CLUSTER-LIKE ORGANIZATIONS AS INTERMEDIARIES

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Abstract
Clusters started recently became to be called as the “fuels” for national economic growth (Audretsch, 2000). They are seen as drivers for entrepreneurship and innovation through assisting firms with complementary competencies and creating arenas for collaborations (Oakey, 2007; Porter, 2000). Clusters combine different types of actors by providing linkages between them. Similar approach is raised in the Triple Helix model. These models highlight importance of variety of relations within clusters. The diversity of actors leads to the need for organizations specializing in intermediating between them. This is what we call a cluster-like organization – an organization that operate within a cluster and intermediate between different actors with a certain aim. They could be very small but in the same time take advantage of the size and resources of a cluster (c.f. Kaiser, 2003; Etzkowitz & Leydesdorff, 1998; Etzkowitz & Klofsten, 2005). In this paper we approach cluster-like organizations as intermediaries, which “go in between” others to fulfill a certain need for their stakeholders. However, there are very few studies about cluster-like organizations as intermediaries and relatively little knowledge about how they operate in this particular role. This study therefore addresses the issue of the intermediating roles within various types of cluster-like organizations and provides answers on questions in what way clusters intermediate, which actors involved in this process and how such cluster role was developed.

Introduction
Over the past decades we have witnessed an increase interest in the concept of clusters for a variety of reasons. Clusters are seen as important engines for economic growth and job creations (Porter, 2000). Additionally, within clusters are seen entrepreneurial activities leading to emergence of new ventures and promoting growth of firms. There is also a big interest from both research and practice concerning networks and cooperation between the actors that are making up the clusters (Roelandt et.al. 2000; Maskell, 2001, Oakey, 2007). Another dimension of cluster is innovative climate that could be developed for enhancing learning and knowledge transfer within the cluster organization. Such emphasis becomes an approach facilitating growth in majority of businesses and regions and this had created a highly competitive climate within regional and world economies (Lundvall & Borras, 1997).

What is a cluster then? To be able to answer this question we have to go back to the early research by Marshall (1921) where he describes what he calls “Industrial Districts”. Such districts are the territories where settled down firms concentrate because of closeness to resources, technical complementarities, physical conditions, special “atmosphere” (climate, soil, mines), and interplay between competition and cooperation. A few decades later Dahmen (1950) addresses a
similar phenomenon under the name “Development Blocks”. The explanation of development blocks is concentrated around entrepreneurial activities leading to innovations, which create complementarities, i.e. dependency between functions of institutions, infrastructures, and production. During the nineties Michael Porter (1998) raises the concept of “Clusters” which became influential for many other researcher investigating regional development and economic growth, e.g. Sövell et al. (2003), Park (2004), Oakey (2007), and Sövell (2009).

Porter defines clusters as follows:

“…geographic concentration of interconnected companies, specialized suppliers and service providers, firms in related industries, and associated institutions (universities, standard agencies, and trade associations) in particular field that compete and cooperate.” (Porter, 1998, p.1)

The current understanding of cluster become richer in comparison to those early views (“Industrial District” and “Development block”) and it is characterized as a new organizational form serving as a tool for creating arenas for collaborations, finding complementary competencies, sustaining competitiveness, increasing productivity, facilitating innovations, and initiating new business formation (Porter, 1998; Porter, 2000; Sövell, et al, 2003; Oakey, 2007; Audretsch, 2009; Sövell, 2009).

Kaiser (2003) argues that clusters combine industries, governments, non-governmental organizations as well as universities, research institutes, and management consultancies by providing linkages between them, stimulating emergence of networks and increasing value added of their actions (c.f. Cook & Pandit, 2005; Groen et al, 2002). Similar approach is raised by Etzkowitz & Leydesdorff (1998) called the Triple Helix model, which is constituted of relationship between three major groups of actors; universities, firms and governmental agencies. The advantage of this model is that it highlights the importance of variety of relations within clusters not just between private firms but also including actors from the political and academic spheres (Etzkowitz & Klofsten, 2005). This diversity of actors leads to the need for organizations specializing in intermediating between them. Such intermediary organizations can be formed in clusters and are here called cluster-like organizations.

An intermediary is described as follows:

“an organization performing middle-hands actions between others through brokering, facilitating, promoting, which provides these others actors with information, knowledge, competencies, and other supporting service.” (Hallström & Laur, 2011 (forthcoming), p. 26).

Following this logic cluster-like organization could for example organize different events, provide training, advice for new entrepreneurs, and facilitate networking between actors (Kazis, 1999; Fitzgerald, 2000; Lundequist & Power, 2002; Benner, 2003; Bäckström, 2006; Steward & Hyysalo, 2008). However, in different clusters intermediary functions can vary depending on their aims, strategies and areas of operations (Steward & Hyysalo, 2008; Moss et al, 2009; Bessant & Rush, 1995).
Aim and Research Questions
This paper approaches cluster-like organizations as intermediaries, which “go in between” others to fulfill certain needs for their stakeholders. Over the years there have been several studies of organizations that can be seen as cluster-likes e.g. incubators (Bergek & Norrman, 2008); science parks (Baltes & Gard, 2006), and technology transfer offices (Jones-Evans et al, 1999). These studies have for example dealt with strategic aspects as well as detailed operative issues of these organizations. However, there are very few studies concerned with a broad perspective of intermediation giving a comprehensive framework of the various functions of cluster-like organizations.

This leads to the aim of this paper is to explain the various mechanisms through which cluster-like organizations intermediate between other organizations. This study particularly aims to create understanding of intermediary functions performed by different types of cluster-like organizations, which differ either in area of operations, patterns of formation, size, age, structure, or strategy. These organizations are viewed not as simple organizational entities, but as types of entrepreneurial intermediaries, which are between the other ones.

As mentioned previously cluster-like organizations are going in between to enhance certain activities. There is a reason to believe that cluster-like organizations could perform a variety of functions to fulfill certain needs of their stakeholders. Therefore, the first research question is formulated as follows: 1) What were the main driving forces behind the forming of cluster-like organizations?; 2) In what way are cluster-like organizations intermediating?; and 3) Who are the actors involved in these activities?

The outcome of it might advance theoretical basis within the area, which could have a positive impact on practices development, e.g. cluster-like organizations management, improvement of regional development.

Methodology and data
In order to understand the intermediary role of cluster-like organizations, we selected four Swedish cluster-like organizations on a basis of their aim, activities, type of networks, members, and location. We also wanted to look at organizations with somewhat different aims and approaches to their networking members. The clusters selected are:

- **RockCity** founded in 1996 (Hulfstred). It was created on collaborative basis between small firms and academia, which strives for development of knowledge in music and digital media.
- **SMIL** founded 1984 (Linköping) is a network of knowledge-intensive firms, which strives for business development and promoting entrepreneurial skills of its member firms.
- **TIME** founded in 1999 and closed down 2004 (Stockholm) was focusing on development of telecom, IT, media technologies and entertainment.
- **UppsalaBIO** founded 2003 (Uppsala). The organization is specialized in pharmaceutics, biotech, diagnostics tools, and heavily focusing on collaboration of industry actors and scientific institutions.
An interactive case study approach through in-depth interviews in combination with operational manuals, evaluation reports, and other documents describing the activities of cluster-like organizations have been used within this study. All together four interviews had been performed with leaders of the organizations and each interview took approximately 1.5 - 2 hours and contained 16 open-ended questions. All of these questions were developed and formulated in cooperation with the respondents. The information gathered from the interviews as well as the documents were discussed and anchored with the respondents. Collected data was summarized in case study database in terms of cluster-like organization identity cards and protocols (c.f. Yin, 2009). These tables served as tools for analysis of each cluster-like organization, both analyzing each cluster-like organization per se as well as making comparison between them.

Results and Analysis
This study deals with how and why cluster-like organizations were initiated, what type of intermediary activities they perform as well as what actors are involved in these intermediation processes. Table 1 below summarizes the data concerning the initiation and development of the cluster-like organizations as well as in what way they intermediate, their activities, and core actors involved.

Table 1: Characteristics of the selected cluster-like organizations

<table>
<thead>
<tr>
<th>Organization</th>
<th>Initiation and development</th>
<th>Intermediating activities</th>
<th>Core actors involved</th>
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<tbody>
<tr>
<td>RockCity</td>
<td>Started by a musician and his friends, which were driven by a vision to establish musical festivals in rural district of Hulsfred. They all were driven by common interest in music and wanted to create more music activities in the area. This was the first step in RockCity which became a great success attracting the leading rock bands and festival visitors from all over the world.</td>
<td>Promoting the regional music industry. Creating opportunities for small firms to organize activities - a ‘playground’ for any kind of festival events, linking actors with different kinds of expertise. Providing increased financing from regional and governmental actors. Creation of image for the region, putting municipality on the national and international map, creating an entrepreneurial environment and spill-over effects on other types of businesses. Joint networks and events creations, support in handling event organizations, providing of meeting places, facilitating training in music disciplines for students. Members give a crucial input for developing relevant activities and suggestions for future development of the region.</td>
<td>Micro firms specializing in music and media, Vaxjö and Kalmar University, Hulsfred Municipality. There is openness for all types of organizations to become members. Members pay for organizing events as well as for participation in them.</td>
</tr>
<tr>
<td>SMIL</td>
<td>Started by people at the industrial liaison office at Linköping University together with entrepreneurs in the former spin-off firm-club at the same university. Start-ups from University usually have great technology skills but poor experience in business development and the simple reason behind SMIL was an expressed improvement of entrepreneurial skills through networking and training, as well as access to research-based knowledge. Test bed for further development of activities within university as well as within member-firms. Reduction of distance between academy, policy actors and industry</td>
<td>Knowledge intensive firms and Linköping University. SMIL is open for other types of actors that could support the aim of the organization. Members pay annual membership fees.</td>
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need from the entrepreneurs to develop themselves as better managers of the firms. Since then SML, together with The University and CIE (Centre of Innovation and Entrepreneurship) has developed a portfolio of highly recognized activities aimed to promote the growth and development of knowledge-intensive firms.

through providing practical knowledge and experiences as well as access to empirical data.

Entrepreneurs engaged in guest lectures at university and participating in interactive research. Students develop business plans for member-firms.

| TIME | Initiated by one of the employees from Stockholm’s County Council based on a need to coordinate overlapping marketing events within the ICT sector in the Stockholm area as well as a need in attracting new investors. Earlier there were many different initiatives with poor coordination and waste of resources. Better coordination between the initiatives thought to be a good way to create a strong brand of ICT sector in Stockholm. Right after the initiative came to existence a dozen ICT events have been operated, where firms applied for marketing support. | Creating arenas which facilitate contacts with customers, investors and other important actors crucial for firm development, promote possibilities for members to advertise their products and services for the market. Linking available competencies with employers’ needs within ICT sector, utilization of resources through coordinating fragmented marketing and sales campaigns in one place. Organization of fairs, conferences, seminars, new products presentations, networking activities, promotion of events organisers, sponsoring of events. | ICT industry sector firms (from Sweden and other countries), Stockholm City Council as well as the Employment Agency. Events organization is sponsored by governmental agencies. |
| UppsalaBIO | The cooperation was originally started by individuals from Pharmacia company and Uppsala University. Later other firms and governmental institutions joined. The aim was to create a better and more efficient knowledge transfer between academia and industry, research, and innovation. Today the organization includes over 30 member-firms in Uppsala and Stockholm area. | Creating an efficient cooperation between academia and industry. Access to research-based knowledge in terms of technology, management, and production. Organizing lectures within different research areas. Web-based information which makes members visible. Access to pilot studies in order to fulfill gaps in research system. Providing academia with access to valuable empirical data for developing research in knowledge-based industries, platform for commercializing ideas and research findings. Network building, agreements broker, facilitator of dissemination of information and technologies, provider of solutions for existing problems for their members, keep balance between all involved actors. | Universities of Uppsala and Swedish Agricultural University, Uppsala Innovation Centre (business incubator), ALMI (company supporting entrepreneurship), Innovations Bridge (strives for linkage between innovation and research), STUNS (facilitates collaboration between triple helix actors), Uppsala bio Science (international marketing organization), and firms within life science industry sector. Members pay annual fees. |

**What were the main driving forces behind the forming of cluster-like organizations?**

As seen above there are four different types of cluster-like organizations engaged in different types of activities such as musical festivals, networking, business development, coordinating of marketing events, and knowledge transfer between academia and industry. In the RockCity example these activities were driven by the individuals with visions to develop music scene in the region where such a culture was rather undeveloped, but, at the same time, there were many individuals as well as micro-sized firms willing to perform music related activities. Reason
behind creation of SMIL was to improve entrepreneurs’ managerial competences, share knowledge and experiences within ventures development. TIME was initiated to coordinate overlapping marketing efforts, and to attract new investors into the sector for promotion of the whole ICT industry. In the case of UppsalaBIO the reason behind its creation was to facilitate knowledge transfer between academia and industry actors in order to increase number of innovations within life-science industry sector. The foundations of cluster-like organizations come from perceived gaps between existing actors and their need to develop themselves, e.g. through facilitating innovation and entrepreneurship, providing training and education, creating meeting places, and establishing a common brand for the cluster-like initiatives and its’ members.

Sometimes these gaps have been noticed for long time before the actual launch of the cluster-like organization. Informal collaborations and reciprocal support can also precede the actual forming of organization. SMIL and UppsalaBIO are good examples of that and both of them were results of cross-organizational collaboration leading to the start of the initiative. In other cases these gaps are fulfilled directly by cluster-like organizations directly without previous reciprocal collaboration.

The data shows that the driving forces behind starting the cluster-like organizations were individuals’ efforts to realize their visions and engagement of other actors in the region, both people, firms, and public sector organizations. In the case of RockCity they came together to participate and organize events and festivals, while in case of TIME they facilitated promotion of firms and their product portfolios, as well as attracted new investors into the region. Each cluster-like organization started quite early to grow and for example in case of SMIL the network grew from 20 to 60 member-firms in a short time. Number of events organized by TIME increased from initially very few up to 100 in a first three years. A number of positive outcomes can be observed, e.g. increased visitor figures, new entrepreneurial ventures and activities in general.

**In what way are cluster organizations intermediating?**

The empirical data collection had been built on combination between Moss et al (2009), Steward & Hyysalo (2008) and Bessant and Rush (1995) descriptions and groupings of intermediary activities. These are, but not limited to Facilitator, Broker, Provider of meeting places, Problems solver, needs identifier, Educator/ trainer, Promoter, Monitor, Network builder. These groups viewed as activities assisting in doing intermediation and served as a tool for data analysis.

Cluster-like organizations aim to perform different activities between other organizations in order to coordinate and balance relations between them. All these activities carry intermediary character. The most crucial of intermediating activities executed by cluster-like organizations are highlighted in their missions. For example mission of RockCity is to provide meeting place for festival makers, to find here new start-up thoughts. The mission of SMIL is to provide access to development programs, to establish business contact. TIME is driven by mission to advice and to support, to impulse networks, to promote brand; and UppsalaBIO strives for development, production and products sales, provision new jobs, offering of excellent conditions for innovations.

Our data shows that the one of the activities which all cluster-like organizations fulfil is network building. It means that independently from area of their operations, specific, structure or strategy
they work towards development of local and international networks channels. Another activity performed by all of investigated organizations is provider of meeting places. This one is a key activity in RockCity and TIME, which is inalienable part of their core operations. For the other two SMIL and UppsalaBIO providing of meeting places is a supplementary activity which contributes into more efficient performance of their key activities. Moving further two other intermediation functions rather often met within cluster-like organizations are promotion and facilitation. These functions are performed by all of the investigated organizations. Each cluster-like organization may facilitate and promote a wide range of aspects depending from the area and industry of operations; however the priority is given to the activities helping in achievement of their mission and vision. For example, in TIME case there is an overwhelming promotion activity, according to its’ mission stating marketing and promoting activities as essential. In SMIL case is facilitation of knowledge and experiences sharing are key activities stated in its’ mission concentrating on education and training.

Other intermediary activities mentioned in our interview questionnaire are monitoring, problemsolving and needs identification. Looking at the former only two clusters is directly focused on it, which are the UppsalaBIO and TIME, while others perform this activity indirectly or leave it for actors’ own consideration. The identification of actors’ needs issue is fulfilled by three cluster-like organizations as TIME, SMIL, RockCity, which are oriented also on discussions of these needs and their satisfaction. The fourth organization UppsalaBIO approaches this wider and concerned with needs underlining as well as with problem solving. Additionally, this cluster-like organization is the one which performs brokering activity.

Who are the actors involved in these activities?

Doing intermediation means reciprocal exchange of cluster-like organization for and with minimum two other actors. In some cases all of these actors involved from the cluster-like initiation process, in others these do not join before later stages of organizations development. This involvement can be divided on two different types – direct and indirect.

The studied organizations cooperate with two minimum two actors. This applies to three of the investigated organizations. There can also be established cooperation with third actor as in UppsalaBIO case, which keeps intermediating between all Triple Helix actors. In UppsalaBIO intermediation with governmental actors is a leading activity, because this cluster-like organization belongs to one of such actors and is responsible for fulfilment of specific arrangements with them. The relations with scientific and industry actor are also significant for this organization.

In three other cases only two of triple helix actors are directly involved in their operations. For example, RockCity combines micro firms from music and media industry, which fulfill customers’ role and academia actors as Vaxjö and Kalmar Universities. The key actor throughout launching process was the one entrepreneurially-driven individual which manages its operations until now. The Universities did not participate on early development process; however it became active on later stages of this organization development. The governmental representatives in RockCity participate indirectly. SMIL organization closely collaborates with knowledge-intensive firms and Linkoping University. Primarily idea have been initiated by industry actors, which are a driving force of the network activities and financiers of SMIL; however on later stages the University and several entrepreneurial individuals became actively take a part in this
cluster-like organization. The close involvement of this scientific actor opened up a possibility for indirect involvement of government, which plays a sponsor role. Cluster-like organization TIME includes firms from ICT sector, the Employments Agency as well as Stockholm City Council. In this cluster-like organization an individual initiative for its launching became sponsored by governmental actors. The combined activities of both attracted industry actors, which were interested in organization of events, e.g. conferences, seminars, and concerts.

In all these examples a direct involvement of industry actors can be observed, while the participation of other actors varies. At the same time, all these cluster-like organizations strive for attracting more actors from all – governmental, scientific institutions and industries. According to them wider networks add value into cluster-like organizations by providing advantages as financial support, access to databases, smooth establishments of contacts, and widening of network channels. Such advantages attract non-members to join cluster-like organizations and exploit opportunities provided by such position. The more actors involved the more intermediation is potentially needed to be performed between them, which is positive for all, e.g. cluster-like organization, industry sector, and regional development.

**Comparisons of cluster-like organizations**

Each cluster-like organization is interesting and unique in its complex and interconnected intermediation activities. Such uniqueness of each cluster-like organizations differ them considerably one from the other. For example, one of such unique characteristics differentiating RockCity from other cases is the mode of it’s’ creation. Many sources describing this organization, including it’s own home page attract attention to the pure individual effort in formation of this cluster-like organization. There one musician supported by friends established a well-functioning network and rose by this activity interest of whole region to music. During more than 10 years until now the same individual manages RockCity. Similar, but not identical story can be observed in TIME case. In this case the initiative was raised by one employee from governmental sector, which was fully supported by the employer. The latter provided all means, including funding, working spaces and other facilities for the start-up as well as sponsored firms from ICT industry sector interested in events organization. Such close involvement of governmental actor in the activities of TIME moved attention away from individual initiative and highlighted the own contribution into the cluster-like organization. Looking at two other cases such as UppsalaBIO and SMIL the information about the ways of their formation is concentrated on firms, their networks and academia actors. However, in reality these actors started to collaborate based on efforts of individuals, which probably were employees or related by other means to these organizations. Thus, independently of the ways information presented about the seed of cluster-like organizations formation there always is individual initiates involved.

Each of studied cluster-like organizations has a key specialization. RockCity and SMIL are the two other organizations are more than others education/training-oriented. They keep close contacts with universities and scientific centers and as well provide training for students and executives on regular basis. Another example is UppsalaBIO, which keeps also close contacts with academia, but in other sense. It does not perform education/training activities as lectures, seminars, and conferences on regular basis. UppsalaBIO focused more on collaboration between industry and academia, where the former provide empirical data and the latter uses this data for generating new knowledge, which can be used by industry actors to increase efficiency and quality of production. Completely different and very interesting focus uses TIME, specialization
of which is pure marketing. From the one hand each firm markets itself, but from the other there are so many of marketing campaigns hold now that it becomes hard to remain visible in such a crowd and derive profits from it. TIME organization mission was to make the firm or several of them, ordered their services, visible on local and international markets, to build awareness and reputation of their brands. It was also striving for centralizing such marketing events in one place, and coordination of the efforts of several firms interested in order to increase the outcome effects of the marketing.

Another interesting difference between cluster-like organizations is the nature and focus of their intermediation activities. For example intermediation of RockCity and SMIL organizations carry simple character and very much of mission-oriented. They can be exemplified through three dominating intermediary roles of these organizations as facilitator, provider of meeting places and educator/trainer. The reasons for such focus might be seeded in lower intensity of their core industry sectors development and departed location from country capital. Widely-oriented intermediary activities of UppsalaBIO and TIME, in contrast to previous examples, focus, additionally to previously mentioned roles, on promoting, monitoring and brokering. The reason behind such a broad intermediation focus of these cluster-like organizations probably is their location in intensive developing technologically and scientifically regions (Stockholm and Uppsala), their very much market- and industry-oriented focus, more complex structure, number of duties related to governmental dependency, intensity of their focus industries development, and ambitions of these organizations to increase awareness about regional reputation on national as well as international levels.

Moreover, results of the work of these organizations seem to be successful and carry long-lasting effects on growth and development of the industry and region. However, one of the cluster-like organizations, which was built on close governmental involvement (from top-down approach) as TIME was planned to be existed for only five years. This fact may say about shorter-time orientation of cluster-like organizations created using top-down approach then those created bottom-up. Case UppsalaBIO may seem similar to TIME, where close governmental actors involvement is also present. Then the question rises why this organization operates successfully on long-time basis until now in contrast to previous? The explanation for this can be that UppsalaBIO was not created by the governmental initiative, as a previous one. It primarily was initiated by industry and scientific actors (bottom-up approach) and only on later stages the governmental actor has joined.

**Concluding discussion**

This study has dealt with how cluster-like organizations come into existence, various mechanisms through which they intermediate as well as the actors involved. The following primary conclusions could be drawn.

- As in most entrepreneurial process there is a combination of an opportunity (a gap between perceived need and the existing structures) and entrepreneurial individual(s) who carries a vision about how to fulfill the gap. When the individual engages other actors in realizing the vision a cluster-like organization can be formed. These organizations rely on a staff of a very few individuals working full- or part-time as well as extensive network of individuals temporarily engaged in various projects.
- The core activities in intermediation are network building, providing meeting places, promotion, and facilitation. Other intermediation such as problem solving, monitoring, and brokering activities is less common among studied cases. At the same time needs identification is an important activity for all investigated organizations. Moreover, education and training activities are observed in two of the four cases.

- As a base for a cluster-like organization there has to be a defined target group of members with whom various activities are created. However, an important observation is that intermediation is including another group of actors which support the organization without being the target group. They all are important in intermediation process by providing resources such as for example knowledge, financing, and organization-building capacity.

The findings of this study have implication for further research. Firstly, cluster-like organizations are only able to perform their intermediary activities between at least two other organizations from governmental, industry or scientific sectors (c.f. the Triple helix model). One of these two actors represents a target group and another is a supporting group. Although, the study shows that sometimes there are all three of triple-helix involved in intermediary activities. In this case the role of the third one can be as additional financier, consultant or one more member from the target group. The other implication is that study raises significance of single individuals’ in cluster-like organizations initiation. They, by doing this, as well positively influence regional development. The main contribution of this paper is an illustration of complex and multidimensional intermediating activities performed by cluster-like organizations according to their fields of operations, actors involved and places of their location. Moreover the paper provides with elaborations which driving forces stay behind the development of intermediating activities and between which actors such activities are executed. The results of the work demonstrate that we have to work in direction to develop models and theories for summarizing full portfolio of actions performed by intermediary organizations.

An important practical issue is that cluster-like organizations represent bodies which fulfill the mission in the society that is exploited by all of the Triple Helix actors. Particularly, by being so small these organizations vastly contribute to the growth of regions they locate in through offering support for local firms. They make it without specific demands to achieve returns, which might be seeded in difficulties to measure causes and effects of their work. The performance of regions makes other entrepreneurs and visitors attracted there because of improved identity and its large number of established networking channels. Besides this, study examples show that presence of top down initiative in formation of cluster-like organization may lead to a shorter-lived organization than in case of bottom–up initiative presence.

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