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FUNCTIONAL 'CLUSTER-BUILDING'. CRITIQUES, CONCLUSIONS & NEW CHALLENGES FROM THE PAST DECADE, DEDICATED TO THE HUNGARIAN SMES

Innovation and internationalisation are crucial elements in Hungary's capacity to meet the challenges generated by a rapidly changing global economy. Including a cluster strategy within a broader economic development framework will help position Hungary as a leading innovation economy in the face of greater global competition. Along with the rest of the world's economies, the main challenges facing Hungary today are the need to successfully compete in the rapidly changing global marketplace and the need to remain competitive by developing an innovative economy.

Clusters have been successful

Clusters are not new. The concept was talked about in the 1890s, revived in the 1970s and popularised by MICHAEL PORTER in the 1990s.[1] Clusters have been successful in both large and small countries, with different economic characteristics and cultures. In the USA, it is estimated that there are 380 clusters employing 57% of the workforce and producing 61% of its output. In Italy, close to 200 clusters export 43% of the country's total exports. In Hungary, PANAC automotive cluster is of world standard cluster, representing 10% of total Hungarian GDP.[2] These successes have led to at least 45 governments around the world to develop cluster specific policies.

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[1] Porter, M. E. (1990) The Competitive Advantage of Nations. Free Press, New York.
[2] OECD LEED (2002)

There is no common, single way to develop and grow clusters. A range of clustering models have been developed by academics and industry practitioners which share common elements of collaboration and deep and extensive linkages between firms, industries and universities and other institutions. Hungary can learn from and evaluate the experiences of other countries without having to replicate their experiences.

Clusters can make a significant contribution to economic development

Clusters are not a panacea. A cluster based approach to economic development should be seen as contributing to the Government's economic goals and complementing current programs offered by the Government. Clusters should also be seen as part of a comprehensive economic policy agenda which includes sound macroeconomic policy, good industrial relations practices and a sound regulatory environment, alongside appropriate competition, education, training and infrastructure policies. Clusters are appropriate for today's economic context and should be seen as being capable of making a significant contribution to Hungary's economic development.

CLUSTER STATUS IN HUNGARY

At present some 20 operating groups – calling themselves a cluster – are counted in Hungary; most of which are supported by certain subsidies. Beside automotive and furniture oriented clusters did turn up some touristic oriented clusters, too. The number of potential clusters, however, can be much more than that and several business networks have spontaneously been founded in forms of subcontractors' relations, sales or procurement associations involving public institutions of diverse size.

As a whole, it would be difficult to sort out tangible evidences, whether domestic clusters – since their foundation – have contributed anything to the regional development. The presence of state-of-the-art technology or knowledge-based changes is more an exception than general rule, yet it has a serious role in organizational reforms and approach development: members learn to think in long-term co-operations. Well-functioning clusters have integrated to the local community of regional enterprise developing organizations, industrial parks and innovation centers; the effect is to be measured all together.

In our country, compared to the West-European practice, cluster-formation initiatives are more coming from the 'up-above' political ground. Such associations for enterprises became well embedded to institutional surroundings, while can be characterized by neither legal entities; some kind of a bigger institution – a 'gestor' – host them. They are profit or non-profit oriented companies, organizations, or regional and economic development agencies outsourced by the state. Clusters send their tenders on behalf of their hosting 'gestor' organization.

The analysed domestic clusters are casually financed, not similar to institutional financing mechanism rather than to occasional projects. Members are not much willing to pay for cluster operations; they expect state subsidies for such. Apart from that, members gladly pay for the substantial services the cluster offer.

CLUSTERS: DEFINITION, CHARACTERISTICS AND GOVERNANCE

Clusters take many different forms and start, grow and develop in many different ways. Understanding the characteristics of successful clusters is crucial to critically evaluating the contribution a cluster approach can make to the Hungarian economy.

Definition

A geographically bounded concentration of similar, related or complementary businesses with active channels for business transactions, communication and dialogue that share specialised infrastructure, labour markets, and services and that face common opportunities and threats.[1]

Components

Clusters include a number of public and private components, all of which contribute to their operation and success. These generally include:

- *firms of all sizes involved in the productive process*, including large leading firms, leading and supporting SMEs, suppliers, component manufacturers, suppliers of raw materials and product-end firms
- *firms supplying related services*, such as legal, accounting, management, marketing, financial, export and general consultancy services
- *forms of inter-firm collaboration*, expressed through the formation of consortia, supply chains and networks
- *support structures* providing services to firms and improving the business environment These can be private, public or public/private institutions and include universities, national R&D centres, trade associations, business associations, chambers of commerce, specialised business centres, incubators, centres of excellence and technology parks.
- *physical infrastructure support*, including roads, ports, airports, waste treatment, telecommunication, public transport and all needed amenities.

All successful clusters have in common:

- a recognition that clusters should be led by business and civic leaders
- an understanding of the importance of cooperation and competition
- strong linkages between firms and between firms and institutions
- a recognition that the cluster approach is a systemic one in which all stakeholders play a vital role
- good communication and dialogue between all stakeholders in helping businesses solve common problems, improve competitiveness and become more innovative.

A cluster development model

MICHAEL PORTER's model is the best-known of contemporary approaches and provides an integrated and overarching framework for understanding clustering. PORTER provides an analysis and a framework for improving the economic competitiveness of local and national economies. In PORTER'S analysis, locational factors

[1] Rosenfeld 2002.

such as the local business environment, local knowledge, relationships and motivational factors make a vital contribution to the success of individual firms and to economic development. PORTER notes the importance of a stable political and legal environment and of sound macroeconomic policies in ensuring a prosperous economy, but believes competitiveness mainly depends upon improving the microeconomic framework. This requires:

- firms having efficient operations and producing unique products that the market wants
- a business environment that encourages competition, has demanding customers, can count on locally based suppliers and firms in related fields and has sound infrastructure, educational facilities and human resources.

Clusters are central to this analysis. Clusters operating in a sound business environment improve competitiveness. Clusters help businesses improve their operational effectiveness and develop a unique strategic market position. Clusters also provide businesses with the opportunity to increase productivity and become more innovative. Clusters also form the focus of local economic development. In addition to helping existing businesses, clusters attract new local businesses and Foreign Direct Investment, facilitate the development of new businesses and can lead to the birth of new clusters. Individual firms become more competitive by operating in a cluster as elements of their competitive advantage lie outside the firm and are found in the wider business environment. Governments make more effective use of resources if, in addition to sound macroeconomic policies, they upgrade the business environment by focusing on clusters.

Limits to PORTER's framework

PORTER's framework does not say how to upgrade clusters or how to govern clusters' collective action. Nor does he give a clear indication of which actions best suit clusters during their developmental phase. This Essay supplements PORTER's framework with information obtained from various experiences from around the world and from Hungary, as well as making use of the valuable practical experience of clusters practitioners in upgrading clusters.

WHAT IS NOT A CLUSTER?

Clusters are broader and offer more benefits than networks or consortia

While consortia and networks can be vital parts of a cluster, a cluster has much broader goals that affect the economic development of the whole cluster, rather than groups of enterprises within it. A consortium is a commercial venture entered into by a number of businesses for the purpose of receiving an economic benefit from a specific business activity. Examples include:

- export consortia which collectively market their products or help members export to a particular country
- R&D consortia which enable businesses with common interests to conduct research which they could not have conducted on their own

- purchasing consortia which buy raw materials, supplies or components for members
- credit consortia which allow member-firms to access credit at more favourable rates.

These consortia have a specific purpose, are usually formed by businesses from the same sector, enter into contractual arrangements and are restricted to members-only. A network is usually larger than a consortium. Some networks can be defined as an informal association of individuals and businesses who share ideas and engage in broad forms of cooperation. Through individual and business links, the network may extend to banks, institutions and universities. These networks may not necessarily have a specific commercial goal, although firms benefit from the access to information and contacts that the network can provide. Other networks are organised for commercial reasons, based on contractual agreements. These networks make it easier to organise complex production processes when many firms are involved. Supply chains can be regarded as a network of firms.

The geographic scale of networks also varies. They can be locally based, with linkages to national and international firms, support structures and institutions. Networks can also involve firms from different industry sectors.

COMPARING NETWORKS TO CLUSTERS[1]

Table 1

Networks allow firms access to specialized services at lower costs	*Clusters attract needed specialized services to a region*
Networks have restricted membership	*Clusters have open 'membership'*
Networks are based on contractual agreements	*Clusters are based on social values that foster trust and encourage reciprocity*
Networks make it easier for firms to engage in complex production	*Clusters generate demand for more firms with similar and related capabilities*
Networks are based on cooperation	*Clusters require both cooperation and competition*
Networks have common business goals	*Clusters have collective visions*

While different to clusters, the formation of consortia and networks should be encouraged, as these are important elements of a collaborative economy and offer firms the opportunity to access knowledge, reduce costs, achieve economies of scale and solve common problems. In some cases, networks having a wider scope than a specific commercial goal may develop into clusters.

[1] Rosenfeld 2002.

Clusters are not a lobby group or an industry association

Clusters should not be seen as a lobby group or another type of industry association. Their role is to identify issues faced by businesses and stakeholders and develop a mission statement and action plan to make the cluster more competitive. In this endeavour, all stakeholders within the cluster work in partnership to achieve common goals.

Clusters are not another name for industry protection

A cluster based policy approach to economic development should not be confused with industry protection policies directed at growing selected local industries through subsidies, tariff and non-tariff protection and the restriction of foreign investment. Cluster based policies do not 'pick winners'. They do not seek to protect local businesses or limit foreign investment. Instead, they aim to establish a competitive business environment and the formation of Cluster Facilitation Groups (or cluster committees) to encourage collaboration between firms and support businesses to increase productivity and maximise market opportunities.

Clusters do not engage in anti-competitive behaviour

Clusters are open systems which encourage competition. Their purpose is not to fix prices, misuse market power by limiting competition, or engage in anti-competitive practices. Cooperation in information sharing, R&D or export promotion is for the purpose of improving the firms' competitiveness, not limiting competition.

BIRTH, GROWTH AND GOVERNANCE OF CLUSTERS

Clusters commence and grow in different ways. There is no transferable model that will apply to every circumstance. Evidence suggests that clusters may begin by exploiting a natural strategic location, specialised skills, exceptional research institutes, good infrastructure or as a result of the activities of a successful company. MICHAEL PORTER notes that many clusters in Massachusetts owe their birth to the research conducted at the Massachusetts Institute of Technology and the University of Harvard. The Dutch transportation cluster grew out of the waterways of Rotterdam, its central European location and the city's long acquired maritime skills. Israel's irrigation clusters began in response to adversity: desert land was irrigated and turned into agricultural land in order to feed the population. Finland's environment cluster emerged in response to pollution problems. The golf equipment cluster of San Diego grew out of the technology developed by the aerospace cluster. The Omaha telemarketing cluster owes its existence to its central time location, easy to understand accent and a demanding customer in the US air force.

Clusters develop organically over time. However, Singapore (E-commerce) and Ireland (digital hub) are building clusters by attracting Foreign Direct Investment with government support. Ireland's government has entered into a joint venture with MIT Media Lab. Singapore is building an E-commerce hub around Hewlett Packard, mainly by encouraging the formations of new SMEs. These examples are the exception rather than the norm.

How Clusters Grow

Governments are attracted by the cluster approach to economic development because clusters generate dynamic cycles of growth. Michael Enright explains that 'in many economies, an industry emerges, perhaps around some particular natural resource, market need and local skill. As industry develops, new firms are founded, soon suppliers emerge to provide inputs and services. New industries are formed through spill-overs and transferable knowledge. Downstream industries develop to take advantage of supplies and inputs and so on'.

The Louisiana Government[1] explains cluster economic development this way: 'by improving the competitive position of similar and/or related companies within a region through effective social, physical and monetary capital, an environment is created that will naturally attract other companies. In addition, in the process of improving the effectiveness of clusters, upstream (input) and downstream (output) gaps in the production process provide direct opportunities for new company location. These new locations further diversify the cluster and provide new opportunities for synergy and collaboration. In short, a win-win situation is created, and economic development is no longer a zero sum game. As more value is added to resources, higher levels of investment occur, creating higher wages and more wealth in the state'.

This explanation applies to a best-case scenario. Neglect of the factors that make clusters succeed may lead to stagnation and decline. Inadequate regulations, higher taxes, lessening of competition, mediocre research institutes and universities, low R&D spending, failure to keep up with technology, insensitive human relations policies, an inability to serve new markets and meet consumer demands can all contribute to a cluster decline.

One method that can be used by governments to understand whether clusters are growing or declining is to classify clusters in stages of development – such as birth, potential, emerging, sustainable, mature or declining. Government policies and programs can then be directed at growing potential and emerging clusters and revitalizing mature or declining clusters. The ultimate public policy goal is for clusters never to reach the declining stage.

Governing clusters

Governance refers to how decisions are made and implemented. In a company, a board of directors, accountable to shareholders, is responsible for corporate governance. The board's decisions are implemented through the company CEO and monitored by the board to ensure that performance and conformance targets are met. In a cluster, there are many autonomous units – core and related businesses, support organisations and public bodies – all of which are accountable to their own boards and partners. The challenge for cluster organisations is to:

- develop a collective vision and implementation plan by aggregating the needs and aspirations of all stakeholders
- persuade or encourage cluster stakeholders to cooperate in achieving those plans.

[1] Louisiana Department of Economic Development – 2001.

Cluster committees, also known as Cluster Facilitation Groups (CFGs), are essential for launching and upgrading clusters. CFGs identify and develop solutions to problems and liaise with governments to develop specific programs for up-grading clusters. Cluster Facilitation Groups are owned by their members and driven by the requirements of cluster stakeholders. They are incorporated, with their own articles of association setting out the Group's purpose and decision-making procedures.

Cluster organisations such as the Amsterdam New Media Cluster, Ottawa Innovation Cluster and the Biella District Cluster all demonstrate the success of CFGs consisting of businesses, universities, research centres, government institutions and business associations. These CFG are also supported by sub-committees specialising in specific areas of interest.

A cluster committee or CFG is simply a means to an end and any configuration agreeable to stakeholders that is capable of upgrading the cluster and solving its problems should be considered.

Successful Cluster Governance

A successful governance model requires the cluster to:

- develop a collective vision and an implementation plan which addresses all areas of the cluster's business environment
- have the capacity to evaluate the business environment, understand business needs and solve problems as they arise
- show leadership, having business and civic leaders and institutions willing to promote the whole cluster
- benefit all members
- be inclusive and make decisions through a democratic process which considers all stakeholders' views and needs
- establish good communication channels with members
- work within a culture based on trust, collaboration and support.

THE BENEFITS OF CLUSTERS

Clusters provide businesses with benefits they would not have if they operated in isolation. These benefits are a direct result of the advantages gained from operating in close proximity to firms offering complementary services and public institutions providing research, training and other specialised services. Significant benefits also result from the collaboration within clusters that provides firms with access to ideas, information, technology and reduced costs.

The following discussion is based on the arguments of MICHAEL PORTER and others that clusters improve productivity, encourage innovation and create the conditions for establishing new enterprises.

Productivity

High levels of productivity enable firms to become globally competitive. Clusters provide firms with an environment which increases productivity through:

- better access to employees and suppliers, giving firms the ability to tap into the local pool of employees, lower transaction costs, eliminates the need for inventory, eliminates importing costs and delays, and guarantees a fair price is charged

- access to specialised information, which facilitates access to marketing, technical and other specialised information available locally
- complementarities as a result of clusters in one area having benefits for other economic sectors (such as fashion and design clusters also benefiting the clothing, footwear, apparel and accessories sectors)
- access to institutions and public goods, which gives businesses access to specialised services (such as cutting edge research, training programs, testing laboratories and quality control centres)
- better motivation and performance measurements as a result of local rivalry, peer pressure and pride – all factors which motivate businesses to improve productivity and performance.

Innovation

Clusters generate an environment that facilitates innovation by providing access to a wider variety of information, knowledge, contacts and market insights than isolated firms. Clusters facilitate innovation by:

- improving a business's ability to perceive innovation opportunities by facilitating business access to sophisticated buyers and on-going business relationships that ensure companies become quickly aware of market needs, evolving technology, available machinery, new products and services, innovative marketing concepts
- being in contact with multiple suppliers and institutions, enabling companies to source what they need very quickly
- creating a competitive environment, encouraging firms to innovate in response to the competitive pressure and constant comparison that occurs in a cluster
- facilitating experimentation at a lower cost compared to isolated firms, as a result of locally available resources and collaborative activities.

New Businesses Formation

New business formation is vital for maintaining a dynamic economy. New businesses are also a good way to introduce new products and services and new ways to do business. Clusters encourage the formation of new businesses because:

- individuals are well placed to perceive gaps and opportunities
- barriers to entry are lower as a result of the ready availability of skilled staff, market information and linkages with related firms
- local financial institutions are more willing to lend money to local clusters because they know the industry and the people involved
- suppliers wish to settle near a cluster because of their concentrated customer base, lower costs and risks and because it is easier to spot market opportunities
- specialisation facilitates the move from dependent to independent work.

Transaction Costs

High transaction costs can hinder the growth of companies, especially those seeking to become global companies. Transaction costs are different from production costs and include activities such as searching for trading partners and markets, doing business effectively and efficiently, pursuing innovation and investing in research and development. They also include the costs of negotiating and drafting agreements, the costs associated with servicing on-going relationships, the costs of adjustments associated with changing business or technological conditions and the costs of monitoring and enforcing contracts when parties renege.

Businesses working in a cluster can reduce these transaction costs by sharing information with other businesses, forming specialised consortia, being part of informal networks, accessing specialised services provided by government agencies (such as market information, country specific information, data and statistics) and by establishing working relations with technical colleges and universities.

SMEs and Large Companies

Clusters maximise opportunities for SMEs by assisting them to overcome barriers they may not have been able to overcome by themselves. The OECD notes that SMEs face a number of traditional barriers: lack of financing, difficulties in accessing and exploiting technology, limited R&D, lack of information, limited management capability, low productivity and difficulties in managing change. The OECD also notes that 'fostering public-private partnerships and small business networks and clusters may be the most expeditious path to a dynamic SME sector'.

Clusters enable SMEs to achieve economies of scale while maintaining their flexibility and capacity to respond quickly to changing demand. SMEs can share the costs of training, marketing and research with other SMEs and support organisations. They can access technology by carrying out R&D with other firms and universities or by labour mobility or by participating in information sharing forums. Export opportunities are maximised by better access to market research, participating in export consortia and attending world trade fairs. SMEs can reduce costs by bargaining with suppliers and service providers as part of the cluster. Large companies can also benefit from operating in a cluster and collaborating with other firms. One American study found that companies in Silicon Valley that operated in a cluster and networked and collaborated with other firms, the financial system and universities were very adaptive and very flexible. As a consequence, they were more successful than Boston-based vertically integrated companies in a similar industry which tried to do everything themselves.

Managing Change

In competitive global markets, firms have to manage change to best satisfy their customers' changing tastes. In order to successfully manage change, firms need to be informed about the political, legal and economic matters that affect the business environment. They also need access to technical and managerial skills, technology, R&D, finance and market intelligence. Firms operating in clusters have a better opportunity to access the information, ideas, skills and finance needed to manage change and remain competitive. Firms operating in clusters also improve their capacity to quickly develop products and services and bring them to market.

Foreign Direct Investment

The Smart Hungary Program highlights the challenges faced by Hungary in attracting Foreign Direct Investment (FDI) in an intensely competitive world market. Clusters can assist by:

- identifying the specific FDI required by each cluster
- providing more information about the local business environment, which may facilitate investment decisions
- making the cluster more 'visible' within the nation, region and globally, attracting the attention of potential investors
- helping retain FDI investment in Hungary, because clusters enable and encourage firms to become embedded in and committed to the local economy.

This essay is not suggesting that firms can only access these benefits if they knowingly operate in a cluster. Some benefits can be accessed without operating in a cluster: for example, linkages between large firms and universities also take place outside of clusters; firms set up consortia and develop networks without being part of clusters; and firms outside clusters manage change all the time – they have little choice if they wish to remain competitive. However, while some of these benefits also accrue to businesses forming linkages with other firms through consortia and networks, or by forming partnerships with universities, clusters enable these forms of collaboration to be accelerated, to be sustainable in the long term and to be accessible to all firms, especially SMEs. Benefits that result directly from having access to local knowledge, relationships of trust and greater information flows (such as reduced transaction costs, the facilitation of innovation and an environment that encourages new business formation) are unique attributes of clusters. In addition, firms competing in isolation will not assist in attracting strategic FDI to Hungary. While firms not operating in clusters can establish some forms of networking and linkages and have access to some specialised services, they will not match the level, quality, variety and strength of linkages, services and benefits available to firms operating in clusters.

CRITIQUES OF CLUSTERS

Any concept, idea or policy generates a certain amount of criticism and concern. Clusters are no exception. In this section, a number of concerns about clusters are discussed, setting out both the potential and the limitations of clusters.

Clusters could be seen as a panacea for everything – that they will solve all economic problems. Clusters should not be seen as a panacea. They should be seen as a way to improve the business environment and enable businesses to become more competitive. Clusters should also be seen as a part of a comprehensive economic policy agenda, including sound macro-economic policy, good industrial relations practices, a sound regulatory environment and appropriate competition, education, training and infrastructure policies.

The opportunities of local co-operations are limited. Overstressing such collaborations may easily result a 'lock-in' situation; subsidizing such groups can be damaging.

Bringing cluster members 'into position' may hinder competition in the market. Focusing on global competitiveness has to remain the highest concern instead of market protection means.

Governments will try to upgrade clusters even if businesses are not interested. This Essay argues that business interest must be a pre-condition for government involvement in upgrading clusters. Unless business is interested and committed to working together with other businesses and support organisations, government should not get involved.

Over-specialisation resulting from operating in clusters may reduce the diversity of the Hungarian economy. The cluster proposal supported by this Essay is to upgrade all potential clusters, thereby encouraging the development of a diverse economy. Clusters also encourage diversification because they can lead to the formation of new clusters: for example, a textile cluster can lead to the development of a machinery cluster. Specialisation does occur within a cluster but this is a sign of competitiveness because it enables firms to improve product quality, achieve economies of scale and become globally competitive within a particular sector.

Clusters concentrate too much on the business environment and not on the firm. The concept of clusters sees competitiveness as an interaction between sound macro and microeconomic policies, the efficient operations of a firm and a supportive business environment (good regulations, infrastructure, education and training, business incentives, support organisations, reliable suppliers, etc). The literature on clusters emphasises the business environment because it is factor in economic success that has been understated. However, a firm's entrepreneurial capacity, ability to grow and manage change, management capability, vision and motivation also play a crucial role in the success of clusters.

Clusters will not work in Hungary if local firms are not inclined to cooperate with other businesses. Clusters operate all over the world in all cultural contexts. Firms become part of clusters out of selfinterest – because they offer an opportunity to become more profitable and competitive. In Hungary, current programs have shown that businesses are willing to work together to improve their competitiveness. The Hungarian PANAC cluster is a good example of what can be achieved when businesses, support organisations and government work together. However, cooperation among businesses and linkages between businesses and universities are weak in Hungary. A key challenge for Hungary is to communicate to businesses the benefits of clustering and to encourage industry associations and institutions to support and become part of clusters.

Businesses not part of clusters may be overlooked or left out of government programs. In time, clusters have the potential to be formed throughout the economy, but those businesses that are not part of clusters will not be negatively affected. While adopting a cluster approach, government programs should still provide assistance to all eligible businesses.

CLUSTER STRATEGY

- Utilise cluster mapping to identify local and regional competitive advantage:
  Clusters are a useful tool to benchmark industries and identify trends to inform industrial policy making.
- Encourage clusters to help upgrade firm competitiveness and innovation:
  Cluster participants are better prepared to cope with the pressures associated with international competition thanks to pooling of key resources and processes of collective learning and rivalry that support more rapid process and product innovation.

- Integrate the cluster approach into regional and local development policy design and implementation:
  Regional development policy needs to strengthen the regional institutional system for the efficient use of European Union funds and the implementation of independent regional programmes tailored to local needs. The cluster concept is a useful one in encouraging local and regional capacity building.
- Use clusters to encourage local development and to strengthen SMEs:
  Fostering clusters can be used to achieve a wide range of local development goals, such as SME support, job creation and skills upgrading that are important locally and translate into welfare gains at the regional and national levels.
- Integrate the cluster concept into national strategies for attracting and embedding foreign direct investment:
  Countries such as Sweden and Finland have been successful in attracting investment based on a strategy of promoting and developing cluster competencies in specific industrial sectors. By identifying and building on local competitive advantage, central and eastern European countries can successfully embed FDI.

CLUSTER PROGRAMME DESIGN

- Grasp the importance of sustainability:
  Cluster policies need to be designed with a long time horizon in mind.
- Favour a hands-off approach strictly limiting state intervention:
  Support should be based on clear criteria conditional upon bottom-up entrepreneur-led initiatives with a proven potential for selfsustainability.
- Build public-private partnerships to develop a constructive dialogue to identify local development needs:
  Networking of local stakeholders is crucial to moving forward localities economically and socially. Exchanges between entrepreneurs, civil society and public authorities can help to dynamise local economies.
- Integrate the concept of social capital:
  Special attention needs to be paid to building social capital among cluster participants, earmarking resources for this task in the programme design.
- Foster inter-ministerial co-operation to form ‘policy clusters’:
  Policies to advance regional development, to strengthen SMEs and to increase innovation need to be carefully co-ordinated to achieve synergies. Forming interministerial groups taking into account the multiple facets of clusters will help to achieve these goals.
- Encourage evaluation:
  Policies and programmes in place need to be continuously monitored and evaluated. Cluster mapping needs to be undertaken on a regular basis as an instrument to benchmark industries/ sectors and to identify industry trends.

CLUSTER MANAGEMENT

- Build up a critical mass of information, knowledge, skills and technology
  to allow groups of companies to seize new organizational models and technologies as viable business opportunities.

- Invest in network management and social capital building
  through the training of network mediators and the selection of cluster managers, among other things.
- Increase productivity
  through joint communication and information links, specific education and training programmes and local supply chains.
- Increase innovation
  through joint research and development and outsourcing of research and development.
- Enhance openness
  by enabling new members to bring in new knowledge, resources, technology and experience and by encouraging linkages with international network structures.

CONCLUSIONS OF CLUSTER-BUILDING – REVISING THE PAST DECADE

A well-functioning monitoring and evaluating system needs to be worked out. The government should subsidize – beside existing and promising clusters – only spontaneously formed – or to be formed – business networks. Only groups ought to be supported that would speed up their mutual or their regional development, but the market itself did not give them a big-enough kick to set-off. A co-operation has to be aimed, in which local SMEs can draw expertise from the knowledge-base of big companies, enhancing so their collective competitiveness.

Conclusions from successful foreign clusters also have to be drawn. Governmental policy – let it be just as good and up-to-date as anywhere else in the world – does not worth a thing until they are executed correctly by trained experts, tailored to the local market needs. Hungarian policy makers seemingly put less emphasis on professional trainings. It might be not enough to entrust clusters to other 'gestor' organizations; at least one person has to be trained specially to the need of each cluster who could hold the matter in one hand. Such persons are internationally called 'brokers'. UNIDO organizes special trainings for so appointed brokers, teaching them all the tasks and problems they may encounter during their activity. Trained brokers do not have only the task to manage the cluster's operation, but to meet each-other occasionally to share their experiences and to further develop common competitiveness in the region, helping one another.

Inter-lateral communication is a forfeit to a success of regional development. Clusters and their leading brokers are recommended to change ideas with other local clusters, improving so the business cohesion of a region. Brokers, the same time, should also be trained to step beyond their limits – maybe country borders – contact and keep in touch with similar clusters in a broader area – say Eastern-Europe.

At last but not least, cross-border actions between similar clusters have to be paid more attention. This challenge could easily become of the highest importance for the coming years not only to the Hungarian but all Eastern-European policy makers. Clusters should not be limited by country borders. In several industries and the Eastern-European countries as a whole we have similar technological, cultural background and the same objectives. By cross-border formulations – clusters – certain industries could become even more competitive in the global playground.

Significantly more investment capital would be directed into our region, the Eastern block, if we grouped our skills and sold them as one, in a package. This way – e.g. car assembly industry – we could win even more investors to choose this region. Partner countries should not overbid each other with irrationally high benefit packages, just to pitch out their rivals. Instead, such surpluses should be turned back to improve cross-border infrastructure, work force quality, effectiveness, so competitiveness in the long-run.

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