

PORTER'S DIAMOND MODEL OF OSIJEK-BARANJA COUNTY INDUSTRY

Vladimir Cini¹, Nataša Nater²

¹Associate Professor, Faculty of Economics in Osijek, Croatia, vcini@efos.hr

²Teacher Assistant, Faculty of Economics in Osijek, Croatia, nnater@efos.hr

Abstract

Industry in Osijek-Baranja County has suffered from multiple direct and indirect consequences from the defensive war. It is estimated 60 per cent reduction in production capacities. Difficult situation was even worse as at the same time serious reduction of business activities, closing off its largest export markets, Former Yugoslavia, privatization process, and impossibility for facing foreign competition, occurred. Old technology, indifference to technical science with young people, brain drain to more perspective counties and states, and lack of financial sources, have only increased the existing problems that industry in Osijek-Baranja County is facing. In these conditions, it was hard to keep in step with global production trends and with orientation of traditional industry into "new industry" based on development and application of scientific and research work results. Industry is changing. It is changing in the way that it is becoming based on knowledge, innovation, creativity, sustainable development and new technology application in all business spheres. Because of that, industry has an influence on developing new businesses, most common non-production ones. From the moment of signing Stabilization and Association Agreement, the Republic of Croatia has possibilities to use financial resources from the European Union pre-accession instruments and funds. Thereby, Osijek-Baranja County can use great financial resources and use them to start reindustrialization in accordance with European Union industrial policy and Lisbon strategy.

By creating Porter's Diamond model of Osijek-Baranja County industry, the goal was to detect all possible opportunities and convert it to strengths, and also to include possible environment threats into long term industry development strategy. This model was used for creating implication of all factors in SWOT terminology.

JEL classification: F14

Key words: Osijek-Baranja County industry, "new industry", Lisbon strategy, Porter's Diamond model

1. Introduction

The last few decades have been marked by important political changes, outstanding scientific and technological shifts, positive growth of global trade, development of international companies and supranational institutions. The conditions in which the Internet sale exceeds 436 million dollars in 1995 to 30

billion American dollars five years later (Brown & Duguid; 2000), or the situation when Chinese or Indian engineers who in terms of work quality equal those in European Union or USA work for less than 20 thousand dollars a year (Ridderstråle & Nordström; 2003), are certainly great challenges for many leaders of macroeconomic politics of individual countries. Under the influence of these kinds of global movements, Hawksworth (Thurow, L.C.; 2006) emphasizes the changes in industry which are about to happen in 2050. and which will make some of today advanced industries losers of globalization, and the winners will become industries which are based on branding, media, health, financial services of fast growing countries (China, India), energy, and business services. Undoubtedly, there is a new „economy scene“ emerging on the horizon in which simplicity, creativity and productivity play key roles. As an answer to these kinds of global changes, EU, through the document known as Lisbon strategy, set itself an extremely ambitious goal: till 2010 it has to become the most competitive and the most dynamic economy of the World based on knowledge, capable of sustainable economic growth with larger number and higher quality workplaces, and bigger social cohesion. Eight years after establishing this strategy, there have been many positive shifts, and yet not sufficient for accomplishing the basic aim of the European Union (Barrell & Kirby; 2007; COM374; 2007). In 2005 EU revised the Lisbon strategy and directed it towards the productivity growth, employment and economic growth. In order to accomplish the aims there is a need for measures on national level that will enhance public investments for research and development, encourage private investments for research and development through tax relief, improve the quality of the whole educational system, and above all high education.

Croatian economic growth is impossible without export expansion feasible through the development of industry based on knowledge and application of new technologies. As the chain breaks at its weakest link, so is the whole economic growth impossible if Croatia does not balance development of all its counties. Osijek-Baranja County has next to Vukovar-Srijem County, Sisak-Moslavina County and Šibenik-Knin County suffered multiple direct and indirect consequences of the defensive war. It is estimated that the overall production capacities of the County have been reduced by about 60% and that the direct war damage amounts to 3 billion euros (Borožan & Barković; 2003). Mined areas, killing of cattle, destruction of production capacities, reduction of production, loss of market, clumsy privatisation and unfavourable investment climate resulted in unenviable economic situation. The problems of this County are evidenced in almost every aspect of the economy. From the high unemployment rate, negative migrations, unfavourable investment climate, to the slow industrial production growth and the production which wholly underestimates the role of the scientific research, innovations and application of the high technology. This kind of industrial base can not enable the development of new competitive industries for the present global market. Long-

term sustainable economic growth should be based on industry based on knowledge – so called “new industry”, application of new technology, innovations and production of value-added products. The opportunity for this kind of development can be found also in applying for financial resources of European Union pre-accession funds, and participating in national and county programs. Furthermore, stimulation of export-oriented production, the proximity of Josip Juraj Strossmayer University with its associated faculties, stimulative measures for retention of young population, investing in scientific-research activities, innovations, stimulation of creation of value-added products and branding, are possible solutions to the problems of this County and a way towards the opportunity for success in the conditions of global economic scene.

2. Theoretical review

2.1. Definition of industry

Current structure of industrial production in Croatia is defined according to the National Classification of Activities. Pursuant to Article 4, paragraph 2 of the Law on National Classification Activities (National Gazette; NN 98; 1994), the Government of the Republic Croatia has at the sitting on May 31 2007 passed a Provision on National Classification of Activities – NCA 2007 (Cro NKD). On the date of entry into force of this Provision expires the earlier Provision on National Classification of Activities – NKD 2002 (National Gazette; NN 13; 2003). National Classification of Activities from 2007 is adjusted to the Classification Activities of the European Union known under the abbreviation NACE²²⁰. According to NCA the industry comprises mining and quarrying, the whole processing industry, electricity, gas, steam and air conditioning supply, and overall water management.

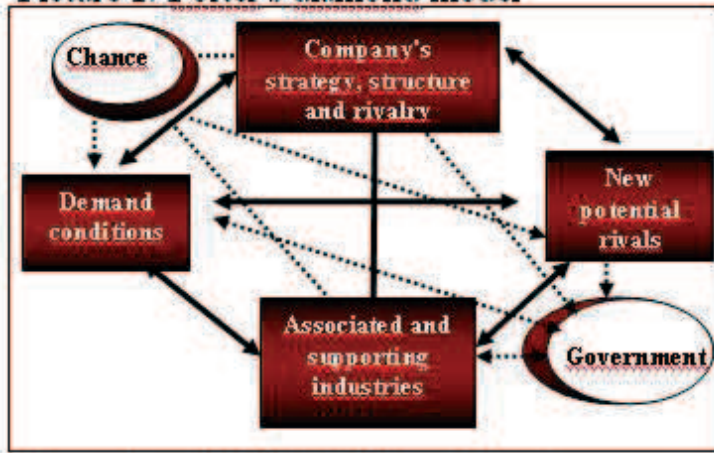
2.2. Porter's diamond model

Small countries have a relatively weak diamond of competitive advantages (Vlahinić-Dizdarević; 2006). According to Porter (1998) the analysis of competitive forces or advantages should be directed towards the key factors of the competition and the analysis of its impact on the company. Porter's diamond model (Picture 1.) offers a holistic and flexible concept which enables all interest groups in some country the analysis of competition in all its complexity, and constructive communication about surroundings improvement with an aim to improve competitiveness. The national, as well as local prosperity is not inherited – it has to be created (Porter; 1998, p.155). This

²²⁰ Available at: http://ec.europa.eu/comm/competition/mergers/cases/index/nace_all.html
Access on: (20-02-2009.)

prosperity depends on the industry's ability to perpetually innovate and upgrade itself, and that is possible solely by means of increase in productivity – in all areas of economic activity. Porter's diamond model involves attributes that indirectly or directly influence competition advantage. These attributes form a surrounding in which a certain industrial company, industrial branch, overall industry, region or state act and learn how to "compete" in that surrounding. (Porter; 1998, p. 166).

Picture 1. Porter's diamond model



Source: Porter; 1998, p.127

Every field of the diamond and the diamond as the entire system comprises key factors which lead to competitive success. Those factors involve: all resources and abilities crucial for industry's competitive advantage; information which form the opportunities and give the answer to how available resources and abilities should be governed; aims of all interest groups; and what is most important, specific pressure of the company to investing and innovating. The diamond involves the four basic factors, mutually linked: 1) factor conditions, 2) demand conditions, 3) company's strategy, structure and rivalry, 4) associated and supporting industries. Apart from these four factors, the diamond involves two separate factors: the government and the chance. These two factors refer to the factors which can secure or contrary make "the fertile ground" heavier for the actions of industrial companies. The main role of the government is not to create rivals, but to create conditions in which the industrial companies will alone become competitive. SWOT analysis enables the evaluation of every item of Porter's diamond model, which can refer to individual product, individual company, industry branch, individual sector, the whole nation... It enables the linking of Opportunities and Threats in the surrounding with Strength and Weaknesses, in this case, the Osijek-Baranja

Country industry through alternative strategies and policies of the creator of macroeconomic policy on county, national and global level (Buble, et.al; 1997, p. 154). All items of Porter's diamond model or competitive advantages are listed hereafter by using the summary.

3. The position and industry trends in Osijek-Baranja County in the context of Porter's diamond model

3.1. Factor conditions

3.2.

Existing situation	Implications in SWOT terminology
Basic factors <ul style="list-style-type: none"> • Natural resource wealth • Outstanding human potential (3. counties according to the number of inhabitants (Croatian Bureau of Statistics; 2007) • Relatively good share of young and mature population (16% of the population from 0 to 14 years of age and 20% of the population from 15 to 34 years of age) (Croatian Bureau of Statistics; 2007.) • Relatively outdated technological basis • Insufficient number of highly educated population and professionals compared to the needs of "new industry" • Lower work costs as a result of lower salaries from average salaries in Croatia Advanced factors <ul style="list-style-type: none"> • Availability of the Airport Klisa • Good telecommunication and information technologies coverage • Growth trend in awareness about the importance of investing into scientific-research projects, innovation and lifelong learning • Business and administrative procedures acceleration through the government service hitro.hr, e-PDV (e-VAT) etc. • Insufficient financial resources for investing into productive investments – extremely small percentage of direct foreign investments • Insufficient awareness about the need to invest in the human factor, and scientific-research activities of the entrepreneurs 	Strengths <ul style="list-style-type: none"> • 152 year old tradition of industrial production • Relatively many institutions for entrepreneur support and stability of J. J. Strossmayer University in Osijek – the centre of high education with 16 associated faculties Weaknesses <ul style="list-style-type: none"> • The problem of "brain drain" into other counties or abroad • Relative rigidity of company hierarchical structures, sluggishness of the controlling staff; slowness in adapting to changes on the market • Insufficient financial resources for capital investments Opportunities <ul style="list-style-type: none"> • The possibility for applying for resources of European Union pre-accession funds, as well as national funds • Relatively good share of graduate students (11% of graduate students in Croatia) (Croatian Bureau of Statistics; 2007.) • Participation in projects for encouraging investments like „Enterprise Croatia“, „Hrvatska izvozna ofenziva“ etc. Threats <ul style="list-style-type: none"> • Growth of production capacities of South-Eastern economies which rival with low production costs and low product prices • Globalisation of production and loan jobs • Strengthening of regional competitiveness of neighbouring economies, and thereby strengthening of activities for attraction of direct foreign investments

3.2. Demand conditions

Existing situation	Implications in SWOT terminology
Domestic demand <ul style="list-style-type: none"> • Continuous growth of demand for products and services • Growth trend of demand for domestic, ecological, functional and products alike • Higher unemployment rate, a bigger share of supported population and the bigger share of the poor population in the County – smaller local demand for industrial products • Relative rigidness of industrial companies to the real consumer needs and wishes • Liberalisation of import offers a wide range of industrial products – bigger competitiveness on domestic market International demand <ul style="list-style-type: none"> • Trend of growth of demand on the world market • Existence of various demand : demand for extremely cheap and less quality products, demand for quality and cheap products, and demand for extremely quality and expensive products • Growth in demand for “individualised” products, specialised products • Fierce international rivalry 	Strengths <ul style="list-style-type: none"> • Recognizability of domestic products quality • „local patriotism“ • Existence of encouraging projects for consumption of domestic products like „Izvorno hrvatsko“, „Kupujmo hrvatsko“, „Hrvatska kvaliteta“, „Kupujmo osječko“ Weaknesses <ul style="list-style-type: none"> • Slowness in reacting to market changes, demand trends and market demand prediction • Neglecting the real wishes and needs of the consumers, and sluggishness in creation of new wishes and needs Opportunities <ul style="list-style-type: none"> • Export opportunities through growth trend in introducing the quality standard into industrial companies • The opportunity for the industrial companies to create a recognizable brands through investments in design and increasing the level of value-added products • Geographical position and Airport Klisa Threats <ul style="list-style-type: none"> • Fierce international rivalry which “steals” domestic consumers • International higher value-added products, more innovative products, more attractive products in design of relatively the same prices

3.3. Company's strategy, structure and rivalry

Existing situation	Implications in SWOT terminology
Structure * <ul style="list-style-type: none"> • 509 County industrial companies • County industry employs 37% of the employed • County industry makes 30% of the total profit • Processing industry makes 86% of export, and the whole industry 92% • Small share of direct foreign investments in the County (1,6% of all investments in Croatia) and industrial sector (18,7% of all investments in Croatia) *(FINA; 2008) Strategy <ul style="list-style-type: none"> • Industrial companies mostly base their production on reduced working costs, and 	Strengths <ul style="list-style-type: none"> • Increase in efficacy of intellectual capital by 4%, increase in investing in certification (114 certificates in 2008) (Hrvatsko društvo za kvalitetu; 2008) Weaknesses <ul style="list-style-type: none"> • Significantly smaller productivity of workforce than the Croatian average (-40.741 kunas) (Croatian Bureau of Statistics; 2007.) • Insufficient share of County industry in national proportions (5,8% of Croatian workers, 5% of the total value of the industrial products sales etc.) (Croatian Bureau of Statistics; 2007.) • Manager nepotism, marketing

<p>very often lower quality</p> <ul style="list-style-type: none"> • Small investments into product innovations and patents • Small investments into marketing activities and making of recognizable brands • The trend of increase of import <p>Rivalry</p> <ul style="list-style-type: none"> • Very strong competition on domestic market and strong competition on foreign market • Relative overload for existing industrial production of the County, and slowness in orientation towards “new industries” 	<p>underdevelopment and lack of success in sales in Croatia</p> <p>Opportunities</p> <ul style="list-style-type: none"> • The possibility for applying for resources of European Union pre-accession funds • Tax relief prescribed by State Aid Law (National Gazette; NN, 140/05) and Investment Incentives Act (National Gazette; NN, 138/06) • Encouraging the networking and interest grouping of the companies (clusters) <p>Threats</p> <ul style="list-style-type: none"> • „disparity“ of export products with EU demand for high quality and innovative products • Strengthening of other world industrial rivals from the area
--	---

3.4. Associated and supporting industries

Existing situation	Implications in SWOT terminology
<p>Offer of industrial products, raw materials, an equipment</p> <ul style="list-style-type: none"> • Relatively good connection between raw materials basis and industrial production (food industry) <p>Educational institutions</p> <ul style="list-style-type: none"> • Stability of J.J. Strossmayer University in Osijek – the centre of high education with 16 associated faculties • Stability of the large number of vocational schools • Various kinds of additional business specialization courses and seminars <p>Institutions for entrepreneur support</p> <ul style="list-style-type: none"> • Osijek-Baranja County • HGK (Croatian Chamber of Commerce), HOK (Croatian Chamber of Trade), HUP (<i>Croatian</i> Employers' Association) • Development Agency of Slavonija and Baranja; Agency for Development of Osijek-Baranja County • Faculty of Economics in Osijek • Entrepreneur centers and Technological Development Centers <p>Trends</p> <ul style="list-style-type: none"> • Strengthening of awareness about advantages interest grouping • „making of“ numerous development strategies and operational programs 	<p>Strengths</p> <ul style="list-style-type: none"> • Stability of the huge number of institutions for entrepreneur support and educational institutions • Developed business network in the County and Croatia by means of fairs, magazines, portals, counseling, seminars etc. • Connection between raw materials basis and industrial production in food industry • Connection between metal-processing industry with similar activities (e.g. mechanization for agricultural production) <p>Weaknesses</p> <ul style="list-style-type: none"> • Insufficient connection between educational and vocational institutions with industrial companies and other institutions for entrepreneur support • Insufficient awareness about the importance of good presentation on fairs, as well as the importance of economic fairs alone– very little competent staff in booths for offering of adequate information about products • Relatively outdated equipment and the very production technology <p>Opportunities</p> <ul style="list-style-type: none"> • CIP and FP7 EU programs for research potential and innovativeness • International cooperation by means of

<ul style="list-style-type: none"> • Clusterization in Croatia • Numerous business forums, business counseling, business magazines, business portals and business services 	transfer of technology, joint scientific-research projects, and regional cooperation Threats <ul style="list-style-type: none"> • Slowness in adjusting to market changes and trends, and even neglecting of these trends • Insufficient interest grouping • Slowness in implementing or even neglecting the implementation of strategies and operative programs
--	---

3. Conclusion

Osijek-Baranja County industry is today set before a great challenge. In conditions of intensive technical and technological innovations and fast transformational processes, the County industry is an integral part of Croatian and world industry. Long-term survival of the company and rival defining of all local, national and global economies is possible solely and only by means of investing in “new industry”, namely industry based on knowledge, innovation and creativity, and sustainable development. Osijek-Baranja County industry represents a relatively small industrial unit of national industry. However, through all opportunities offered by the surroundings and existing industry forces of Osijek-Baranja County, a great economic prosperity could be accomplished. Since the existing industrial production structure does not offer big development possibilities in the long-term sense, still by appreciating it, the development of industry focused on exploitation of the existing agricultural-food resources should be encouraged, and chemical, metal, wood, food and other production could be developed by means of production modernization. Due to all circumstances, the industry of Osijek-Baranja County objectively must search for its own development possibilities in the existing structure, but it can also find its true development chances through scientific research and cooperation with experts from the area in order to influence production improvement and the development of “new industry” which enables a long-term prosperity. Synergy of all factors will also influence the development of other activities, and thereby the development of the whole Osijek-Baranja County economy. Osijek-Baranja County industry is and can be a perspective activity branch which will produce and sell competitive products on more and more demanding domestic and foreign markets.

REFERENCES

1. Barell, R., Kirby, S. (2007) *Notes on the Lisbon process*, Dostupno na: http://ec.europa.eu/enterprise/enterprise_policy/competitiveness/3_indpol/doc/2008_7.pdf *Pristup:* (02-06-2008.)
2. Borozan, Đ., Barković, I. (2003). Vrednovanje atraktivnosti Osječko-baranjske županije u privlačenju izravnih inozemnih ulaganja, *Ekonomski pregled br. 54 (3-4)*, 324-359, ISSN 0424-7558, Zagreb
3. Buble, M. (ured.) (1997). *Strategijski management*, Ekonomski fakultet, ISBN 953-6024-19-5, Split
4. COM374 (2007) Mid-term review of industrial policy A contribution to the EU's Growth and Jobs Strategy, Dostupno na: http://ec.europa.eu/enterprise/enterprise_policy/industry/com_2007/sec_2007_917_en.pdf, *Pristup:* (10-11-2007.)
5. Državni zavod za statistiku (2007). *Statistički ljetopis Republike Hrvatske 2007*, Zagreb
6. Financijska agencija (2008). *Financijski pokazatelji poslovanja poduzetnika Osječko-baranjske županije u 2007. godini*, Osijek
7. Hrvatsko društvo za kvalitetu (2008). *HR Survey 2007 – Hrvatski pregled certifikata sustava upravljanja za 2007. godinu*, Osijek, Dostupno na: <http://www.kvaliteta.net/files/HR%20Survey%202007.pdf>, *Pristup:* (20-08-2008.)
8. Odluka o Nacionalnoj klasifikaciji djelatnosti – NKD, NN 13/2003 i NN 98/1994
9. Zakon o državnim potporama, NN 140/2005
10. Zakon o poticanju ulaganja, NN, 138/2006
11. Porter, M., E. (1998). *Competitive advantage : creating and sustaining superior performance : with a new introduction Advantage of Nations*, Free Press, ISBN 0-648-84146-0, New York
12. Ridderstråle, J., Nordström, K.A. (2003) *Karaoke kapitalizam – menadžment za čovječanstvo*, DIFFERO, ISBN 953-96545-3-X, Zagreb
13. Thurow, L.C. (1997). *Budućnost kapitalizma – Kako današnje gospodarske snage oblikuju sutrašnji svijet*, Mate, ISBN 953-6070-58-8, Zagreb
14. Vlahinić-Dizdarević, N. (2006). *Makroekonomska pozicija Hrvatske na Jugoistoku Europe: Trgovinski, investicijski i razvojni učinci*, Ekonomski fakultet, ISBN 953-6148-52-8, Rijeka