

COMPETITIVENESS INCREASING OF ENTERPRISES WITH INTRODUCTION OF CLUSTERS

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Abstract: *This paper deals with the concepts of the shipbuilding cluster introduction in Croatia. The concept presents on the one side the associate relationship of schools and universities and on the other side the regional shipbuilding industry. Linkage of economy, scientific institutions and regional management can be achieved by using a triple helix model, which fulfils required prerequisites for the transition towards society based knowledge. Introduction of shipbuilding cluster presents strategic goal of regional development and provides conditions for innovations based regional industry.*

Key words: *Cluster, Shipbuilding industry, competitiveness, SME*

1. INTRODUCTION

In a globalized world, regional economy and companies have to be adjusted to new requirements, which can lead to an increased investment risk. However, these new conditions require a closer cooperation, not only at the global level, but at the regional levels as well. At the same time there is an increased opportunity that a country or a region participates in a joint product. It is obvious that the competitiveness of a regional company can be stimulated by different measures and, consequently, the standard of living of the population in the region will be enhanced.

Here are some of the global tendencies:

- Companies will focus on their core business.
- In order to guarantee the quality, the safety and the tractability, companies will establish strict manufacturing rules for their subcontractors.
- The sharing of the works among several companies will require networking models at a global level.
- Specialization and networking skills will be the key to SME success.
- Networking requires a permanent connection between the automatic centralized managing systems of the enterprises.

Consequently, it is evident that a higher standard of living is not and cannot be achieved by any kind of company. It can only be achieved by the companies, whose development has been based on their adjustment to global changes, and which recognize the importance of innovative potential, not only in the sphere of new technologies, processes, knowledge and skills, but also in the sphere of new quality products, as well as the importance of networking with business partners in their environment.

It is certain that innovations have an impact on the increase of productivity within a company. By increasing its competitiveness, a company can increase its economic effect, and, regarded from a global point of view, the employment opportunities and the standard of living will also be increased. Only innovations can ensure new jobs and, as such, they are basic prerequisite for regional and overall national economic development.

Networking regions and their potential innovation-based development, particularly development of 'attractive lines of businesses, cannot function without development of clusters.

2. CLUSTER

Contemporary clusters, or their core, consist of innovative companies that are either vertically (buyer/supplier) or horizontally linked (common customers, technology etc.). However, their geographic concentration is an additional component to the innovative one.

The concept of cluster is widely spread in all areas of social life and work: economy, information science, information technology, accounting, education, etc. (Bell, 2005). Since the subject matter of this paper is concerned with economy, i.e. economical development of a region or a country, our attention will be focused on the role and significance of clusters in this segment.

Porter (Porter, 1990) developed the "Diamond of Advantage" that contains four factors, which create a competitive advantage for companies. The four corners of the diamond include factor conditions, demand conditions, industry strategy/rivalry, and related and supporting industries. Porter used this diamond to determine which firms and industries had competitive advantages, and his emphasis on the importance of related and supporting industries aroused interest in clusters. While his original thesis was applied to nations as a whole, Porter recognized that the majority of economic activity takes place at the regional level.

It should be emphasized that, due to the lack of relevant information and owing to the highly demanding process of cluster formation, a simplified case of the shipbuilding cluster in Croatia is shown here.

3. SHIPBUILDING CLUSTER OF THE SPLIT-DALMATIAN COUNTY

In the lack of a unique and commonly agreed economic strategy at the national level, the Split-Dalmatian County has decided to define its own goals and priorities and to develop its own potentials. As a result of this decision there is a recently brought Regional operational program ROP (Petric, 2005) that defines the guidelines for the development of the County in the next five-year period.

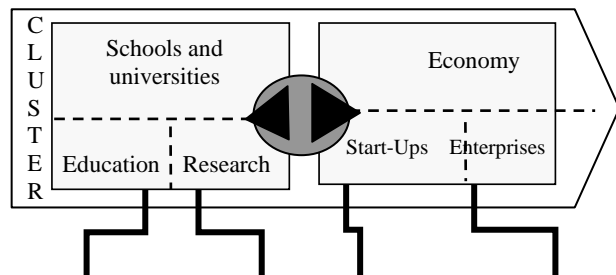
One of the primary strategic goals, defined in ROP, is to develop a competitive, diversified, technologically advanced and environmentally sustainable economy that will be oriented to enhance the standard of living of the local population.

Pointing out the need for regional and inter-regional networking, integration and clusterization of County economy, is the first step that has to be taken in order to start with more intensive research that will help in identification, organization and development of the above-mentioned networks.

It is to conclude that shipbuilding industry presents the key and strategically the most important industry of the Republic of Croatia, and already having its Croatian brand, it should soon become a "locomotive" of development other branches of industry, especially of small and medium-sized companies. In

order to increase the shipbuilding competences the integration of all productive, service providing and scientific activities closely related to the shipbuilding industry the Split-Dalmatian County is required. Such integrated shipbuilding system would have cluster characteristics, focusing on the increase of competence of the existing shipyards in the area as well as their supporting industries that would participate in ship building. The concept of shipbuilding cluster is shown in Figure 1 (Veza, 2008).

The concept presents on one side the associate relationship of schools and universities and on the other side the shipbuilding industry of the Split-Dalmatian County. The main factors or rather activities that can be done through the presented network are shown as well. The figure of the main elements and activities of cluster shipbuilding is also presented.



<p>Schools</p> <p>University of Split</p> <ul style="list-style-type: none"> • Mechanical engineering, • Electrical engineering, • Naval Architecture. 	<p>A variety of research institutions</p>	<p>Start-up</p>	<p>Shipyards in Split-Dalmatian county</p> <p>SME</p>
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Fig.1. The concept of shipbuilding cluster

a) Schools and universities would participate in fundamental and continuous education of cluster shipbuilding staff. Educational plans and programs could be determined and agreed according to the needs of various professions of cluster shipbuilding employees.

b) Schools, universities, scientific-research institutions would cooperate in developing new products and processes as well as in improvement of the existing ones.

The Croatian Shipbuilding - Jadranbrod would present the headquarters; the Shipbuilding Institute in Zagreb would stand for the main developing and researching center whereas the individual modular shipyards would figure for the regional researching centers (the Uljanik, the Brodosplit, the 3. maj). Faculties would take a role of a consulting and cooperating bodies with their studies of naval architecture: the University of Zagreb, the University of Split, the University of Rijeka.

Using this kind of approach, all preconditions for the encouragement of innovative work would be realized. Being organised in such way, scientific and research work would achieve its final goal, that is, promotion and holding of its "domestic brain", acquisition and usage of new know-how, projection of new, sophisticated classic ships.

c) Newly founded ("Start-up") enterprises. Structuring of cluster shipbuilding would lead to the preconditions for generating new entrepreneur ideas relating to a ship or shipbuilding business production process. The cluster shipbuilding would buy products and get services for its high-tech activities from domestic and regional providers. The further step of these high technology oriented „start-up“ enterprises would be realized through their integration and network.

d) Enterprises. The cluster shipbuilding would consist of: «big shipyards» that is the modular shipyards, "small" or „sub-contracting“ shipyards and small and medium sized enterprises of the County, service providing enterprises on the basis of their participating role in production of common product or their partnership. Such teamwork and their own products/services would evidently increase the proportion of domestic component of ship.

„Modular shipyards“ (Cagalj, Veza & Markovina, 2009), having their own resources and capacities to produce component parts they could, if necessarily, make cutting and forming activities, so that the produced components could be transported to the small shipyards where the hull sections and equipment could be done, according to the given standards. Upon finishing, equipping and dyeing, the elements would be transported back to the modular shipyard in order to grow into a „ring“ and/or assembly (prefab) slipway. Such fitting, equipped and dyed sections would be built into basic structure on the slipway.

Shipyards as sub-contractors, having their basic resources and needed skills such shipyards would, consider their participation in common product; deal with works related to a specific ship and would be purposely specialized for it. Free productive capacities could be sold on markets of shipbuilding or other markets.

4. CONCLUSION

In this paper we have tried to emphasize the need for identification of an actual development potential in the regions where economy has been affected by the processes of transition and restructuring. We have used theoretical and practical experience of developed countries, in which the model for networking and clustering is based on innovative potential and on knowledge-based economy, which is a basic stronghold of both contemporary industrial development and overall economic development.

Strategic goal of regional development is to provide conditions for innovations based on regional identity.

Therefore, it is necessary to make a transition from the regional strategy based on predominantly industrial production to an economic development strategy based on knowledge. Linkage of economy, scientific institutions and regional management can be achieved by using a triple helix model, which provides required prerequisites for the transition of a society towards knowledge. In order to redefine the interrelationship between institutional knowledge, economy and regional management, it is of utmost importance to enhance the local conditions for development of innovative processes by linking together research activities with others. Our aim is to continue our preliminary research and to develop such models of linkage.

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