of the generative mechanisms to explain how a particular outcome is constructed” (Jarzabkowski & Spee, 2009, p. 87).

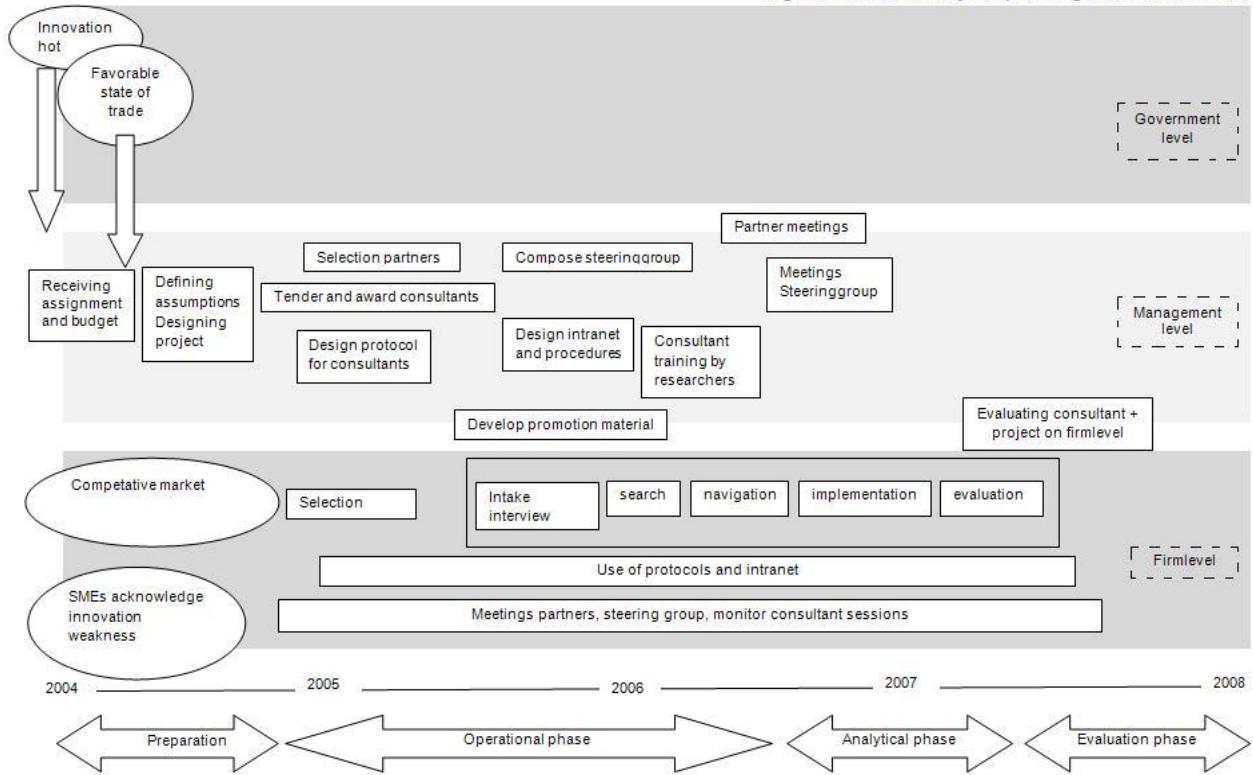
The next step is to develop propositions (Eisenhardt, 1989) out of the emerging themes, concepts and relationships between variables in respect to the generative mechanisms that can explain the process, direction and perceived success of the large-scale policy programme under study. We approach it as a highly iterative exercise constantly comparing the emergent theoretical frame with the evidence from the case, iterating toward a theory which closely fits the data (Glaser & Strauss, 1967, Locke, 2001).

3 Identifying change events that influence developments in the programme

Based on interviews with the programme coordinators a tentative overview of the sequence of phases is being constructed. Although the visual map is far from complete, it illustrates the distinct phases, identifies roughly the activities, and functions as background information in interviews and further

analysis of documents. Mapping and adjusting the map is an iterate process and flexible enough to add the data gathered from all the interviewees with stakeholders to be carried out. A more detailed overview of the interactions on the crucial change events is still to be reached. But in figure 2 first impressions on the major steps in the programme are mapped. The circles represent contextual aspects, and the square boxes identify activities. Three levels of activity are identified: government-, management- and firm level.

Figure 2. Preliminary map change events SI EMR



Given the complexity of interactions on these three levels the analysis is currently narrowed down to the management level. However, it needs to be stressed that apart from the dynamics at this level, the influential change events on government- and firm level also need further research to obtain a holistic understanding of the generative mechanisms driving the programme to its perceived success. Since we focus on the management level, contextual aspects and interactions on the government- and firm-level will only be taken into account when they influence the management of multiple actors in relational practices associated with critical change episodes.

3.1 Favorable context

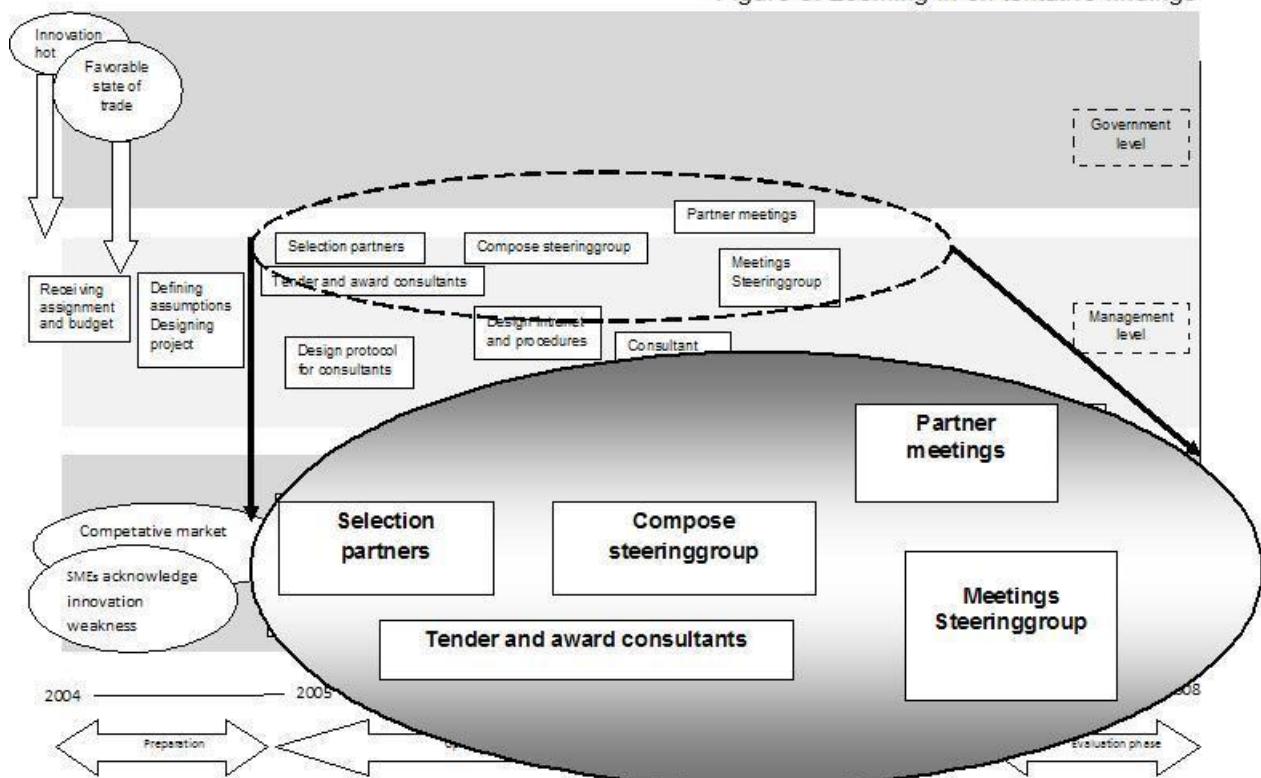
From extensive interviews with members of the managing programme coordination team it became evident that 2 influential aspects in the context of the programme characterized the developments in general. The economy in the years 2004 – 2008 in the EU-region Meuse-Rhine can be typified by *economic prosperity*. This economic situation was in favor of the financial space of 650 SMEs to participate. SMEs had to contribute 1000 Euro to join the programme which was an attractive fee compared to the value of assistance the SMEs received form trained consultants in an intensive trajectory. Based on interaction the consultants strived to lead the CEO of an SME and his or her influential staff to formulate strategic goals and to translate them in to a realistic action plan. Economic prosperity supports psychological space in the mindset of leading actors of SMEs to brainstorm and participate in the process. Apart from this fee SMEs also had to spend financial means indirectly through the commitment to devote 2 ½ days to actively participate in sessions. Interreg and regional government bodies made 5,8 million Euro available to finance SI EMR.

Secondly, a characterizing condition in the programme context is that during the period 2004 – 2008 the notion ‘innovation’ had a positive connotation. The term represented something the different stakeholders and participating SMEs wanted to be involved in; something good, ambitious, welfare, improvement, business, etc.. “Innovation was hot” as one of the programme coordinators defined it. This appealing character of ‘innovation’ supported to a large extend the willingness of stakeholders to participate in SI EMR. Programme management hardly experienced any difficulty to find actors participating on the government- and management level of the programme. Nor did it demand much energy to contract consultants and 650 SMEs.

3.2 Participation of stakeholders

Based on the extensive explorative interviews with coordinators managing the programme particular relational practices seem significant. In figure 3 we zoom on the activities that represent the ‘selection of partners’, ‘compose steering group’, ‘partner meetings’, and ‘meetings of the steering group’ and ‘tender and award consultants’.

Figure 3. Zooming in on tentative findings



An analysis of these distinct moments of interactions, identified in the oval in Figure 3, lead to some *tentative* preliminary findings. It relates to commitment of stakeholders and is elaborated on below.

Representatives of the financing authorities, partners, steering committee, and consultants all committed themselves to the programme and to the managing team. But as a member of the management team formulated it “their motivation to participate was based on different grounds”.

- The funding governmental bodies are driven by priorities set in European, national and regional policy. These authorities were devoted to support regional welfare through financing large-scale programmes targeted at improvement of the innovation capacity in SMEs. Innovation was placed high on the political agenda which highly influence allocation of budgets. This political context explains the stand of the financers of SI EMR in their goal to achieve and maintain economic prosperity of regions.

- The programme coordinator UNU-MERIT gained collaboration networks through their key role in SI EMR. Returns from their role allow more research on this or a different subject and promising data are valuable to academic parties.
- UNU-MERIT contracted 3 partners with whom responsibilities towards diverse stakeholders were shared. It concerned: Hasselt University, SPI+, AGIT. Based on impressions of the programme management, the reasons for partners to participate are a) acquaintance with the programme coordinator, b) predilection from a political agenda, c) one does not turn down an invitation to partner a programme easily d) working with certain professors or institutes contributes to the reputation of partnering institutes, e) earnings create opportunities for scientific research on other matters.
- The steering committee consisted of organizations like Chamber of Commerce, an Innovation Center, Agency of Entrepreneurship, sector federation, employer organization and business angels. The reasons for them to be involved in SI EMR was mainly due to the fact that ‘innovation’ and ‘regional welfare’ ranked high on their agenda. More subtle aspects that drive participation and commitment relate to a tendency to copy other organizations: “If they ‘join the club’ we want or need to do so too”. And one wanted to be part of presupposed ‘success-story’, according to the initial data collected from interviews with programme management.
- The contracted consultancy firms found a possibility to gain access to SMEs they normally would not be able to enter. They access SMEs at a lower fee. Some consultants convinced SMEs to participate and to commit to their consultancy firm, playing the card of ‘academic soundness’. Furthermore the programme offered a unique opportunity for the consultancy firms to learn all about the weaknesses of an SME in a relatively limited period of time. Consultants can extent their network of clients with possibly gaining more assignments of these SMEs once a relationship is build between them through SI EMR. Consultancy firms also can derive status form collaboration with universities. Apart of this aspect of image, the consultants are trained and became certified to work with a scientific methodology and apply this in the programme trajectory. In that way they distinct themselves from other consultancy firms. And an interesting aspect, as the programme coordinators were told by consultants during trainings, is that consultants appreciated it to get to know other consultancy firms on those occasions. It needs further research to learn whether this confrontation between different consultants is valued because one can learn practices from each other, or to get a feel who is all working in your field, and perhaps to change strategies based on knowledge of competitors.
- Although we focus on the management level of SI EMR, a few words are spend on the reason for SMEs to participate. It was identified by programme coordinators that the motivation of SMEs mostly related to a) the need to identify the exact areas one can raise efficiency and returns, b) not finding ways themselves to actually turn ideas into action, and c) the relatively low fee for assistance of respectable consultants which would normally be an high expenditure. It needs to be mentioned that the participating SMEs are not a representative delegation of all SMEs in the region, because they were approached via member lists of agency's involved in innovation so these SMEs were already somehow open to innovation.

4. Conclusions

What we learn from these initial data is that an important driving mechanism in SI EMR underlies the motivation of different parties to participate in the programme and moreover results in a consistent form of participation. This profound driver for actors to become and stay involved can be formulated as the “What is in it for me” mechanism. Everybody ‘gets something’ out of the participation. This varies from advice, network, image, income, data, etc. The power of this mechanism turned out to be well-understood by the programme management, and more important: it was communicated effectively throughout the trajectory. They invested largely in “partner sensing” in order to keep the programme appealing for the different actors at all stages. Respecting the “What’s in it for me”-mechanism contributes to the perceived success of all parties. Ongoing analysis will focus on the balance that was evidently found by the programme coordinating team on how self-interest can be used effectively to support the programme’s interest.

This mechanism, and tentative findings on other generative mechanisms, need further research from angles other than from the managing programme coordinators. A reflection on matters related to

participation, commitment, management, etc, should also be gained from partners, financers, steering committee, and consultants. To learn about the full picture of influential interactions in the SI EMR programme, research needs to continue on the government- and firm level. A thorough analysis strives to give an overview of *all* generative mechanisms driving the programme to its perceived success. This paper illustrates the complexity of aspects that play a role when only unraveling a small part of participation and commitment interactions on the management level. Although we are convinced to bring insights on many more dynamics at play in large-scale multi-actor programmes, these preliminary results identifying the “what is in it for me” mechanism contribute to an understanding of the dynamic interplay within the Triple Helix.

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