CREATION OF COMPETITIVE ADVANTAGE THROUGH CLUSTER DEVELOPMENT IN CROATIA

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Abstract:  
Even doe we can find many different definitions of competitive advantage, there is still no doubt that it’s key attributes are: 1. cost leadership, where the main goal is to achieve the lowest cost level in the production and distribution, and 2. differentiation, the goal of which is “to be different” from the competition not only in prices but also in other determinants of the product or service.  
These determinants of competitive advantage refer to all types of businesses, including small and medium enterprises. As the most typical problems in business development, economic literature accents: financing, lack of managerial knowledge and expertise, poor marketing skills, small purchase, production and sales series, poor financing skills, lack of production skills, etc. How to master these problems? Does cluster-development in Croatian small enterprises present a possible solution for a growth of efficiency and market competitiveness? Our neighbours, Slovenians, Austrians, Hungarians and also Germans, Belgians and others see clusters as professional and/or regional associations which can encourage small enterprises market competitiveness growth. This paper consists of the definition of clusters, specifies the importance of national, international and regional clusters, provides an overview on dimensions and goals of cluster development in some European countries, analyses and evaluates the results of first Croatian clusters and shows the advantages but does not neglect the problems of cluster development in Croatia.

Keywords: Competitive advantage, cluster policy, regional and national clusters, SMEs

Introduction

Global economy as process of connecting, integrating and cooperating business subjects and national economies, is being introduce through partnership and all other sources of cooperation and technological competition of international companies and state societies. This is the process of creating numerous global businesses, economic alliances and integration complexes.  
How to cooperate on national level? Exactly the same. On national level without mutual technical and technological development, innovation orientation and financial collaboration there is no chance for success. This is especially important for SMEs whose economic
strength is poor and profits are to small to cover individual science and development programs, promotions and innovation activities. How to connect small and medium enterprises? How to connect SMEs with large companies? How to go global? How to operate successfully? In this moment in Croatia we believe that cluster development could give us answer on these questions. This is the reason why we in this paper analyze and evaluate need for cluster development, by using European countries as role models, which would in the end result with increased competitiveness of Croatian economy and improved export of Croatian SMEs.

Economic determinants of competitive advantage at the global level

The term competitive advantage was first defined by Michael E. Porter, from Harvard Business Scholl in 1985, in order to denote all advantages that depend on factors possessed by company which its rivals cannot catch up or outstrip\(^1\). Although in economic literature some scientists use different classifications of competitive advantage, there is no doubt that the basic determinants of competitive advantage today are:

- cost leadership – with the primary goal to reach the lowest costs in production and distribution sectors, and
- differentiation – with the goal of being different than competition, regarding not only lower prices, but also other features of products or services.

Cost leadership includes reducing costs of research and development, production and assemblage, design and packaging, and also implementing overall costs control. Differentiation represents a markedly wide term. We can identify few typical examples of product differentiation on global market, and they are: product differentiation, service differentiation, differentiation by employees and differentiation by image building. Image is “something” hard to achieve, but there is no doubt that it is tight connected with quality, which “consists of total features of defined entities which make it possible to satisfy expressed or assumed needs\(^2\).

Quality management encompasses all processes and activities which contribute to the quality of a product, service or production process of a designated organization or company. Quality management represents a crucial mission of contemporary management, because quality is, in the long term, the most reliable asset for survival and market development. It is also vital for reducing business costs. Seen simply as the value, opportunity or way of satisfying customer demands, quality represents the basic principle of every modern company's strategy. Its achievement depends both on managers and all employees\(^3\).

Basic features of global business, such as: a) life-cycle shortening of almost every product or service, b) increasing competition in almost every economic activity and every market, c) equalization of technological base line in production, d) growing diversification and refinement of needs and desires of ever more demanding consumers, e) increasing participation of knowledge in qualitative product structure, etc., have additionally enhanced the concept and the level of product, service and business quality. Company which persists on quality possesses few strategic comparative advantages and enjoys higher profitability and return on investment. Companies can gain numerous benefits from quality improvements. Increasing quality increases returns on product. Lower returns increase warranty and repair costs. Higher product quality also declines production costs as a

\(^{1}\) Baletić, Z. (editor): Ekonomski leksikon, p. 414.
result of elimination of unnecessary procedures and productivity growth. Generating higher values enables companies to charge higher prices and gain higher market share, which then results with increased revenues and profits. Costs, quality and time are crucial factors of a successful strategy. Companies with low costs and quality products give their customers products which are superior compared to their competition. Only with quality products a company can truly be a leader in costs.

Creating Competitive Advantage through Cluster Development

What are Clusters?

In an entrepreneurial economy cluster is defined as the mutual interaction of several related groups or affiliations within a certain social activity. The term itself represents a process of grouping, in the shape of grapes, which in economic sense presents collectiveness of economic, business or others subjects with the mutual goal4. M. E. Porter quotes that “grapes” are result of concentration mutual connected companies and institutions, and that they represent new way of business thinking and business philosophy5. Cluster operates on a basis of trust and accepted principles, with systematic approach to developing formal legal relations. In this way a new form of business function decentralization is achieved. The results can be seen in increasing tolerance level and better relation with social community. Usually, clusters are geographically concentrated, mutually connected economic subjects, i.e. specialized suppliers, service providers and institutions which, in a specific field, represent certain region or state through manufacturing a common product. Within a specific cluster-system individual organizational units can operate as independent profit centers or independent business units. All these units should be market oriented and independent in doing business, i.e. producing products or providing services. They should take responsibility for every business success of failure.

In theory we distinguish national, international and regional clusters. National clusters are formed at national level for the purpose of increasing economic efficiency and competitive ability. International clusters in globalization conditions represent a new form of business collaboration and a new trend in international economy. In “cluster history” special attention was given to cultural and social factors which influence growth and development of economic subjects. It is believed that non-economic factors represent essential environment for regional cluster development. We will focus on four approaches of interpreting regional cluster development, and they are6:

- Industrial districts,
- The Californian School,
- The Nordic School and
- Porter’s industrial cluster.

The ‘Californian school’ analyzes growth of new industrial areas emphasizing vertical disintegration of production chains in a new era of ‘flexible accumulation’, which leads to agglomeration of firms to reduce inter-firm transaction costs and the formation of specialized local labor markets.

5 Porter, M.: Clusters and the New Economics of Competition, Havard Business Review, USA, p. 85
6 European Commission, Observatory of European SMEs, Regional Cluster in Europe, p. 13-14
The ‘Nordic School’ of the “learning economy” highlights innovation as the basis for obtaining competitiveness for firms, regions and nations. Innovation is conceptualized as a complex and interactive learning process, emphasizing the importance of co-operation and mutual trust that are further promoted by proximity. Learning is furthermore seen as a mainly localized process. Different innovating capabilities between regions are the result of specific learning trajectories embedded in different institutional systems. Informal knowledge (with tacit nature) cannot easily be isolated from its individual, social and territorial context. This explains why information is relatively mobile globally, while knowledge is remarkably spatially rooted.

According to Porter, companies gain competitive strength in regional clusters because they have better access to specialized and experienced employees, suppliers, specialized information and public goods, and by the motivating force of local rivalry and demanding customers. Porter’s original cluster concept focuses on national industrial clusters, i.e. firms and industries linked through vertical (buyer/supplier) or horizontal (common customers, technology etc.) relationships, and with the main players located in a single nation/state.

Table 1: Four approaches to interpreting the process of regional clustering

<table>
<thead>
<tr>
<th>“Schools of thought”</th>
<th>Important factors of clusters’ growth and functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial districts</td>
<td>External economies + mutual trust and ‘industrial atmosphere’, leading to incremental innovations</td>
</tr>
<tr>
<td>‘The Californian School’</td>
<td>Vertical disintegration, reducing transaction costs, specialized local labour market + conventions, informal rules and habits</td>
</tr>
<tr>
<td>‘The Nordic School’</td>
<td>Innovation as learning, learning as a localized process due to importance of ‘sticky’, non-codified knowledge</td>
</tr>
<tr>
<td>Porter’s industrial cluster</td>
<td>External economies strengthened by proximity (better access to input factors, local rivalry and local customers)</td>
</tr>
</tbody>
</table>

Source: European Commission, Observatory of European SMEs, Regional Cluster in Europe, p. 14.

Clusters – Economic Emphasis

In practice, the cluster system can be used by business systems which use more market strategies. Thereby cooperation of business subjects with traders, raw material producers etc. is set up. This principle can be used in small and medium enterprises management. Effective use of cluster-system can result with significant business and financial success, and higher market competitiveness. Entrepreneurs inside cluster have possibility to plan product systems more accurate, to reduce production costs, to introduce informatical systems and to respond faster on environmental changes. By creating mutual organizational structure of cluster system consisted of small, medium and large enterprises, they create new form of business thinking and acting, and above the all they create new business philosophy. The competitive strength of every enterprise involved depends on its ability of accepting new world’s knowledge and science achievements.

Economic emphasis of cluster development can be seen in productivity increase of enterprises within the “grape”, innovation encouragement and in the number of done business deals.
Cluster Development and SMEs

Cluster development represents the essential model of technological and industrial organization of SMEs and it is the basis for reaching high levels of productivity and innovation. It also contributes to growth of regional competitiveness.

By creating a cluster, small and medium enterprises:
- get access to global market – by its segmentation small and medium companies spread theirs market with large number of potential buyers;
- increase the level of business activity coordination within economic activity or industry, and reach higher volume of production;
- focus only on activities with qualitative and quantitative results;
- increase productivity;
- increase production capacities;
- reduce production costs and overall business costs;
- reduce cost of research and development for new products and technologies;
- create concentration of production and trade by mutual appearance on domestic and foreign market, etc.

Our neighbors Slovenians, Austrians, Hungarians, but also Germans, Belgians etc. claim that clusters as professional and/or regional associations can increase effectiveness of business performance and market competitiveness of SMEs. This is the reason way we analyze and evaluate cluster development in Croatia and its influence on SMEs competitiveness.

Cluster policy in several European countries

There is a large spectrum of different approaches to cluster development in European countries. Some countries like Denmark, France, Netherlands, Portugal or United Kingdom have more or less different cluster policies for national and regional level. Belgium and Spain define their cluster policy only for the regional level. Sweden has just recently begun with national program for cluster development.

Although different countries use different measures of cluster development, we can identify the key objectives and characteristics:\n- Cluster policies are seen as a means to promote economic development and structural changes, often through enhancing (regional) innovation capacity;
- Policies are based on improved business co-operation and networking, which may demand the stimulation of social processes;
- Policies also include linking of firms to the (regional) technological infrastructure of education and R&D institutions, in which knowledge nourishes the regional economy. Policies in particular try to bring new technology to regional networks of SMEs. These policies mean fostering regional innovation systems;
- Policies emphasize the role of public or semi-public organizations as intermediaries in encouraging inter-firm networks and joint projects. Especially in the early stage of cluster building, there is a need for a third party to take care of the flow of information, of the building of mutual trust between cluster members, of supporting the organization of business networks, etc.;
- Policies underline the need to improve innovation capability, knowledge management etc. in firms;

\*Ibidem, p. 46.
Especially important are the policies in which there is focus on the need to stimulate creation of specialized factors and knowledge in regional clusters.

**Germany (North Rhine-Westphalia)**

*Objectives:* Promotion of structural change in region by using the cluster approach. Appointed clusters share a ‘cluster management’ for a defined period of time, with the aim of self-sustainability afterwards. The REKON example represents a new orientation of regional policy in Germany in which the development of clusters is used to promote structural change in the regions.

*Measures:* Measures are targeted at needs in individual clusters. The project of the construction cluster in the Ruhr area targets SMEs in construction and craft sectors. One task is to replace the traditional way of performance in craft sector (where firms produce all by themselves) by co-operation in developing new product and entering new markets. The ‘cluster management’ is in charge of giving advice and enhancing development and performance of co-operation projects.

**Austria**

*Objectives:* Upper Austria is seen as one of the most dedicated Austrian regions regarding clustering. Clusters are actively supported by a cluster-oriented technology policy aimed to foster the innovation potential by strengthening the capability and willingness for co-operation.

*Measures:* The existing and planned instruments to achieve clustering are non-financial support measures such as strengthening the flow of information, co-operation between companies and R&D institutes, training of the labor force and the support of shared marketing and export. Existing services are primarily oriented at SMEs as they have the most severe problems with gathering external pieces of information.

**Belgium**

*Objectives:* The region of Flanders has carried out a specific cluster policy since 1994. Clusters are defined as enterprises or/and institutions (in a region) that voluntarily but actively join to create synergies in areas such as R&D, innovation, training, production, commercialization. This policy was stopped in June 2001, however, it was replaced by a new tool named ‘Flemish Innovation Cooperation’.

*Measures:* The policy consists of two main steps. First step is accreditation by the Flemish Government of clusters. The operating costs of cluster organizations are then subsidized. The organizations have a coaching role in the creation and working of the ‘cluster network’. That is, they help and advise partners with their application and with network building. In the second step cluster may get some ‘soft’ support (advice from a consultant, training), as well as grants and loans for R&D and innovation projects.

**Denmark**

*Objectives:* A new cluster policy is emerging in Denmark, with the aim to upgrade existing and emerging Danish clusters (both national and regional ones). The policy particularly stresses the need to support the very specific competence of individual clusters to develop a critical mass of companies, of specialized services and infrastructure, and of organizations and channels for the spreading of knowledge.

*Measures:* The first step taken to construct industrial policy addressing the Danish clusters entails identifying relevant clusters of competence. 29 clusters are singled out in a 2001 report; 16 with a national span and 13 regional ones. The second step is to tailor measures for individual clusters. Thus, critical factors of success are seen to vary from cluster to cluster. Policy instruments must then be created within the context of a dialogue between cluster firms and the political entities, either at the national or regional level.
Cluster Development in Republic of Croatia – Analysis and Evaluation

Cluster policy in Republic of Croatia is conducted by National Agency for Regional Development (NARR)8. The objectives are: regional development equilibrium, human resource development, with special accent on keeping inhabitants on defined territory by opening new workplaces, increasing regional competitiveness and economic restructuring (by SMEs development), and creation of entrepreneurial environment through easier access to technologies, financial capital, market information, etc.

Measures used include: fostering local development initiatives and instruments of local/regional development (by founding regional development agency network and inducing already existing local development and entrepreneurial initiatives.), founding developing centers with specific purpose directed at defined sector and local industries needs, establishing agencies for technological development and research centers, analyzing potential areas for cluster development and training of cluster managers/network brokers.

The need for cluster development in Croatian Economy is connected with the need for increasing competitive and profitable export.

In 2006 in Croatia, according to data of Ministry of economy, labor and entrepreneurship and given subventions operate 10 clusters (Table 2.).

Table 2.: Number of cluster according given subventions of Ministry of economy, labor and entrepreneurship

<table>
<thead>
<tr>
<th>Cluster name</th>
<th>Headquarters</th>
<th>Cluster founder</th>
<th>Economic activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLUSTER HRVATSKA CIPELA GIU</td>
<td>Varaždin</td>
<td>CLUSTER HRVATSKA CIPELA GIU</td>
<td>Obučarska, kožna</td>
</tr>
<tr>
<td>GRAFIČKI CLUSTER BIOS</td>
<td>Osijek</td>
<td>PODUZETNIČKI INKUBATOR BIOS d.o.o.</td>
<td>Grafička</td>
</tr>
<tr>
<td>OBILAZNICA GIU</td>
<td>Čakovec</td>
<td>OBILAZNICA GIU</td>
<td>Građevinska</td>
</tr>
<tr>
<td>GASTRO GRUPA d.o.o.</td>
<td>Zagreb</td>
<td>GASTRO GRUPA d.o.o.</td>
<td>Trgovačka</td>
</tr>
<tr>
<td>BEAM ICT Alliance</td>
<td>Rijeka</td>
<td>Multilink d.o.o,Rijeka; Ekobit d.o.o, Zagreb</td>
<td>Informatička</td>
</tr>
<tr>
<td>NACIONALNA UDRUGA OBITELJSKIH I MALIH HOTELA</td>
<td>Split</td>
<td>NACIONALNA UDRUGA OBITELJSKIH I MALIH HOTELA</td>
<td>Ugost.-turist.</td>
</tr>
<tr>
<td>Klaster KOMUNALNA OPREMA</td>
<td>Petlovac</td>
<td>URBANA OPREMA</td>
<td>Proizv. kom. opreme</td>
</tr>
<tr>
<td>UDRUGA – CLUSTER METALACA SJEVERNOG JADRANA</td>
<td>Rijeka</td>
<td>UDRUGA – CLUSTER METALACA SJEVERNOG JADRANA</td>
<td>Proizv. malih brodica i oprema za brodice</td>
</tr>
<tr>
<td>Prsten zdravlja</td>
<td>Zagreb</td>
<td>ABA</td>
<td>Telekom. djelatnost u</td>
</tr>
</tbody>
</table>

8 National Competitivnec Council, Preporuke za povećanje konkurentnosti, Regionalni razvoj i klasteri, p. 5-12.
Clusters in 2006 in Republic of Croatia involve 7348 employees (Graph 1.) and 169 businesses (Graph 2.). In average cluster involve 734 employees, what doesn’t represent relevant measure because number of employees varies from 9 to 2500.

*Figure 1: Number of employees in clusters*

Source: Ministry of economy, labour and entrepreneurship

With organized cluster policy Croatia started just recently. Still n Croatia 2005 operated first clusters as North Adriatic cluster of metal industry, informatical cluster, Croatian wood cluster and tourism cluster in Zagreb county. Croatian Employers’ Association started pilot program which will include metal, wood, paper, textile and power industry, and informatics, and in 2006 are founder other above mentioned clusters.
As this is the beginning of clustering in Croatia we are talking about creating the traditional clusters. Those clusters are characterized by making long-term market relationship, connection with suppliers and public authorities, and incremental innovations (mainly product development and new methods of marketing and distribution). For the second stage of the clustering the main issue is put on science-based clusters which are characterized by short-term and long-term market relationship, correlation with public authorities and R&D institutions, and technological innovations (mainly product development and changing in organization and innovation of producing process). Based on these characteristics we can say that in Croatia 8 traditional and 2 science-based clusters are functioning. In the EU and in the world traditional-based clusters were specific for period until 1970, while after 1970 science-based clusters had rapid growth.

What are experiences of the first Croatian clusters?

Because this is the beginning of clustering in Croatia (process endures for 1, 5 years) we do not have concrete information about shifting in business results or in any other relevant financial statement. However, we are sure that those information’s exist. Until today, realized
positive effects which are measurable and immeasurable are based on: 1. mutual market activities that make expenses of marketing, of individual members of clusters, reduced (Cluster hrvatska cipela, Gastro grupa, Beam ICT Alliance, Cluster metalaca Sjevernog Jadrana); 2. mutual performances in international competitions and business’s, where individuals members of clusters would not success alone due to economical or expertly reasons; 3. mutual realization of concrete commitments, where specialization and standardization reduce expenses of business; 4. combining knowledge and experience of individual members, therefore, reducing unnecessary steps in realization of individual projects; 5. elimination of mutually competition between small and middle companies which is excluded on the local and international plan. This effect improves economical and market situation of individual member.

Negative effects are happening because process of clustering is slow, changing members of management in individual member of clusters influence all members and that gives additional slowness in clustering, contribution of individual members of clusters is not the same, it is difficult to ensure (because of time and space) efficient functioning on national clusters, and the biggest imperfection is lack of “cluster-manager” which would represent interests of all members of cluster. At the way cluster’s controlling is functioning today, priorities are made in the company from which director of cluster is coming.

What clusters in Croatia today represents?

The metal industry cluster of the North Adriatic which includes: 16 business entities in five cities and municipalities, 186 employees, 62 million HRK of total revenues, 6200 business partners; shows its first results. Due to bad privatization solutions and lost of the market, the metal industry of Rijeka now consists of small, undeveloped, unorganized and scattered companies, which have, even more endangered their economic position with unfair competition. Major problems of small metal-companies were small product series, high prices, high oscillations in demand for labor force, etc. Without long term vision and strategy, small metal companies of North Adriatic with an average of 20 employees, were operating against each other by buyer extortion, selling at price under the production costs and undeveloped market approach in business.

Companies within the metal cluster see their chance in small shipbuilding, i.e. building small fishing ships, tourist boats and watch-boats. Croatian government (it’s Ministry of Economy, Labor and Entrepreneurship, Ministry of the Sea, Tourism, Transport And Development and the Ministry of Agriculture, Forestry and Water Management) decided to finance 30% of the shipbuilding project, 60% of the investment will be financed by HBOR (Croatian Bank for Reconstruction and Development) trough it’s loan programs and the rest of 10% must be financed by the cluster members.

The “wood-industry cluster” creation in Croatia was financed by the American Agency for International Development, and in March 2005 the European Commission ensured 100 000 Euros for the creation of the tourism cluster in Zagreb county.

Why clusters? For the Croatian industrial production survival! It is considered that creation of cluster can strengthen Croatian SMEs and help in the reconstruction of large enterprises. It is also important to stress the opportunities and the importance of creating connections between companies and science institutions.

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9 Žuvela, D.V.: Eukonomist: Za opstanak industrije, str. 13
10 Slovenian example shows that industries not included in cluster start to sink, and those within the cluster, like auto industry, prosper.
The cluster Croatian Shoe includes 9 firms with mutual goal of mutual development, sale and procurement. Main object is import substitution and creation of competitive products for global market. Main problem of mentioned cluster represents unequal economic and market position of cluster firm members. Mutual marketing program, connection with suppliers and introduction of latest innovations and technology, is the way for gaining position on European and world market for the cluster Croatian Shoe.

**Conclusion**

Exports stagnation in Croatia, which lasted for many years, has almost destroyed its national production structure. So far, unfortunately without any significant success, every government has tried to formally encourage export and production development in order to increase production growth, because it is clear that without strong production growth we can not have a stable economic growth.

Even doe small economy in Republic of Croatia is successful, it is clear that effective economic development could not be achieved without large companies, which connect, organize and develop small and medium entrepreneurship. This negative trend could be changed by developing clusters. Cluster development in Croatian economy system could be used as measure for export improvement, export which must be competitive, i.e. economic profitable.

In order to ensure advantageous export Croatian companies, especially small and medium ones, must reduce their business expenses, increase quality, improve their business standards, invest into new products and services and find new markets and new distribution channels. Due to their size, lack of economic efficiency, poor financial assets and needed knowledge they can not do this by them self. This is only possible with mutual strengths. We believe that the majority of small entrepreneurs is aware of these problems, but the lost confidence can’t be rebuild overnight.

The goals and measures analysis of mentioned European countries, regardless any distinctions, shows that these goals are mainly economic. They try, with entrepreneurial measures, to remove basic weaknesses of small entrepreneurship, which arise from poor financial assets, lack of good employees, poor managerial skills and poor marketing and innovation knowledge. In that sense, goals and measures set by the Government of the Republic of Croatia are not significantly different from those of other European countries, but it is still clear that we do not stress our economic business goals enough.

Since the creation of clusters is an economy-based process, we believe that the government’s role is only needed in the first stage, to outdo the first mistrust and uncertainty. In further cluster development the integration should be left to the interested business partners. Every one of them must find and fight for his economic and business interest by him self. Otherwise, the process of cluster development in Croatia, as many other attempts, will not bring desired results.

**References**