NEW APPROACHES TO IMPROVE THE PERFORMANCE OF CLUSTER MANAGEMENT ORGANISATIONS IN EUROPE

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ESCA is the European Secretariat for Cluster Analysis, which is hosted by VDI/VDE Innovation + Technik GmbH (VDI/VDE-IT). ESCA supports in particular cluster managers and policy makers with advice on cluster development. Among others, ESCA has developed a methodology for cluster benchmarking that is acknowledged by both cluster managers and policy makers throughout Europe. Since 2008 more than 550 cluster management organisations have been benchmarked according to this methodology. Being also involved in the European Clusters Excellence Initiative (ECEI) from 2009-2012 ESCA experts have contributed to the development of new tools that support cluster managers on their way towards excellence.

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1   Objectives of the Study

Nowadays, there is no longer any doubt that clusters offer a favourable and dynamic business environment which significantly increases the competitiveness and innovation capability of cluster actors[1]. Clusters have become a key element and instrument of modern innovation policy activities. Although cluster policies and clusters vary considerably across regions and countries[2], the corresponding funding schemes have been quite similar in the past. Most cluster programmes within the European Union pay dedicated attention to funding cluster (management) organisations[2], since they play an important role as drivers for innovation within the clusters (or within the regional networks)[3]. So far, funding of such cluster management organisations mainly means financing the corresponding staff and related infrastructure. In general, key programme objectives are to strengthen the capacities of cluster management organisations. This approach has fairly worked for many years now. But since cluster management excellence has become more and more relevant in all political discussions, new approaches are evidently needed to better support cluster management organisation on their way to strive for excellence.

As shown in Table 1, cluster management excellence is especially of high importance when clusters are matured and on the way to become national champions. Key objectives of cluster managements in that life cycle include networking and matching as well as the provision of tailor-made services to the cluster participants to promote innovations. Excellence plays a significant role, particularly in these life stages of clusters. Once a cluster is well-matured and strives for world-class competitiveness, other support schemes are more effective in order to help a cluster go up the league and reach a higher level [4].

	Importance of Supporting R&D	Importance of Cluster Management Excellence	Importance of Internationalisation
Embryonic Clusters	O	+	-
National Champions	+	++	++
World-class Clusters	++	O	+

Table 1: Importance of different support schemes vs. life time of a cluster (schematic drawing),

Previous investigations have shown that merely providing funding for cluster management organisations not always seems to be the most promising way to achieve the goals of a sustainable cluster development[5]. Although grant funding (of cluster management organisations) is

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[1] Delgado, Porter, Stern: Clusters, Convergence, and Economic Performance, NBER Working Paper No. 18250, Issued in July 2012

[2] Lämmer-Gamp, Meier zu Köcker, Christensen: Clusters are Individuals. New Findings from the European Cluster Management and Cluster Program Benchmarking, Danish Ministry of Science, Technology and Innovation, ISBN: 978-87-92776-22-8, Copenhagen/Berlin, 2012

[3] Ketels, Lindqvist, Sölvell: Strengthening Clusters and Competitiveness in Europe – the role of cluster organisations, The Cluster Observatory, 2012

[4] Christensen, Lämmer-Gamp, Meier zu Köcker, Let's Make a Perfect Cluster Policy and Cluster Programme, Danish Ministry of Science, Technology and Innovation Copenhagen/Berlin, 2012

[5] Lämmer-Gamp, Meier zu Köcker, Christensen: Clusters are Individuals. New Findings from the European Cluster Management and Cluster Program Benchmarking Danish Ministry of Science, Technology and Innovation, ISBN: 978-87-92776-22-8, Copenhagen/Berlin, 2012, and Christensen, Lämmer-Gamp, Meier zu Köcker, Let's Make a Perfect Cluster Policy and Cluster Programme, Danish Ministry of Science, Technology and Innovation Copenhagen/Berlin, 2012

the main instrument used in nearly all cluster programmes in Europe, technical assistance for capacity development of cluster management organisations is (additionally) applied in a significant part of the cluster programmes, with a tendency to become even more popular in the future. Many of the cluster programmes in Europe, which allow a shift in the programme design features during the entire programme period, nowadays focus more on providing additional technical assistance to their beneficiaries (staff of cluster management organisations) than in the past.

The current study shall contribute to the upcoming discussion how to provide better support schemes for cluster management organisations (and their staff) striving for excellence. The time for such discussion seems to be right, since many regions and countries within Europe are facing next programme periods and might look to at proposals on how the future support function for clusters and cluster management organisations could look like. Other topics, like smart specialization or emerging industries, also matter when it comes to cluster management excellence and possibilities of its improvement. Typical questions are:

- What kind of support services are needed to increase the performance and impact of cluster management organisations?

- What approach is the most appropriate to identify the needs for such services?

- What are the key success factors for implementing such support services?

- What kind of provider should implement such services; what kind of competence should such provider possess?

Since some cluster programmes, like *Kompetenznetze Deutschland* (Germany) or *NCE* (Norway) started to focus on hands-on (technical) assistance for cluster management organisations many years ago (actually at the initiative of the European Union), these initiatives can now provide interesting input in terms of lessons learned, key success and failure factors.

2 Working Methods

The idea of the study is to benefit from already existing experiences of cluster programmes of those countries where such programmes had provided hands-on support and coaching of cluster management organisations with considerable success. In particular, a three-step approach was applied. In the **first step**, we analysed how cluster management organisations perform when it comes to cluster management excellence. Are there any common patterns of strengths and weaknesses? If that were to be the case, what are the prevailing weaknesses?

In a **second step**, we looked at the delivery side and explored the experiences made by institutions that had successfully provided technical assistance and hands-on support for cluster management organisations to do better. What were the success factors? Three Cluster programmes and respective institutions have been identified all over Europe that have been providing such hands-on support services for many years now:

- NCE/Innovation Norway (Norway)
- Kompetenznetze/VDI/VDE-IT (Germany)
- Cluster Programme Lower Austria/ecoplus (Austria)

As a consequence, interviews with the responsible implementation agencies were performed.

Finally, cluster managers in various countries were asked in written form to complete a questionnaire in order to gather opinions, experiences, and wishes/demands regarding such support activities. Many of them had been involved in several hands-on training measures and were thus able to provide well-founded feedback on what went well and what could potentially be improved. All cluster managers interviewed were belonging to the most matured clusters (cluster management organisations) of their country. Having analysed and merged the findings, typical formats for support services were extracted and described.

Based on our knowledge on the implementation status of clusters and cluster programmes, also in other EU countries, recommendations were derived, on how such support services could be introduced in any country or region as part of a new cluster programme.

In addition, an evaluation of the benchmarking exercises which have been conducted by ESCA in recent years was carried out, in order to identify prevailing strengths and weaknesses of cluster management organisations in Europe. ESCA has conducted more than 500 of such benchmarking exercises in 34 countries so far, allowing for a country-specific mapping of the performance of cluster organisations[6].

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[6] More detailed information about all benchmarked cluster organisations is available at www.cluster-analysis.org

3 Findings

3.1 Framework of Support Services

Based on ECSA's experience, a broad spectrum of support services[7] for cluster management organisations can be offered (regardless of who provides these services), ranging from the "one-fits all" concept to very individual support services. Consequently, four categories of support services can be distinguished:

1) **Very general** support activities intended for all cluster management organisations, even for those without any active involvement;

2) **General** activities from which all cluster management organisations could benefit (in those cases where participation is understood as active involvement in the activity);

3) **Specific** activities focused on the individual needs of a smaller group of cluster management organisations or a particular technological and/or industrial sector;

4) **Very specific** individual activities dedicated to the special needs of a selected single cluster management organisation.

With regard to the scope and content of support services, the following four pillars can be identified being provided in various cluster programmes:

a) **Public relations and marketing**, for the entire cluster programme in general and as well as for all clusters or only specific clusters of the cluster programme;

b) Provision of **training** for specific aspects of cluster management organisations or for improving the level of professionalization of cluster management organisations;

c) Internal (among the cluster management organisations being part of a cluster programme) and external (between cluster management organisations not being part of a cluster programme, domestic and international) **networking**;

d) Managerial and technical support, **coaching, and consulting** for cluster managers or cluster management organisations of the cluster programme.

1) – 4) and a) – d) can be merged into a matrix as shown in Table 2. Fields marked with "x" indicate where the implementation of support services is feasible and could be beneficiary, for both, the cluster management organisations and the cluster programme in general. There are different cluster management training courses offered by various organisations in Europe, which offer general support for cluster managers (**Type 2D** according to Table 2). The most advanced training scheme is that of the European Foundation for Cluster Excellence[8]. Those approaches are mainly intended for cluster management organisations which are quite young (or more or less specific).

However, experience has shown that providing specific or very specific direct support/coaching (**Type 3D and 4D** according to Table 2) to cluster management organisations is most challenging. It has to be implemented in a very professional as well as in a tailor-made way, according the individual needs of a given cluster management organisation. But exactly such support is needed to really improve the existing level of cluster management organisations. The weaknesses of European cluster management organisations identified in chapter 3.1 cannot be

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[7] Support services can be understood as non-monetary actions to be undertaken, like coaching, training, hands-on advice, technical assistance etc.

[8] http://clustercompetitiveness.org/

eliminated by general training courses for cluster managements, but rather by very specific tailor-made support services. When cluster programmes really strive for cluster management excellence, such support services for cluster management organisations must be an integrated part of the overall programme.

	1) very general	2) general	3) specific	4) very specific
A) PR and Marketing	X	X	(X)	
B) Training		X	X	
C) Networking		X	X	
D) Direct support/coaching		X	X	X

Table 2: Framework of and priority areas for cluster support services

3.2 Findings from Discussions with the Implementation Agencies

As previously mentioned, we have identified three cluster programmes in Europe, which have been offering support services for cluster management organisations for many years now in order to encourage them to strive for cluster management excellence:

- NCE/Innovation Norway (Norway), still ongoing
- Kompetenznetze/VDI/VDE-IT (Germany), from 2007 until 2012
- Cluster Programme Lower Austria/ecoplus (Austria), still ongoing.

In the following, the programme objectives and, what is even more important, the approaches of how to deliver high-quality support services for the benefit of the cluster management organisations are described.

3.2.1 Norwegian Centres of Excellence (NCE), Norway

From the very beginning, the Norwegian NCE programme has been focusing on the creation of national and international champions. Its main objective is to facilitate growth by generating and reinforcing cooperation-based innovation and internationalisation processes within clusters with clear ambitions and substantial national and international growth potential. At the beginning of the NCE programme, mainly funds were distributed among the twelve benefitting Norwegian clusters. Innovation Norway has been appointed to manage the NCE programme.

The monetary funding of the NCE programme (and ARENA, the second national cluster programme) is quite limited. The value of the programmes is more seen in the available additional services and the value of the label "NCE/ARENA". The "NCE/ARENA label" is nationally and even more regionally considered as a quality label for clusters.

Through a number of measures at national level, the implementation agency Innovation Norway helps to disseminate information and know-how to and between the cluster management organisations (projects) in the NCE/ARENA programmes. Each cluster has its own responsible person as point of contact at the local Innovation Norway office, dedicated to assist the cluster management and serving as a "door opener" and guide to the various programmes and schemes offered by Innovation Norway.

Support services of Innovation Norway for cluster management organisations cover all types mentioned in Table 2 and include:

- **Programme website:** The programmes have launched two websites www.arenaprogrammet.no and www.nce.no. Apart from providing general information about the programmes, the websites also help to share experiences gained from cluster management organisations (projects) participating in the programme.

- **Project workshops:** These are organised for project managers being part of the programmes (cluster managers and selected staff), and are aimed at learning and exchange of experience. Project workshops are normally organised twice a year. Cluster managers are expected to participate in these workshops.

- **Professional workshops/seminars on special subjects** which are regarded as an important issue for the work on cluster development (tailored for cluster management teams, steering committees, and/or cluster managers).

- **Courses:** Various courses and workshops are offered. Examples include introductory courses for new project managers (cluster managers) and board work courses for the steering committee.

- **Systematic learning** from ongoing and completed Arena/NCE projects through a dedicated learning arena.

- The program management of NCE/Arena at Innovation Norway is conducting annual **strategic dialogues** with all Arena and NCE cluster management teams.

- **Project advice:** Innovation Norway has access to capable external experts with operational experience on cluster management. These can serve as advisers and discussion partners for the cluster management regarding subjects such as organisation, management, process implementation, and strategy work for the NCE /ARENA clusters.

- **Special studies:** Studies/analyses can be initiated in order to address the need for gaining knowledge on relevant and specific subjects, in order to answer explicit questions.

- **Study tours:** Innovation Norway initiates study tours to various destinations to learn more about the work of clusters and cluster development in other countries (normally bi-annually).

- A regular annual meeting - with all NCE cluster managers attending - is implemented, the "**Norwegian Cluster Manager Forum**". The scope and main topics normally are discussed beforehand among the cluster managers and Innovation Norway. The overall approach is a great success and is repeated regularly; the set-up is described in the following:
  - The event is organised by Innovation Norway, but external experts are appointed for contributing with inputs.

  - Cluster managers of NCE and ARENA programmes are invited and are interacting with the aim of exchanging experiences and mutual learning.

  - The event in general consists of three parts: The opening part, where international experts are providing new insight views and trends in global cluster (management) development. A second part, where - based on a given case - dedicated cluster management specific topics are discussed in detail with international experts. And finally a third part, which aims at increasing networking activities of the cluster managers among themselves.

- o Additionally, the scope of the event will be broadened in the future by inviting even more international experts and by labelling the forum as a TCI[9] event in order to gain more recognition.

3.2.2 "Kompetenznetze Deutschland", Germany

The German government realised some years ago that hands-on support for cluster management organisations would contribute to a better cluster management. Funding of young/embryonic clusters (cluster initiatives) was mainly seen as a responsibility of the regions (Bundesländer) at that time. Thus, the federal government started to provide an additional, non-monetary support scheme for the most matured cluster management organisations in Germany. The cluster programme "Kompetenznetze Deutschland" provided exclusively technical and managerial support and no direct funding. Since the beneficiaries had been matured clusters (cluster management organisations) that fulfilled certain quality criteria, receiving funding in many cases for them was not the key challenge in their further development.

The Federal Ministry for Economics and Technology (BMWi) appointed VDI/VDE Innovation + Technik GmbH (VDI/VDE-IT) in 2007 to support the member clusters of "Kompetenznetze Deutschland". VDI/VDE-IT is a private innovation support provider, well experienced in network and innovation support, and thus in general well-prepared to take a charge for such a task.

As a first step, VDI/VDE-IT set up a core team consisting of three experts dedicated to coordinate the whole programme and an expert team, which consisted of sector experts well acquainted with the industrial sectors (e.g. ICT, Energy, Bio, etc.) where the most clusters were active. The latter team got in close contact with the cluster management organisations, since the staff was able to "speak the same language" as the cluster managers. This contributed to a stimulating and an open-minded information exchange between the two parties.

As a second step, sector experts visited the beneficiating cluster managers and jointly analysed their demand for further support. They intensively discussed what kind of support was most relevant. These discussions led to a set of common training needs. It was interesting to notice that many cluster managers had mentioned similar demands, although they had been working in different industrial sectors. Of course, cluster managers also expressed sector-specific needs, but this, has not frequently been the case in fact. Finally, about six prevailing (training) needs were identified, which had been mentioned by most of the cluster managers:

- Becoming acquainted with other cluster managers for mutual learning and experience exchange;
- How to better stimulate innovations among cluster participants?;
- How to set up new support services for cluster participants?;
- Marketing and public relations;
- Benchmarking as a tool for mutual learning;
- Legal and tax issues (for associations like registered societies).

The VDI/VDE-IT core team, which had good experiences in cluster management issues as well, turned these needs into a dedicated training scheme. Depending on the needs, some training was offered by VDI/VDE-IT staff, other training topics were sub-contracted to external experts. However, the VDI/VDE-IT core team has always been in the position to coordinate and follow-up all support measures.

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[9] TCI is the leading global network for practitioners, policy-makers, researchers and business leaders working towards improving competitiveness in regions and clusters. TCI is a non-profit, non-governmental organisation, with a global scope, open to members from all countries throughout the private, public and voluntary sector (www.tci-network.org).

During the entire duration of the programme (until 2012), VDI/VDE-IT had been in close contact with the cluster managers to identify further training needs. Over time, further well experienced cluster managers have also been appointed to train less-experienced colleagues (mutual learning, peer-learning). In 2013, a new German Cluster Excellence Initiative (called go-Cluster, www.go-cluster.de) was launched, which took over major parts, including the support service scheme for cluster management organisations).

3.2.3 Cluster Programme Lower Austria, Austria

In Austria, three regional cluster programmes have been assessed for Upper Austria, Lower Austria, and Tyrol.

In all cases, the regional government has given a contract to an organisation to host the cluster management for regional clusters and at the same time, to act as a programme implementation agency. Thus, the cluster management teams make use of the competences and services offered by their host organisation. The cluster management team can furthermore benefit from services provided by external specialists and consultants. Any services offered directly from organisations of the macro-level of the innovation system (the regional government in particular) are not foreseen.

Being part of the staff of the implementation agency, the cluster management team is regularly assessed regarding life-long learning needs (just like all employees of the implementation agency). Individual action plans for the personnel are negotiated on an annual basis, and the training activities are carried out, using internal resources as well as available external opportunities.

Furthermore, the national government provides a range of services for all cluster management organisations in Austria, notably the "Austrian Cluster Web Platform" (www.clusterplattform.at). In this context, the ministry has contracted a consultant to organise dedicated working groups for this purpose.

Thus, the support services in Austria mostly concentrate on aspects of training for individual people rather than on supporting cluster management organisations as a whole.

3.2.4 Summary view

Based on the interviews conducted with representatives from these three implementation agencies, the following key success factors for support services can be derived:

- Implementation agencies must build up a **trustful communication** with the cluster management organisations. Both of them have to consider themselves as peers and partners. Cluster managers should not fear any negative impact or consequences when talking about needs for improvement and/or training.

- Staff of implementation agency must have a **sufficient knowledge** about cluster management issues and current trends in order to be accepted by the cluster managers for mutual discussion. Sufficient knowledge is mandatory for the staff of the implementation agency, in order to understand the needs of the cluster managers and to turn their demands into proper training schemes.

- Training measures have to be of **high quality, tailor-made and demand-oriented**; otherwise the acceptance and outcomes of the services will be low. Standardised training schemes, such as general courses on project management, software or presentation skills, etc., should not be offered. There are numerous active providers of such trainings available on the market.

- There must be a **common understanding** of the **main purposes** of the support services offered among all parties involved. The demand for additional training and support services shall not be considered as a failure of the cluster management organisa-organisation, but rather as an opportunity for improvement.

- Training and support services have to be considered **voluntary** for the cluster managers. Only if the training is voluntary for the cluster managers, they will be really open-minded to actively participate and to learn from each other.

- A **broad spectrum** of services should be offered by the implementation agency. Even though cluster managers often articulate common training needs, it is very likely that a wider spectrum of topics will be mentioned. Experiences have shown that it is not sufficient to only focus on one or two different topics. A broader set of training courses or support services has to be offered to reach all interested parties.

- Close **feedback loops** have to be conducted by the implementation agencies after each training to assure follow-up or further improving measures, if appropriate. Training courses or specific support for cluster managers are sometimes a nucleus tackling issues for new support schemes. In order to assure high quality and demand-orientation of the training schemes, the implementation agencies have to stay in close touch with the beneficiaries.

- **Continuous process of identifying support services** for the benefit of the cluster management organisations in order to identify future demands as early as possible. Since the tasks and requirements of cluster managers are continuously changing, the implementation agencies have to set up a continuous process to analyse the upcoming training needs of the cluster managers.

3.3   Findings Based on the Opinions of Cluster Managers

Cluster managers from different European countries have been selected according to the criterion of having already been awarded with the "European Cluster Management Excellence Label GOLD – Proven for Cluster Excellence" or at least with the "European Cluster Excellence Label BRONZE – Striving for Cluster Excellence"[10]. Especially the first group (Gold-labelled cluster organisations), has proven to be "excellent". Thus, it was important to understand what kind of support schemes or programmes were most beneficial for them.

The widely held view that such services should not have been directly offered and operated by the (public) authority (ministry or funding agency) providing also the funding as such, was identified as clear bias as the interviewees tend to recommend involving private consultancies and practitioners. If a specific "funding agency" is set in place to implement a cluster programme, such agency can be well prepared to offer such services, too. In this particular case however, it has to be ensured that the agency concerned has appropriate human resources available for the implementation of such tasks, possessing the required competences, skills, and backgrounds. Furthermore, conflicts of interest are to be avoided; these could occur when the implementation agency - being for instance responsible for decision-making regarding the provision of funding to the clusters - coaches or trains a cluster management organisation on how to apply properly to receive funding from the same programme. If such a case occurs, it should be made sure that the implementation agency could guarantee a high level of confidentiality of information between the teams being responsible for funding administration/monitoring

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[10] Please refer to www.cluster-analysis.org for all information regarding these labels developed in the context of the pan-European projects "NGPExcellence" and "European Cluster Excellence Initiative"

and the teams being involved in the direct coaching/consulting of the cluster management organisations.

If support services are offered, cluster managers usually participate in activities of their interest. However, there is no clear picture regarding the degree of satisfaction among the cluster managers: Some cluster managers have reported at least medium satisfaction in more or less all activities they have participated in. Other cluster managers have stated that they were rather unsatisfied. In most cases however, it has been reported that the participation in activities of cluster support services has had at least a small effect or impact. This feedback points out, again, that the quality and demand orientation of the services, are highly recommended.

3.3.1   Summary view

In summary, based on the gathered opinions of the cluster managers, the following key success factors have been identified for effective support services or training activities:

- **High demand orientation**
  Support services should directly address the individual areas of interest of cluster managers - the higher the needs are, the higher are also the interests to actively participate. The results and/or benefits of such support services provided by the implementation agency should be of direct use in the operative cluster management.

- **Practice orientation, high quality**
  Practitioners and experts should be involved in conducting such support services or trainings in order to assure that the topics fit the demands of cluster managers and that the content is very practice-oriented. Cluster management is a highly specialised activity and many experiences from other areas cannot be easily transferred 1:1 to the cluster management areas. Involvement of practitioners, (cluster) experts as well as of cluster managers as teachers/coaches assure that the advice and training really match the day-to-day issues of the cluster managers.

- **Training combined with experience exchange and networking with others**
  Support services and trainings should offer the possibility for exchanging experiences with other cluster managers, not necessarily from similar technological/industrial areas. Such an approach could include peer-reviews and mutual learning from other cluster managers.

- **Communication and consistent execution with stable principles**
  To be successful, each and every programme requires trust, co-operation and commitment from the implementation agencies as well as from the cluster managers and also a long-term strategy accompanied by a consistent execution. However, as the economic circumstances are always on the move, the actors need stability and stable principles. In order to achieve these aims, it is a must to ensure a continuous communication among all partners.

4 Best-practise Examples for Support Services

In the following section, some cluster support services are described (and put into relation to the priority areas identified in Table 2), which have proven their feasibility and positive impact during the past years.

Type A1: PR and marketing, very general

Initiation, development, and implementation of a "brand", including logo, corporate identity, etc. of the cluster programme in general

- A brand should be provided to all participating parties (public authorities, contractors, cluster management organisations, etc.) to be used in all types of communication. In this way, an "easy to remember" recognition and visibility can be established. This approach is especially of added value if a regional or national cluster programme supports the most matured clusters. In Germany, the programme "Kompetenznetze Deutschland" had established such a "word-picture brand", being IP-protected in all European countries. The visibility of the brand has generated a large number of requests worldwide regarding specific technologies, regions, and match-making opportunities. Other examples of programme branding are the French *Pôles de Compétitivité* as well as the Norwegian NCE programme.

    Driving force: Implementation agency (funding ministry); for the cluster management organisations being part of the programme, no specific contribution is required.

Type A1: PR and marketing, very general

Web presence of the cluster programme including information and links to the clusters participating in the cluster programme

- A web page of the cluster programme should be developed to represent the "innovation showcase" of the entire region/country. The web page is supposed to give more general information (on the region/country) and present the priorities of further economic/social development. Clusters with their aims and objectives as well as their contact information should be listed (and updated regularly); reference documents and other information should be available for download; a search facility should allow for searching specific issues. Furthermore, links to the web pages of the cluster management organisations should be available. Experience has shown, however, that the quality of web pages of cluster management organisations varies. Therefore, it could be an additional objective for support services (type A3) to assist cluster management organisations with the set up of an informative web presence and the development of a well-designed branding. In most cases, the programme's web pages are dedicated to international PR and marketing. Therefore, English language is mandatory; further languages could be considered to better match the needs of regions and countries strategically addressed.

    Driving force: Implementation agency (funding ministry); for the cluster management organisations being part of the programme, no specific contribution is required.

Type A1: PR and marketing, very general

<u>Public</u> **general meeting of the cluster programme and the participating cluster management organisations**

- The success of a cluster programme should be communicated to the interested broad public. A public general meeting (for instance annually) could serve as an appropriate measure. The agenda of such a meeting should be interesting for all actors of the triple-helix, especially for the cluster management organisations. Such an event could be divided into a more technical part (presentation of current trends of clusters and cluster policy or major challenges, etc.), which is of interest for the cluster management organisations and/or policy-makers. The other part could be more general to exchange information or for networking purposes, etc. Thus, all groups of participants could benefit and profit from the opportunity for a mutual exchange of opinions and specific match-making. An excellent example is the annual meeting of "Kompetenznetze Deutschland" and "go-cluster".

  Driving force: Funding authority (ministry), implementation agency, in cooperation with cluster management organisations being part of the programme.

Type C2: Networking, general

General meeting of all cluster management organisations participating in the programme

- A general meeting (for instance annually) could serve as an appropriate measure for exchanging experiences among the cluster management organisations participating in a specific programme. The agenda of such a meeting (open also to other stakeholders of the cluster programme) should be interesting for all actors of the triple-helix, particularly for the cluster management organisations. Such an event could be divided into a more technical part (presentation of current trends of clusters and cluster policy or major challenges, etc.), which is of interest to the cluster management organisations and/or policy-makers. The other part could be more general to exchange information or for networking purposes, etc. Thus, all groups of participants could benefit and profit from the opportunity for a mutual exchange of opinions and specific match-making. An excellent example is the Norwegian Cluster Manager Forum, organised by Innovation Norway for ARENA and NCE member cluster management organisations.

  Driving force: Implementation agency, in cooperation with cluster management organisations being part of the programme; cluster management organisations should propose relevant topics to be discussed during the meeting/conference.

Type B2: Training, general

Thematic workshop for all cluster managers of the clusters participating in the cluster programme

- Thematic workshops can be intended for the majority of cluster management organisations of a programme, if they are dealing with quite general topics, like internationalisation or cluster management excellence. The scope of such workshops aims to stimulate a brainstorming, increasing awareness of the participants, and to point out the importance of a particular topic rather than providing specific advice. Such general workshops can be an inspiration for organising similar workshops or trainings in the future, which would then go much more into detail. Especially topics which are of interest to a broader group of cluster managers and where significant knowledge and experience are missing should be chosen.

  Driving force: Implementation agency in close cooperation with cluster management organisations being part of the programme; cluster management organisations should propose relevant topics for consideration, used as a basis for the implementation agency when developing the programme and selecting adequate trainers.

Type B3: Training, specific

Series of workshops with selected cluster managers on very specific topics in the context of cluster management

- This type of workshops is intended for a smaller group of cluster management organisations having expressed similar demands. Typical topics include: sustainable financing of cluster management organisations, innovation management within a cluster, or aspects of communication and the use of social media by cluster management organisations, etc. The scope of this type of workshop is to go more into details and to provide specific tools and recommendations for the participating cluster management organisations. Thus, the number of participants should be smaller in order to enable practical training and group working. A follow-up workshop after a given period can ensure that the participants are actually able to implement (parts of) the training content properly.

  Driving force: Implementation agency in close cooperation with cluster management organisations being part of the programme; cluster management organisations should propose specific topics for consideration, from which the implementation agency has to develop the programme and select trainers. Practice orientation and quality of training are the key for success and acceptance.

Type C2: Networking, general

Organisation of a joint booth on a trade fair for clusters and cluster management organisations participating in the cluster programme

- Cluster management organisations are small organisations. However, even with the limited resources, international recognition is sought. A participation in specific international trade fairs of high recognition can often not be handled alone without external support. A well-designed and well-managed joint booth of the cluster programme, bringing together the relevant cluster management organisations and selected cluster participants, can serve as a measure to present critical mass and to generate international interest.

  Driving force: Implementation agency and cluster management organisations being part of the programme; cluster management organisations should propose the specific trade fairs; the implementation agency should take care of the organisational matters.

Type C3: Networking, specific

Entering international projects (mainly non-R&D) from which the cluster management organisations being part of the cluster programme can benefit

- The participation of VDI/VDE-IT as implementation agency of "Kompetenznetze Deutschland" in the European Cluster Excellence Initiative can serve as a good-practice example. Thus, methodologies of assessing cluster management developed within "Kompetenznetze Deutschland" were transferred to the European level. Many of the high standards which had been applied at national level first are now used internationally. The active involvement therefore was used to initiate and influence a bottom-up standardisation process. Another example is *Clusterland Upper Austria*: This cluster organisation has also participated in the European Cluster Excellence Initiative to internationalise and compare its cluster manager training scheme with other European peers.

  Driving force: Implementation agency (and funding ministry); demands and interests of cluster management organisations shall be taken into account. Implementation agencies should not join international projects which only generate a low added-value for the cluster management organisations of the programme.

Type D2: Direct coaching/general

Benchmarking of cluster management organisations

- The current cluster benchmarking methodology used by ESCA for awarding the "Cluster Management Excellence Label BRONZE – Striving for Excellence" was developed in the context of the German cluster programme "Kompetenznetze Deutschland" between 2007 and 2010, in order to assess characteristics of the clusters participating in the programme and for searching ideas for initiating programme-integrated cluster support services. Nowadays, it is a widely accepted tool for coaching of cluster management organisations striving for excellence. VDI/VDE-IT, as implementation agency of "Kompetenznetze Deutschland", has been offering services around the benchmarking activity to coach interested cluster management organisations on how to improve their work.

  Driving force: Implementation agency (and funding ministry) based on the demands and needs of cluster management organisations.

Type D3: Direct coaching/specific

Supporting clusters from a specific sector in initiating a joint marketing and branding campaign

- Several German food cluster management organisations asked VDI/VDE-IT as implementing agency to provide support in setting up a joint initiative to increase visibility and reputation of the German food clusters. Based on an internal strength-weakness analysis, the food cluster management organisations came to the conclusion that they were too small to enter new global markets, but able to cover a broader product and technology spectrum when going international together. VDI/VDE-IT has coached and co-financed this branding campaign[11].

  Driving force: Cluster management organisations have to approach the implementation agencies.

Type D4: Direct coaching/very specific

Supporting cluster management organisations in specific and individual issues

- Sometimes, cluster management organisations face individual challenges, which they are not able to overcome alone. In these cases, implementation agencies can provide support since they are already experienced with similar issues of other cluster management organisations. Thanks to their good cooperative network, they would also know the appropriate contacts to provide assistance and would be able to initiate the required cooperation. Topics can vary from supporting cluster management organisations to entering international project consortia by finding a new cluster manager or other staff members, or by acquiring specific competences needed.

  Driving force: Cluster management organisations have to approach the implementation agencies.

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[11] Please refer to www.giqs.org/fileadmin/web_giqs/content/PDFs/A4_German_Food_Clusters.pdf

5 Experiences Required for the Provision of Cluster Support Services

A key success factor for the provision of cluster management support services is the degree of skills and experiences of the staff of the organisation being involved in delivering these support services. The following list indicates general important issues in this context:

- **Practical experiences in cluster management related topics:**
  It is necessary (or at least beneficiary) that the staff of the service provider has sufficient knowledge about clusters and cluster management. The quality of the services delivered to cluster management organisations strongly depends on the understanding of their needs as well as on knowledge on how these needs can be addressed by adequate support services. For both, sufficient know-how is mandatory.

- **Knowledge of successful cluster management approaches being successfully implemented by various cluster management organisations, nationally and internationally:**
  Identifying good practices and adopting them to the relevant training schemes is a key for delivering tailor-made and up- to-date services schemes for cluster management organisations.

- **Analytical and communication skills:**
  Support services delivered for cluster management organisations are often based on need analyses and communication between the cluster management staff and the staff of the delivering organisation. Thus, appropriate analytical and communication skills are mandatory for the team of the delivering organisation. Weaknesses to be addressed and suitable improving actions are often not easy to identify; mostly they are results of a longer, trustful communication between both partners.

- **Understanding of programme objectives:**
  Support schemes for cluster management organisations are only one element of the entire cluster support programme. In order to make sure that the provided services are really in compliance with the overall programme objectives, the staff of the delivering organisation should be well informed about the political intention of the cluster programme and about its aims.

- **Commitment:**
  Delivering support for cluster management organisations is a longer process which is based on trust and commitment of all partners involved. Thus, the delivering organisation should not consider these tasks as one project among many others, but should rather feel strongly committed to deliver the professional services over a longer period. The progress of the development of the cluster management organisations shall also be understood as a success of the organisation delivering the support services.

- **Flexibility:**
  Experience has shown that needs and framework conditions for cluster management organisations may change over time. The staff of the delivering organisation must therefore be able to be flexible and open-minded in order to follow these changes and adopt their support schemes accordingly.

- **Technical or sector-specific knowledge:**
  Furthermore, knowledge and experiences from the specific industrial and/or technological sector are necessary, in particular when support is to be provided in a very individual manner or for a group of cluster management organisations with similar sectorial backgrounds.

It has proven to be very useful to actively involve cluster managers into the support services, of course in a manner that avoids conflicts of interest on both sides - the providers of knowledge (the trainers) and the cluster managers to be supported (the trainees). In such a case, the role of the delivering organisation and its staff changes: The selection of external experience to be integrated and issues like stimulating, facilitating, and moderating the measures become more important. A wish for involving practitioners, peer cluster managers, and external sources has clearly been mentioned by cluster managers. In particular, if internationalisation is an important general issue, these external experts should be recruited on an international level as well.

6 Recommendations for Future core Support Services for Cluster Management Organisations

6.1 Proposed procedure for introducing support services in the context of a new cluster programme

In case that support services for cluster management organisations should become a core element of an existing or an upcoming cluster programme, it is recommended to follow a five-step procedure. This step-by-step procedure will ensure that support services offered will meet the demand of the cluster management organisations and will be widely accepted.

Step 1:

Assessment of the demands for cluster management support services: Different approaches can be selected for this step. It might be that reliable data about the cluster organisations and their performance already exist (e.g. cluster benchmarking reports, evaluations, customer satisfaction analyses, etc.), which can be used for assessing the demand. Otherwise work-shops or face-to-face interviews are a good approach to assess the demand. In addition, a strength/weakness analysis might help to clearly identify the current demand.

Step 2:

Based on the findings of step 1**, first ideas of specific cluster support services** can be outlined and can serve as a starting point for a discussion with the cluster managers. It is recommended that a representative of the implementation agency discusses the demands with each cluster management organisation individually, preferably during a visit on-site.

Step 3:

The findings from step 1 and 2 as well as the resources and competences available for cluster support services will then allow to **set up a first programme of cluster management support services** to be offered. Since not all ideas will be feasible concepts for implementation, a priority setting could eventually be necessary. However, at that time, the programme owner should also select the implementation agency (or tender the services), which will be responsible for implementing the support scheme.

Step 4:

Conducting the **first priority activities**

Step 5:

Evaluation of the effects and impacts of the first priority activities and collection of feedback of cluster management organisations having participated: A discussion and implementation of corrective actions should follow in order to implement the desired modifications.

6.2 Examples for new Cluster Management Support Services

In several European countries and from the viewpoint of DG Enterprise and Industry of the European Commission, improving the quality of cluster management was identified as a priority option of cluster policy in 2009. However, dedicated measures to improve cluster management excellence by new support schemes have not been implemented in all European Member States, although the need is unquestionable.

Support services as part of a (new) cluster programme should therefore address the issue of guiding the cluster management organisations towards an excellent cluster management. When analysing cluster management organisations being awarded with the "Cluster Management Excellence Label GOLD – Proven for Cluster Excellence" and comparing their evaluated characteristics of cluster management with the numerous cluster management organisations having participated in the benchmarking by ESCA, the following aspects become visible, considered by excellent cluster management organisations when implementing convincing approaches (s. also chapter 3.1):

- **Customer orientation**:
  Understanding cluster participants and other stakeholders of the clusters as "customers", meaning that a customer-specific communication and action plan exactly matches their (different) expectations for gaining added value through the cluster.

- **Strategy**:
  An excellent cluster management acts according to well-documented, continuously reviewed strategic objectives. As part of the development of the strategy, various inputs are considered and strategic tools are used; the cluster strategy (or strategies regarding specific pillars of activity, like internationalisation, R&D, or location marketing) is developed with significant contribution from industrial stakeholders, especially from the committed participants from industry; a clear translation of the strategic objectives into a realistic, but ambitious and challenging implementation and action plan; an efficient monitoring and update process for the strategy and the implementation plan.

- **Taylor-made services**:
  A well-balanced spectrum of services, not too broad, focused, but at the same time not too specific, with a significant intensity of services in the selected focus areas; the cluster management should be the driver; the more is being offered, the higher the probability that participants and other stakeholders of the cluster will be able to benefit.

- **Communication**:
  "Be successful and announce it!" Cluster management organisations should be able to implement a proper communication strategy and in particular, to sell their successes properly.

- **Experience of the Cluster Management Team**:
  The team is the most important resource for the cluster management. Investments in human resources and life-long learning will enable the cluster management team to better cope with future challenges the cluster and the cluster management organisation will face.

There are several pillars the cluster support services should be built on. **Pillar one** addresses key needs or aspects of cluster management organisations in a series of workshops, where cluster managers are supported in finding their individual approach of improvement:

- Effective cluster administration with low efforts: Developing relationships with cluster participants and cluster customers – strategies, tools, best practice examples;
- Strategy and strategy development: Mastering future challenges within the cluster;
- Cluster internationalisation: more than only export;
- Smart specialisation: developing a unique position, regionally and technologically;
- Measuring and communicating successes: "Be successful and talk about!"

Cluster management organisations should also have an idea on how to measure their achievements. Complementing such training measures aiming for improvements in cluster management, a possibility should be provided to neutrally measure and demonstrate the status of cluster management quality reached.

A **second pillar** of cluster support services should address PR and marketing activities for the entire cluster programme, in particular towards the international community. It is recommended to develop a brand for the "given country's or region's" clusters, framed by an internationally recognised web presence, which (if well-designed and implemented) allows external interested parties to search for specific issues and which offers hence the possibility to access the entire framework of clusters and actors of the micro-level of the "given country's or region's" innovation system. This second pillar of cluster support is particularly directed to the specific situation of the given country or region.

As a **third pillar** of cluster support services, it is recommended to initiate a regular (annually) general meeting of the cluster managers being part of the given cluster programme, similar to the approach being used in Norway. The content of such a meeting could be a point of discussion when performing step 2 (see chapter 6.1). If it is found that topics of pillar one are of general high interest, a merge of aspects of pillar one with pillar three could be considered.

As a **forth pillar,** individual coaching and hands-on advice shall be part of the cluster support services spectrum. In these cases, very precise and tailor-made support has to be given to individual cluster management organisations. Although this might be the most time-consuming and challenging part, it is expected to have the highest impact on the performance of the supported cluster management organisations, provided that the implementation agency offering such advice ensures a high level of professionalism.

7 Authors

ESCA is the European Secretariat for Cluster Analysis. Based in Berlin and hosted by VDI/VDE-IT, ESCA supports in particular cluster managers and policy-makers with advice on cluster development. ESCA experts have developed a methodology for cluster benchmarking that is acknowledged by both, cluster managers and policy-makers throughout Europe. Since 2008, more than 500 cluster management organisations have been benchmarked according to this methodology. Having additionally been involved in the European Clusters Excellence Initiative (ECEI) from 2009 to 2012, ESCA experts have contributed to the development of tools that support cluster managers on their way to excellence. Furthermore, ESCA works for cluster policy-makers regarding issues of implementation and evaluation of cluster support programmes.

Please refer to www.cluster-analysis.org for further reference.

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