

# 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 con-

flict 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]. Coopetitive 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 coopetitive 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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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 coordination [13]. Given the resource approach, companies decide for coopetition with other organizations which have complementary and strategic resources. These resources are scarce (especially intangible), and their acquisition is otherwise impossible or too expensive [14]. The companies are aware of limits which are combined with coopetition. Despite it, however, they decide on this type of relationship because of the benefits that can be generated as a result of cooperation with a competitor. One of the main reasons is the ability to survive in a highly turbulent environment. At the same time they perceive the coopetition as the business opportunities, particularly in the context of resources. Coopetition generates economies of scale, scope and synergy. These relationships enhance the restructuring processes of the parties involved. It improves the quality of management and the costs of subcontractors diminish. Simultaneously the risk of functioning is reduced too. Competitive cooperation strengthens the current market position and helps to expand the activity into the new markets. As a result of coopetition, the parties create value, and this, directly and/or indirectly influences their financial- and market results (increased bargaining power against other competitors, suppliers and customers) [15]. Coopetition occurs both in intra-organizational and inter-organizational relations. Intra-organizational coopetition is identified primarily in large corporations, with a complex organizational structure. In particular, it can be observed in the capital groups and in the companies with international scope. The areas of cooperation include R&D, organization, operations and finance. In turn, an arena of rivalry includes: market activities, fighting for the position in the corporate structure, the acquisition of scarce resources and the support of HQ. Increasingly, it is noted that coopetition is considered as a necessary tool for the efficient management of large organizations. Inter-organizational coopetition can be identified as a simple and complex. The first type occurs when a relationship consists of two parties only. Competitors create relationships based on the competitive logic (horizontal relationships) and transactional logic (vertical relationship). In recent years we observe, however, a formation of multilateral relations, of a network nature [16]. Networks include not only the individual group of companies, and more and more often, the key success factor in given sector is the membership in a cooperative network covering the majority of sector players.

## NETWORKED STEEL INDUSTRY

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

global corporations are the companies which are most involved in this process. In some industries one can observe a formation of giant networks, in which a group of leading global corporations is surrounded by many satellite-type companies. Among the economic giants the most common is “octopus” strategy which means that everyone is engaged in dozens (and sometimes hundreds) of cooperative agreements in various areas. This explosion of many cooperative agreements has led to a new form of competition on the market: a network vs. network, not a company vs. company [18]. The growing importance of this form of cooperation is due to the following factors: (1) changes in the environment in terms of technology, regulations and demand; (2) imitation, i.e. following the blueprint of successful companies; (3) rivalry between companies in the sector. The merger between Arcelor and Mittal in 2005 with the production capacity of ca. 110 million tons of steel has changed the shape of the steel sector. But still, this sector is not as highly concentrated as the automotive industry which is one of the main consumers of steel. It means that there is still potential for consolidation processes in the steel sector. The steel industry is a classic example of the sector in which we can observe networking. Managers often refer to globalization, increased competition, synergy, economy of scale, consolidation of the industry, shorter product life cycle as the factors which determine the reasons for networking of sectors. If the leading companies in the sector form networks, their main competitors cannot be neutral in order not to fall behind; the most common in this case is the formation of their own networks [19]. The steel sector is highly differentiated in terms of strategic orientation. The following normative categorisation can be used as an overall framework for describing the industry: global players, regional champions, niche specialists [20]. The global steel company has a world-wide network with production facilities in each region and a full range of products. The global player produces more than 50 million tonnes and has backward integration. ArcelorMittal is the true global player in the steel industry now. In between the global player and the niche specialist, two types of regional companies with a production capacity varying from approx. 5 to 50 million tonnes can be identified: the first type relates to companies which have a strong regional presence with an access to low-cost countries and with focus on high-value products and a leadership in technology, e.g. ThyssenKrupp and Riva. The big regional champions are candidates for becoming global players through mergers or takeovers. In turn, the second type comprises the companies with a strong regional presence which are often based in a low cost country. Typically, they have no specialist production and focus on mass production. At the other end of the spectrum, we can find the niche specialist, usually producing less than 5 million tons a year. The niche specialist company has only a few production locations but may have multiple sales locations. The product portfolio for each company

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 cooperative 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 cooperative networks. The size and stability of these advantages are measured by the financial results of individual companies.

## 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 cooperative networks generate greater and more durable competitive advantages than their autonomous competitors.

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

Benefits of coopetition	Effects	Practice in the steel sector
Ability to survive in a highly turbulent environment	Mutual organizational and financial support in case of direct danger; Higher bargaining power and the ability to negotiate more favourable terms of sales/ purchase	Cooperation between VISA Steel Ltd. and Sun Coke Energy started in 2012, whose objectives include 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
Acquisition or joint generation of material resources	Improvement of the competitive position	Formation of alliances in the sector, e.g. NLMK-Duferco or VISA Steel - SunCoke Energy
Acquisition or joint generation of non-material resources	Enhancement of the competitive position in a long term perspective	China Steel has formed nine strategic alliances with competitors to obtain information, technical and technological knowledge and new skills
Promotion of technical and technological standards	Lower emission of CO <sub>2</sub> Setting up the production standards	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 CO <sub>2</sub> emissions (ISO 14404)
Innovativeness increase	Development of new steel grades, less pollution	Cooperation with R&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
Benefits of scale and scope	Increase of the production volume	Production capacity of ArcelorMittal in the boom period approx 100 million tons of steel (during the downturn just over 70 million tonnes)
Synergy	Mutual use of complementary production capacity, technological resources and distribution channels	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.
Higher flexibility	Better meeting the customer needs	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)
Restructuring	Improving the quality of management	World Class Manufacturing standards in ArcelorMittal
Reduction of operating costs	Savings for 1 tonne of steel	ArcelorMittal Poland saved approx. 19 EUR per 1 tonne of steel
Risk reduction	Protection and improvement of the competitive position	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)
Market benefits	Enhancement of the market position; Entering new markets (internalization and globalization); Higher bargaining power	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 co-operation 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

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