
The Four Stage Model for Development of Innovative Clusters - a Case Study

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Abstract: We are presenting a successful case study about clusters - a well defined part of the ecosystem for innovation and for sustainable, inclusive growth. 'Looking at the European cluster policy landscape it becomes obvious that there are similarities but there is no common 'recipe' for cluster policies, moreover there is no common 'recipe' for the success, just there are recommendations. In cluster development we had worked out a four stage model to support clusters. The accreditation has been following the second stage. Having the accreditation title has not meant any financial support but it has brought special rights for the cluster to apply for certain dedicated sources and earning plus points in various calls. The focus has been already on joint innovation investments of clusters. The Hungarian Accreditation system itself was recognized as a good-practice by the European Commission.

Keywords: Cluster; Accreditation; model; innovation; RIS3; Hungary; best practice; regional

1 Clusters as bricks in the innovation ecosystem

Clusters with innovation and export potential play significant roles in the raising the international competitiveness of a country through strengthening of innovation capability of SMEs and universities. Alfred Marshall in his book - Principles of Economics (Marshall, 1890) – shed light on the positive effect of the concentration of specialized industries in a particular area. His concept was based on a pattern of organization that was common in late nineteenth century Britain in which companies concentrating on the manufacture of certain products were geographically clustered. Comments made by

Marshall (1890, Book 4, Chapter 10) have been used by economists and economic geographers to discuss this phenomenon. Jacobs and De Man define clusters in a three-fold manner as either being regionally located, as possessing a vertical production and supply chain process or third, as businesses that are related by some form of narrowly-focused specialization. Links the cluster definitions to the development of industrial policy in The Netherlands, and from the discussion compiles a menu of possible policies and strategies that can be utilized by both industry and government for the furtherance of industrial policy. (Jacobs & De Man, 1996) The most known definition of cluster had become public as a result of Michael E. Porter's work. The four factors of Porter's diamond model (company strategy, structure and rivalry; factor conditions; demand conditions; related and supporting industries) interact with each other to create conditions where innovation and improved competitiveness occur (Porter, 1990). Based on this theory he introduced the concept of clusters: 'A cluster is a geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities'. (Porter, 1998) Ketels (2004) draws four critical characteristics to our attention which is proximity, linkages, interactions and critical mass.

'Comparing the diversity of cluster definitions and approaches throughout the literature, three common elements emerge: geographic, economic integration, and social elements. In the literature, these elements are further divided into a number of dimensions (Bryant & Wells, 1998; Enright, 2000; Harrison, 1992; Jacobs & De Man, 1996; Rosenfeld, 1997, 2001; Verbeek, 1999), such as geographic localisation, vertical and horizontal aggregation, innovation, critical mass, and social networks.' (McRae-Williams, 2004) (Gedai, Kóczy, Zombori, 2012) Therefore we did not want to give any new definition for clusters but we wanted to highlight the cluster operational model – the cluster itself has governance and a separate cluster management - which finally has been accepted by all actors. Parallel we have emphasized the four success factors of the clusters as follows:

- 1) common goals
 - improvement of competitiveness
 - the players are generally competitors – they have to find their common interests
- 2) strategic thinking
 - the members define jointly their development strategy
 - the basis for the implementation of the joint strategy is the consensus between the members
- 3) team work for innovation
 - the improvement of the innovation potential can only be reached through team work
 - the close relationship between the research and business sector is essential for the tacit knowledge transfer
- 4) network co-operation
 - the basis of the successful clusters is the formal and informal communication – even between competitors
 - soft and hard networks are also relevant

The presentation describes a program aimed to create a favourable business environment to the Hungarian Cluster Initiative. This Hungarian Cluster Accreditation system has been in fact a measurement of cluster performance and the aim of the accreditation has been to select clusters that are able to reach significant international and domestic performance and are innovative and export-oriented and least but not last produce high added value.

The Hungarian Accreditation system itself was recognized as a good-practice by the European Commission.

2 Once upon a time...

The first clusters have been established around year 2000 in Hungary. The first and probably still the most well-known cluster internationally is PANAC, a cluster in the automotive sector, comprising the biggest car producers in Hungary, such as Audi and Suzuki and their surrounding suppliers, among others. PANAC was basically motivated by the Ministry of Economy to be established and 200 thousand EUR have been granted for the setup of the cluster management organisation. During its most successful years PANAC counted around 100 members and some joint actions mainly in the area of supplier activities have been completed. However, a major problem of this cluster was its top-down approach and the lack of joint projects of its members.

From year 2000 scattered programs were available for clusters but there has been no consistent cluster development policy. Before the start of the Pole Program we could count 48 organisations or co-operations that called themselves clusters but with no real projects or no joint goals. Major problems for clustering were:

- the general lack of trust and confidence among business actors,
- existing and successful business co-operations could not count on stable policies,
- mixed experience and result of cluster support programs,
- no consistent national policy on clustering.

Learning from foreign practices (France, Ireland, Finland etc.) we had identified three major areas that should fit together to have consistent economic development. These three areas were:

1. development of macro and business environment, which mean stable business environment facilitating efficiency,
2. cluster development which mean
 - co-operations of SMEs with proven market successes and it shall be visible and competitive in international markets, contrary to single SME's,
 - cluster development policy shall help to start a lot of new co-operations among business actors,
 - cluster development policy shall help co-operations realise joint projects,

3. innovation policy which means innovation driven by market needs improves international competitiveness owing to higher added value.

A Hungarian National Programme incorporated all these three areas that we mentioned before and it paid outstanding attention to the challenges of research and development and innovation. These challenges were:

- a. macroeconomic aspect
 - R&D expenses over GDP is well below EU average
 - overweight of state R&D both in research staff and in financing
- b. propensity of enterprises for R&D
 - low propensity for risk and entrepreneurship
 - lack of trust and cooperation
- c. education
 - moderate number of professionals in science and technology
- d. research
 - brain-drain
 - gap between science and business, inadequate number of patents
 - universities oriented at basic research
- e. financing
 - enterprises face slow, expensive and bureaucratic procedures to get loans
 - lack of venture capital and business angel network.

3 The four stage model of cluster development

In cluster development we had worked out a four stage model to support clusters. (see Figure 1) At first we wanted to give support for start-up initiatives to start co-operation and to set up and operate a management organisation. The subsidy for the projects was relatively low (up to 0.2 million euros) at this stage as compared to the other stages but it was sufficient for a two-year-long project focusing on cluster management.

The second step was the developing cluster stage. The second step was the developing cluster stage. Besides giving support to cluster management the focus was more on joint investments of cluster members with support reaching 0.8 million euros. These first two stages of the model were financed from the Regional Operational Programmes.

The accreditation has been following the second stage which has been a call that has been giving a cluster the right to move further up in the model. Having the accreditation title has not meant any financial support but it has brought special rights for the cluster to apply for certain dedicated sources and earning plus points in various calls. So the third

stage has been the level of accredited clusters. At this point the focus has been already on joint innovation investments of clusters. It is important to note that the support has been available only for joint innovation investments not just joint investments, thus it has been a real must to have innovation element in the projects. Support for projects could have reach 6 million EUR at this level.

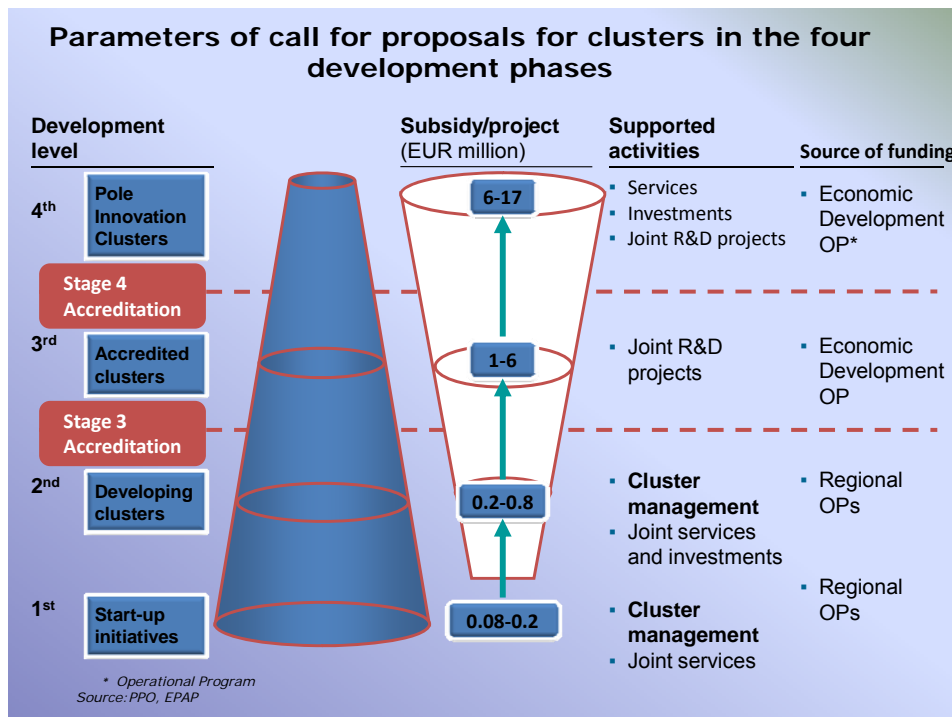


Figure 1: Parameters of call for proposals for clusters in the four development phases

Based on the original idea the highest stage would have been the innovation clusters which level would have been open only for those clusters that were successful in both accreditations. The entry criteria for the 4th level were finally not issued. At this level we intended to give support to joint R&D projects of cluster members and clusters up to 17 million Euros.

The third stage of the model has been financed from the Economic Development Operational Programme and the fourth one would have been financed from the same programme as well. Now the core topic is the accreditation system which was in fact a measurement of cluster performance and not the measurement of cluster management. The aim of the accreditation has been to select clusters which are able to reach significant international and domestic performance and are export-oriented and innovative and produce high added value.

The accreditation has been a rigorous evaluation system. The accreditation call has been open throughout the year, but the accreditation applications have been evaluated

quarterly. The final decision on the accreditation is brought by an Accreditation Committee. The Committee has consisted of 7 people including governmental decision makers and reputable economists from the private sector.

The accreditation certificate has been valid for 2 years, after that it has to be renewed. The accreditation certificate entitled the clusters for advantages in many calls for proposals for example at the Economic Development Operational Programme.

The first structure of the evaluation system (see Figure 2) contained five categories like Cooperations in the cluster; Members of the cluster; Business performance of the SME members; R&D performance; Strategic and operational plan; and altogether 35 subcategories.

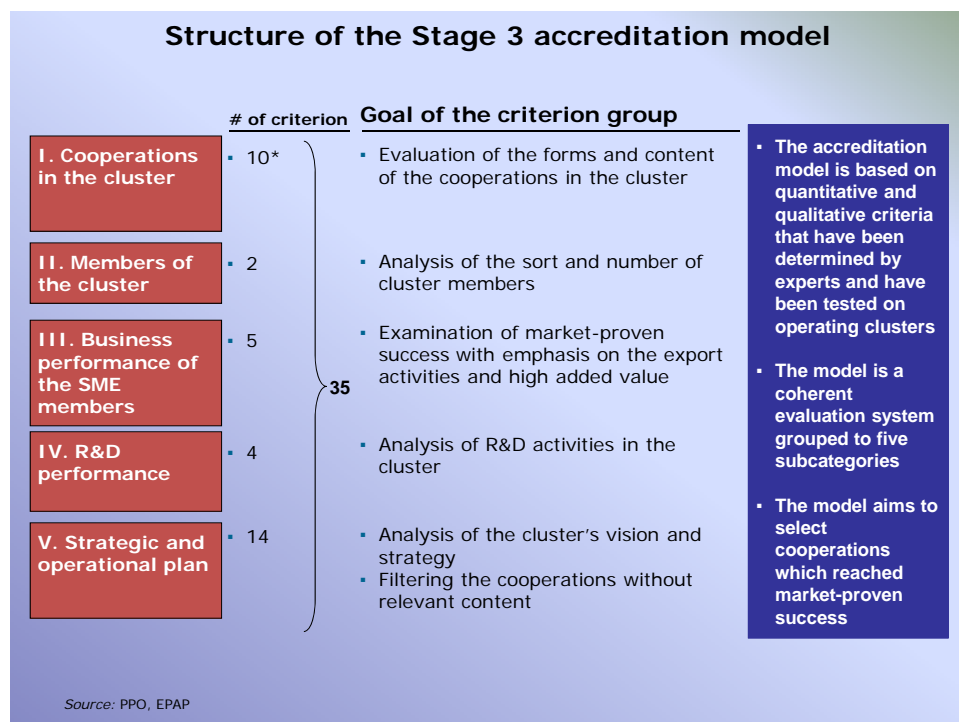


Figure 2: Structure of the Stage 3 accreditation model

We used quantitative criteria in most cases, but the strategic and operational plan was evaluated on qualitative basis, as well. We used a hundred point evaluation sheet. If the cluster reached 50 points from the 100, it received the accreditation certificate. The new members of the clusters (joining the cluster after the accreditation) could benefit also from the advantages but if the fluctuation of the cluster members was higher than 50% than the accreditation had to be renewed.

The Stage 3 accreditation scheme and its evaluation system had been testing and scaling on real cluster figures. After a survey 34 co-operations had been identified which could have been relevant for the Pole Programme. We asked the clusters to provide a lot

of information that we wanted to use in the accreditation scheme. Finally 10 clusters were involved with their data to test the evaluation sheet.

The evaluation system of the stage 3 accreditation scheme had been modified at first at the end of 2008 (see Figure 3). There were already some experiences with the first applicants and meanwhile the economic crisis hit in. Therefore we introduced some changes while sticking to the principles of the accreditation. The principles of the accreditation did not change, we aimed at maintaining stability, although our expectations were raised.

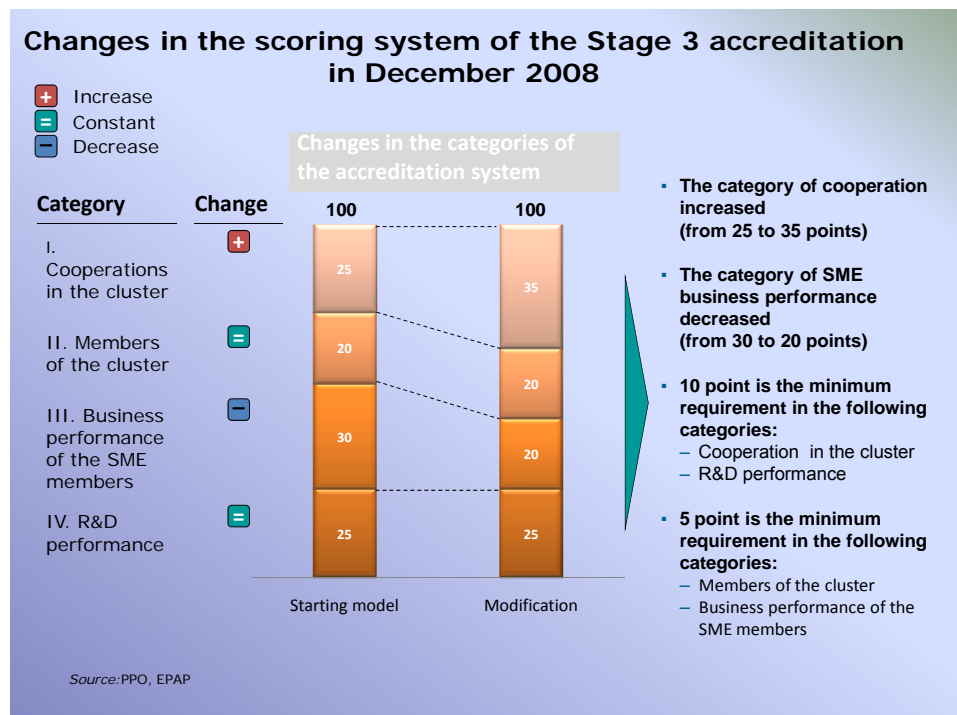


Figure 3: Changes in the scoring system of the Stage 3 accreditation in December 2008

We increased the requirements in the co-operation aspects and decreased the weight of business performance and we put more emphasis on the track record of the applying clusters.

It is important to note that initially the minimum total point to reach was 45 points from the 100, which we increased to 50 points at the end of 2008 and we introduced category thresholds, as well, meaning that there was a minimum requirement in points in most of the categories.

At the end of 2009 thanks to the new 4 stage development system 100 co-operations had been granted and 15 of them had been ready for the accreditation as well (see Figure 4). Taking onto consideration of the importance of the industry at the first two stage Energy, Machinery / Automotive, Info-communication technology and Environmental industry were dominant, at the accredited clusters Healthcare, ICT and Environmental industry.

In January 2011 a new overall long-term economic development strategy, the New Széchenyi Plan was announced in Hungary. Cluster development policy became part of the New Széchenyi Plan and the former cluster development model underwent some changes in order to align with the new strategy.

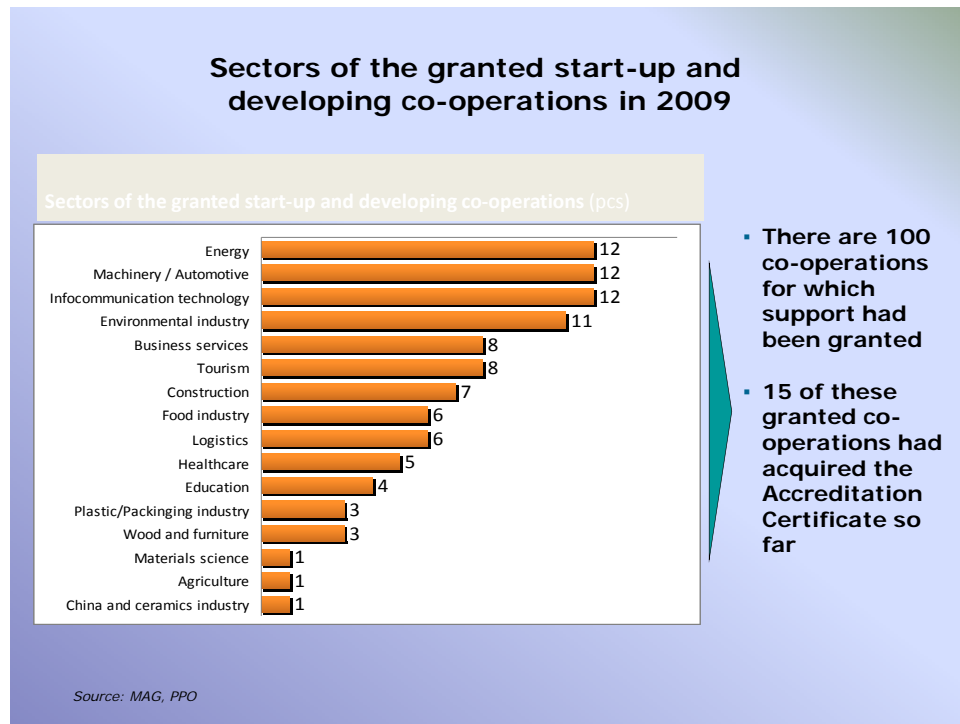


Figure 4: Sectors of the granted start-up and developing co-operations in 2009

In the framework of the New Széchenyi Plan, new calls for application were launched in January 2011 in the Regional Operational Programmes supporting the start-up and developing stages of clusters. As the third stage, the accreditation system of innovative clusters was also re-launched:

- The call for Accredited Innovation Cluster title was announced again in June 2011 in line with the objectives of the New Széchenyi Plan.
- The Accreditation Committee including governmental decision makers was re-formed.
- Key elements of modification - more emphasis on job creation and collaboration among members have been given. (see Figure 5)
- In the framework of Hungary's Economic Development Operational Programme there had been grant programmes also available for accredited clusters (Support for complex technological innovation of accredited clusters' member companies, Support for the joint technological innovation of Accredited Innovation Clusters).

The call for AIC is continuously open, tenders are evaluated quarterly



Selection criteria of the accreditation scheme

I. Employment	<ul style="list-style-type: none"> Evaluation of the effect of the cluster on employment 	<ul style="list-style-type: none"> Max.: 25 points
II. SME focus	<ul style="list-style-type: none"> Evaluation of the business performance of SME members 	<ul style="list-style-type: none"> Max.: 20 points
III. Export orientation	<ul style="list-style-type: none"> Evaluation of the export potential of member companies 	<ul style="list-style-type: none"> Max.: 12 points
IV. Cooperation	<ul style="list-style-type: none"> Evaluation of the framework and content of the co-operations in the cluster 	<ul style="list-style-type: none"> Max.: 25 points
V. Innovation	<ul style="list-style-type: none"> Analysis of R&D and innovation activities in the cluster 	<ul style="list-style-type: none"> Max.: 18 points
VI. Cluster strategy	<ul style="list-style-type: none"> Evaluation of the complex cluster strategy 	<ul style="list-style-type: none"> Qualitative assessment



Source: MAG – Cluster Development Office



Figure 5: Selection criteria of the Stage 3 accreditation nowadays

In the last period the Hungarian cluster policy faced the following main challenges:

- promoting the internationalisation and cross-border cooperation of Hungarian clusters and encourage their participation in international projects,
- strengthening and supporting cluster managers' activities by improving their excellence.

The accreditation system is in fact a measurement of cluster performance and not the measurement of cluster management. The aim of the accreditation is to select clusters that are able to reach significant international and domestic performance and are export-oriented and innovative and produce high added value, moreover to achieve the bronze and then the gold label of European Cluster Excellence Initiative. Today there are 26 accredited clusters in Hungary in 8 different sectors (see Figure 6).

We had examined a lot of foreign country examples including France, Ireland, Finland etc. We had found that no previous foreign experience could be put one-in-one into our circumstances. Therefore it is worth rather picking the best practice elements of each examined program that fit to the prevailing conditions and creating the own model like Poland did after Hungary in 2012.

In order to reinforce the innovativeness and competitiveness it is needed to create a favourable business environment to be able to have all actors of the knowledge market on the stage which could strengthen their regional basis.

Accredited Innovation Clusters



Sectoral dispersion of AICs

	ICT	7
	Machinery/vehicle production	7
	Construction/Energy	4
	Environmental industry	2
	Healthcare	2
	Packaging/plastics industry	2
	Wood/furniture industry	1
	Food industry	1



Sum 26



Source: MAG – Cluster Development Office



Figure 6: Accredited Innovation clusters in 2014 Spring

4 Cluster illnesses

‘Looking at the European cluster policy landscape it becomes obvious that there are similarities but there is no common ‘recipe’ for cluster policies, moreover there is no common ‘recipe’ for the success, just there are recommendations. The most important ones were given by the European Cluster Policy Group issued in 2011. Building on them the INNO-Net project, the TACTICS Reflection Group - the objective of which is to assist the TACTICS’ partners to analyse, develop and propose new cluster policy actions and methods of implementation in a number of predefined topics such as channelling RDI funding through excellent clusters or user-driven excellent clusters, among others – will issue in 2012 two handbooks on Cluster internationalisation and Cluster marketing & branding.’ (Gedai, Kóczy, Zombori, 2012)

During the last years more problems have been noticed regarding the cluster development but the policy makers are willing to hush them up. Based on the experiences they have been summarized by Gedai, Kóczy and Zombori in 2012 as follows:

- Building up a cartel

There are forms of the cooperation which are successful for the actors but at the same time damaging for the economy (e.g. reducing the competition, agreement to the fix prices, marketing or production etc.). Cartels are illegal, but even so from time to time the companies try to enter into such agreements. Cooperation and competition are characteristic for the relations of the cluster actors, too, but a successful cluster is not about the restriction of competition. We cannot, of course completely exclude the possibility of parasites, undesirable groups of companies that abuse cooperation and especially the support for forming cooperation to reach their sinister goals.

- No panacea

The well documented success-stories about the profitable and favourable effects of the cooperation in the frames of a cluster might give the impression that joining a cluster will solve all business problems. Participation in a cluster might be a more effective way to reach one's goals, but it should not be the goal itself. Managers, who wait for such a miracle, completely miss the point and will fail miserably. Companies focussing on participation only will not be able to benefit beyond the obtained participation.

- Herd attitude

To found a cluster – it is trendy nowadays. Business actors often feel that it is more profitable to join a cluster than to let the opportunity slip away. They do not really think of what this seriously means in practice, they are just toying with the vision of the word 'cluster'. The idea of cluster is slowly becoming a myth.

- Lack of business and ambitions of the actors

The cluster itself is an answer for the challenges of the economic competition. Increasing the competitiveness of the companies the cluster gives them confidence that they will have success in the fields of market struggle. The cluster is not a charity organisation, this is actually a secondary result of the companies' activity. Misjudging where the cluster can help its actors can lead to bad experiences with any cooperation.

- Isolation effect

If the cluster actors do not have enough information to make the right decision on their own market position or market share, then their cooperation is suffering from an isolation effect and their results must be non-competitive in the global market. It means if there is a product in the global market, which is more easily and more cheaply available and moreover it has a better quality than the product of the cooperation, then the cooperation itself is not successful. Why? Because with right assessment of the economic situation and also with having marketable information and even with involving outsiders in the business, successful economic cooperation - including the competitive products - would be easily guaranteed.

- Growing apace with the subsidies and grant dependency/rent seeking

Getting subsidies for cluster development – this is the main business of the cluster, therefore the profit increase comes only from the subsidies.

- Free-riders

The spread of this behaviour, getting the benefits of the operation of a cluster without any willingness for real cooperation could jeopardize the success.

- Extremes

The overconditioning and overregulation of the cluster's operation, the elaboration of complicated rules of procedure, the forced and unnatural increase of the cluster actors' number put high risk even on the operation of a successful cluster.

5 The RIS3 Concept and the Clusters

The cluster theory is closely related to the theory of smart specialisation. The concept of smart specialisation comes from the reflection generated around the innovation "gap" between Europe and the U.S. (Pontikakis et al. 2009) as a result of lower economic and technological specialisation, and by the reduced ability to prioritize efforts on a the matter in regions. This concept guides the reorientation of European Regional Policy in the context of the Europe 2020 strategy. The smart specialisation is still a developing concept, originally proposed by the same authors that currently advise the Commission itself (Foray et al. 2009 and McCann y Ortega Argilés-2011 and <http://www.know-hub.eu/knowledge-base/videos/clusters-in-ris3.html#ris3>)

"The establishment of priorities that at a regional level take place in a series of activities and / or technology domains, and that are potentially competitive and able to generate new business in a global context faced competition from other places."

In the "Innovation-driven Growth in Regions: The Role of Smart Specialisation" OECD publication the authors distinguishes smart specialisation from traditional industrial and innovation policies and defined "entrepreneurial discovery" process - an interactive process in which market forces and the private sector are discovering and producing information about new activities and the government assesses the outcomes and empowers those actors most capable of realising the potential (Foray, 2012; Hausmann and Rodrick 2003). Hence smart specialisation strategies are much more bottom-up than traditional industrial policies. (OECD: Innovation-driven Growth in Regions: The Role of Smart Specialisation, 2013)

Clusters and clusters initiatives are in the heart of the Regional Innovation Strategy for Smart Specialization (RIS3). Existing cluster initiatives can be an outstanding stakeholder in the different phases of a RIS3 (definition, implementation, monitoring and evaluation) and, also, existing or new clusters can be a suitable instrument to implement RIS3, as they are able to mobilise key regional resources. (D. Foray, et al. 2012.)

The recognition of the positive impact of clusters on regional economies and the identification of market and systemic failures that hinder their activity had justified the implementation of public measures to ease the cluster creation and to speed up its consolidation and up-dating (the different stages of a cluster development require individually tailored actions). Policies that support clusters come from three different policy trends and frequently link multiples objectives (OECD, Competitive regional clusters. National policy approaches, OECD, Paris, 2007.):

- Regional policies trying to build competitive regions, including lagging regions.
- S&T and innovation policies trying to foster public-private collaborative research and to improve the research commercialization.
- Industrial and enterprise policies trying to support common needs of firms and to increase the technology absorption of firms, especially SMEs.

Examples of how clusters can be embedded in RIS3 are the following:

- The identification of regional specialisation on through cluster mapping analysis.
- The identification of relative regional position through cluster benchmarking.
- The gathering of quantitative and qualitative data of clusters allows monitoring the regional performance.
- Besides, cluster participants can be a valuable source of information in foresight processes or in the identification of key enabling technologies.
- Cluster initiatives can be a good tool to align the efforts of different actors of the regional innovation system towards a shared vision of the regional future.
- Cluster initiatives are a good way to channel public support to regional players, being able to reach regional SMEs and to put in contact different players of the regional innovation system. The cluster companies with a better relative position in the global value chain can guide other companies, especially SMEs.
- The trans-national cooperation of clusters can foster internationalisation of regional activity.
- Cluster initiatives facilitate connectivity and hybridisation between actors from different institutional spheres: University, Industry and Government, that enhance creativity and diversification processes. Also, inter-cluster activities can facilitate diversification of regional specialisation.
- Some of the cluster actors can lead the development of key enabling technologies at the regional level and, also, promote these technologies among other participants. (<http://www.know-hub.eu/knowledge-base/videos/clusters-in-ris3.html#ris3>)

6 RIS3 in Hungary

The smart specialisation strategy in Hungary is “under construction”. The coordination between the regional and national levels is challenging. After collecting the regional S3 strategy documents, analysis of four areas at the national level we are synthesising the regional S3 strategy documents and building the national S3 framework. The steps of it (Borsi B. 2013):

- RDI-based synergies between regional plans
- Analysis of strategic white papers of different sectors and other past achievements
- Regional governance structure (embedded into national STI coordination)
- International and EU linkages

- R&D and innovation infrastructure
- Alignment of the national RDI Strategy and the S3 synthesis strategy
- Elaboration of metrics and indicators
- Social consultation of the National S3 Strategy 2020 in the regions
- Finalisation and submission to the Commission

We used the ‘entrepreneurial process of discovery’ and have involved of the business community in developing the RIS3. Regional consultation of the National RDI Strategy took place in November-December 2012. The regional S3 strategy documents were prepared with the involvement of the local business community in the discussion process. „Grand project ideas” were collected from the regions and are being processed.

The RIS3 design process is coordinated by the Department for Innovation and R&D (Ministry for National Economy) and the National Innovation Office. For the National RDI Strategy, there was a consultation body, the „Innovation Advisory Council”, involving different actors and for the RIS3 process, there is a partnership between the Regional Innovation Agencies and the Ministry. National and regional governance bodies and mechanisms are still to be defined (Borsi B. 2013):

- High-level S&T policy coordination body is to be introduced
- For S3 a fully centralised governance system at the national level is planned
- Chief scientists for facilitating public-sector RDI is to be introduced in the ministries at deputy-secretary level

Relevant stakeholders are to be involved in the implementation stage as members of advisory board (national and/or regional, to be defined, see the slides on governance). Implementation is planned as part of the Economic Development and Innovation Operative Program (EDIOP –GINOP). The EDIOP measures under priority axis 2 „Development of the knowledge economy”

- Measure 1: Support of business RDI activity
- Measure 2: Support of strategic RDI collaborations and initiatives
- Measure 3: Promotion of scientific and technological excellence, support of international R&D connections

The planned interventions of the measures are fully aligned with the RDI Strategy – coordination with the S3 plans is ongoing in 2014 summer as well. What is needed (in the short and medium term) to develop and implement a good RIS3 in Hungary? First of all conclude the planning process and establish a governance structure that is linked both to the RIS3 process and the National RDI Strategy.

7 Good Practice in Hungary

We have set up four development phases of clusters to each of which we offer tailor-made measures. The call for tenders for the first and the second stage were open for all clusters. In these stages we offered limited subsidies to each cluster for mainly cluster

management and modest joint investments. Although the amount of subsidy per winning project was relatively small, we wanted to have a fairly broad group of cluster initiatives to win. We expected that from this broad group of initiatives we will be able to select with the help of the accreditation a few clusters that will be ready to embark on large joint projects to which we offered much higher subsidies. We expected that with these offered subsidies in the first three stages some of the best cluster initiatives can become a leading economic and innovation power in the region or sector they focus on. There is jeopardy of loosing money which should and could be minimized but without taking risk there is no result.

The mentioned Hungarian program was recognized as a good-practice by the European Commission. The four most important features were:

1) Good communication

No programme can be successful if the interested parties do not trust each other, they do not co-operate or they are not committed to a long term, consistent strategy. In order to achieve this aims we had to have a fluently communication with all partners, with the clusters, the SME's, the universities, research institutions, chambers of commerce, municipalities and at least but not last with the governmental institutions.

Just between 2008 and 2010 we had met more than 1000 SME's and we had organised more than 100 conferences, workshops, meetings and fora. With these opportunities we had had living relationships with each actors of the Programme. One of the most important thing is always "to be updated" and to have living relationships not only on national level but on international level too. We issued a cluster manual which contained all the important information.

2) Co-ordination and consistent execution

The implementation needed a complex management. The Programme Office responsible for the implementation and the Strategic Steering Committee assured that the regional and the national activities should complement to each other. And the principles of the Programme did not changed, we aimed at maintaining stability but we paid attention to economic changes.

3) Resources

During the accreditation we examined how developed and how promising the cluster is. Therefore we looked at numerous data on the past, the organization and the financials of the cluster and also make an evaluation on the future plans. In the Program we focused only on those clusters, which activities were of high value added, export-oriented and innovative. We knew that developing clusters is a long-term project and we can only expect the first results after years of work and investment.

4) Business focus

We had to pay attention to the fact that each decision in the "cluster-world" is about the business in a broad meaning. Each actor has to realize not only its own advantages but the factor that the actors together could reach more profit than alone.

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