COOPETITION AS A DEVELOPMENT STIMULATOR OF ENTERPRISES IN THE NETWORKED STEEL SECTOR

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The article deals with the problems of coopetition, i.e. simultaneous cooperation and competition between enterprises. This phenomenon is becoming more and more common in the steel industry, initially in the dimension of individual alliances, and currently it takes a form of network connections. The different groups of enterprises are involved in these networks: global players, regional champions, as well as niche specialists. Through the coopetition companies achieve benefits (both internal and external) which are becoming the stimulator of survival and growth in a highly competitive steel industry.

Key words: coopetition, networked steel sector, benefits of coopetition

INTRODUCTION

Coopetition is a phenomenon which is developing very rapidly in the global economy at the turn of the century. This is confirmed by the growing number of identified relationships and research activity of numerous academic centres across the world. The research carried out by Harbison and Pekar who indicated that more than 50 percent of strategic alliances is formed between competitors, also confirms this thesis [1]. The importance and coopetition phenomenon increases with the development of globalization processes, especially at the level of sectors and particular corporations. Despite the complexity of relationships, companies increasingly perceive their growth opportunities through coopetition in a highly complex environment.

THE CONCEPT OF COOPETITION

Coopetition relates to the simultaneous cooperation and competition between competitors [2]. It is one of the four types of relationships between companies (along with coexistence, cooperation and competition). Coopetition, however, is characterized by the most complex relationships between the parties. This is due to the presence of paradoxically contradictory logics of actions: cooperation (trust), and competition (conflict). Trust, in addition to the convergence of interest and the sharing of complementary resources, is the basis for cooperation [3]. In turn, competition arises from the conflict, and conflict of market interest, e.g. offering the similar products or services in the same segments of customers. According to Brandenburger and Nalebuff, a competitor shall be that one whose behaviour reduces the company’s offer to its customers [4] Therefore, the competitors may be organizations operating in different industries and geographical markets. Due to the complexity of the identification of coopetition and understanding its structure, this type of relationship is often regarded as a system of cooperation- and competition streams. These streams can operate autonomously or interact [5]. A process aspect of this relationship is also taken into consideration due to the high dynamics of development of coopetition [6]. Cooperative behaviours of the enterprises are analysed and interpreted through the utilization of three major theoretical concepts: game theory, transaction cost theory and the resource approach [7]. There are also other theoretical concepts which take into account the specificity of coopetition. They are, however, rarely discussed and are complementary to the others, e.g. the network theory [8].

In the game theory, coopetition is regarded as a zero-sum game [9]. The basis for considerations are model solutions resulting from the analysis of the prisoner’s dilemma which indicate that the benefits of cooperation are higher than a rivalry between enterprises. The tendency of players for cooperation increases if their movements are predictable and repeatable (tit for tat strategy) [10] and the time horizon of the game is prolonged (shade of the future) [11]. Brandenburger and Nalebuff created a value net, i.e. a model which utilizes a game theory [9]. Multiple links of a network nature between players generate added value. As a result of the operations in a competitive network system, organizations are able to achieve greater benefits than working alone. In the theory of transaction costs, cooperation between enterprises (including competitive one) is an intermediate form between
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NETWORKED STEEL INDUSTRY

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Networks are regarded as the response to the pressure from the global environment as they provide greater flexibility and faster response to changes [17]. This phenomenon is gaining more and more momentum, and market transactions and hierarchical structures [12]. Coopetition is combined with the highest transaction costs out of all hybrid forms. This is due to the competitive nature of coopetition between the parties, big temptation of opportunistic behaviour, increased control and coordin-

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is usually very narrow. Their products are unique with a high degree of quality and customisation.

**BENEFITS OF COOPETITION IN THE STEEL SECTOR**

As a result of the formation of many competitive cooperation relationships in the steel sector, the companies achieve tangible benefits that drive their growth. Table 1 shows that the functioning of the coopetitive network systems bring benefits both of internal (e.g. restructuring, management system, acquisition of resources) and external nature (e.g. market activities on an international scale) [21, 22]. These benefits become a source of competitive advantages and strategic growth of corporations associated in the coopetitive networks. The size and stability of these advantages are measured by the financial results of individual companies.

**Table 1 Main benefits of coopetition in the steel sector**

<table>
<thead>
<tr>
<th>Benefits of coopetition</th>
<th>Effects</th>
<th>Practice in the steel sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to survive in a highly turbulent environment</td>
<td>Mutual organizational and financial support in case of direct danger; Higher bargaining power and the ability to negotiate more favourable terms of sales/purchase</td>
<td>Cooperation between VISA Steel Ltd. and SunCoke Energy started in 2012, whose objectives includes support supply (metallurgical coal), reduction of procurement costs, mutual organizational and financial support, and expansion of business; Developing a common standpoint and actions against the other competitors; Increased bargaining power against Chinese suppliers (reduction of tariffs); Consolidation of the branch and shaping its structure into three groups of companies: global players (ArcelorMittal), regional champions, e.g. ThyssenKrupp, niche producers</td>
</tr>
<tr>
<td>Acquisition or joint generation of material resources</td>
<td>Improvement of the competitive position</td>
<td>Formation of alliances in the sector, e.g. NLMK-Dufereco or VISA Steel - SunCoke Energy</td>
</tr>
<tr>
<td>Acquisition or joint generation of non-material resources</td>
<td>Enhancement of the competitive position in a long term perspective</td>
<td>China Steel has formed nine strategic alliances with competitors to obtain information, technical and technological knowledge and new skills</td>
</tr>
<tr>
<td>Promotion of technical and technological standards</td>
<td>Lower emission of CO2 Setting up the production standards</td>
<td>Common findings in the frame of Worldsteel between the largest steel producers in the world, governmental institutions (U.S. Department of Energy, COURSE 50 in Japan, POSCO in Korea) and international organizations (European Commission) to reduce CO2 emissions (ISO 14404)</td>
</tr>
<tr>
<td>Innovativeness increase</td>
<td>Development of new steel grades, less pollution</td>
<td>Cooperation with R&amp;D institutions: universities, research institutes, e.g. cooperation between Carnegie Mellon University, MIT, University of British Columbia and University of Illinois on new technological solutions in the steel production</td>
</tr>
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<td>Benefits of scale and scope</td>
<td>Increase of the production volume</td>
<td>Production capacity of ArcelorMittal in the boom period approx. 100 million tons of steel (during the downturn just over 70 million tonnes)</td>
</tr>
<tr>
<td>Synergy</td>
<td>Mutual use of complementary production capacity, technological resources and distribution channels</td>
<td>Cooperation between Novolipetsk Steel (NLMK) and Duferco which allowed NLMK to increase production from 0.5 million tonnes (2006) to 3.6 million tonnes (2012); Synergy value amounted to $ 330 million.</td>
</tr>
<tr>
<td>Higher flexibility</td>
<td>Better meeting the customer needs</td>
<td>Completion of smaller orders (e.g. 5 tonnes instead of 20 tonnes) and the use of a network of companies belonging to the steel companies (manufacturers, distributors)</td>
</tr>
<tr>
<td>Restructuring</td>
<td>Improving the quality of management</td>
<td>World Class Manufacturing standards in ArcelorMittal</td>
</tr>
<tr>
<td>Reduction of operating costs</td>
<td>Savings for 1 tonne of steel</td>
<td>ArcelorMittal Poland saved approx. 19 EUR per 1 tonne of steel</td>
</tr>
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<td>Risk reduction</td>
<td>Protection and improvement of the competitive position</td>
<td>Cooperation with other companies from the sector (e.g. joint ventures in China), and outside the sector (such as the iron ore suppliers); building up the new production facilities in countries with higher consumption forecast (e.g. in India)</td>
</tr>
<tr>
<td>Market benefits</td>
<td>Enhancement of the market position; Entering new markets (internationalization and globalization); Higher bargaining power</td>
<td>Cooperation between Inland Steel and Nippon Steel has facilitated the development of new manufacturing technologies and improvement of the steel quality, resulting in the entrance of American partner into the Japanese market and cooperation with the Japanese automotive industry; cooperation between ArcelorMittal and Nippon Steel (2006) to joint market activities in Europe, USA (automotive sector) and in Asia which is expected to strengthen the market position of both parties in these regions. Cooperation has a global nature</td>
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</table>

**SUMMARY**

Coopetition is increasingly common phenomenon in the steel sector. Multiple links between competitors cause that the functioning in the network becomes a necessary condition for the survival and growth in the networked steel sector. Cooperation allows to gain competitive advantage which otherwise would not be achievable. Thus, companies in the coopetitive networks generate greater and more durable competitive advantages than their autonomous competitors.

**REFERENCES**


Note: The responsible translator for English language is D. Czerniak, Katowice, Poland