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MOTIVES AND BARRIERS IN THE FIELD OF COOPERATION BETWEEN COMPANIES. RESEARCH OUTCOMES BASED ON THE POLISH ENGINEERING INDUSTRY "Companies are just beginning to learn what nations have always known: in a complex, uncertain world filled with dangerous opponents, it is best not to go it alone" (1989).

Abstract

Polish firms need to improve their performance in order to be more competitive internationally. As theoretical concepts of firm international competitiveness underline the importance of external sources of competitive advantage, empirical studies on firms cooperation may bring significant insight into this field. This paper presents theoretical foundations of firms' motives to form business partnerships and barriers to partnership relations. It is based on results of the study on cooperation of 155 Polish firms from the engineering sector.

Keywords: motives of cooperation; barriers to cooperation; Polish engineering industry

Introduction

Globalization, IT revolution, technical development, knowledge revolution and extremely high competitive pressure have become the determinants of contemporary companies. To survive in this chaotic (Kotler and Caslione, 2009) environment, companies are urged to engage in various business networks (Achrol and Kotler, 1999), alliances and other cooperation agreements.

While inter-firm cooperation plays an important role in a large number of industries, it becomes truly essential in high-tech markets (Eisenhardt and Bird-Schoonhoven, 1996). Conditions conducive to cooperation include: operating in highly competitive or emergent industries, and introducing pioneering technical strategies. Of big importance are also top management characteristics such as a strong social position of the management team, team size, and previous job experience in a given industry, in particular on top management positions related to various connections and relationships with potential cooperation partners (Eisenhardt and Bird-Schoonhoven, 1996).

Of course, not all the companies operating in cooperation stimulating conditions do cooperate. The so-called cooperation propensity is influenced by several factors such as benefits of prospective cooperation, resources offered by a potential partner, cooperation costs, the need to cooperate and other alternatives (Harrigan and Newman, 1990). Although the inter-firm cooperation is an old phenomenon, it became a subject of scientific studies only in the last decades of the 20th century. The questions why companies cooperate and what forces them back from cooperation have been discussed broadly in the specialist literature (i.a. Olleros and MacDonald, 1988), whereby it seems that the cooperation motives constitute the subject of scientific interest more frequently than the barriers.

Against such background, the aim of this paper is to explore the cooperation motives and barriers in the Polish engineering industry and to find out whether these phenomena depend on the field of cooperation.

1. Theoretical background

Firms may cooperate with a multitude of partners. There is a consensus in the literature concerning the need to shift from transaction to the relationship point of view in the distribution channel as the mutual dependency of the distribution channel members enhancescooperation (Rosmimah and Melewar, 2004). A relatively new stream in the literature has been proposed by the studies on coopetition, combining both the cooperation and competition (e.g. Chien and Peng, 2005; Osarenhoe, 2010). Another important stream has been indicated by the studies on open innovation (Chesbrough, 2003, a,b), which underline the need to introduce innovation in cooperation with external partners especially in industries responsive to the following trends: globalization, technology intensity, technology fusion, new business models and knowledge leveraging (Gassmann, 2006). It is also worth paying attention to the great importance of cooperation for the success of small and medium-sized enterprises in the global market. Cooperation allows them to benefit from their partners' resources and to overcome their own shortcomings (Nkongolo-Bakenda, 2001).

1.1. Cooperation motives

Regardless of the type of the cooperation partner, to successfully govern the cooperation, the involved companies must be aware of their partners' motives and interests. Companies enter into various inter-firm relations with varying motives. Usually, their main reason is to improve the strategic position of the company (Eisenhardt and Bird-Schoonhoven, 1996). All the other motives discussed below seem to result from it.

According to Tuusjärvi and Möller (2009), commencing cooperation entails three sets of interests, namely: the self-interests for which each party enters into cooperation; the parties' core strategic interests (including interests arising through other important network connections) and shared interests reflecting the unity and goals of cooperation. Moreover, the cooperation motives are dynamic. They can change over time due to changes in the company itself, in its environment and in the partnership (Harrigan 1988) – which hampers both the cooperation itself and the related research.

Hagedoorn (1993) divides the technology cooperation motives into three groups: motives associated with basic and applied research and some general characteristics of technological development (i.e. technological synergies, access to scientific knowledge, reduction of uncertainty in R&D, reduction and sharing of R&D costs), motives related to concrete innovation processes (i.e. technology transfer, shortening of product life cycle), and motives associated with market access and search for opportunities (i.e. company environment monitoring, internationalization, expansion of product range). However, according to the general outcomes of his research only the following motives bear genuine significance: technology complementarity, reduction of the innovation time-span, market access and influencing the market structure. Although the market and technology related motives are generally dominating, Hagedoorn noticed also the divergence of cooperation motives for different sectors of industry.

According to Das et al. (1998) the motives for setting up technical and marketing alliances are different, whereby the technical alliances are defined as cooperation in upstream value chain activities (i.e. R&D, engineering) while the marketing alliances – in the downstream ones (i.e. sales, distribution, customer services, promotion). The main reasons for technological alliances are: providing incentives for investing in R&D without duplication, reducing transaction costs, protecting knowledge from expropriation, easing the transfer of tacit knowledge and cost advantage, whereas the main benefit of marketing alliances comes from the stimulation of demand. Moreover, according to the Das et al. study, the stock market rewards technological alliances more than the marketing ones.

Another reason for company cooperation discussed in the literature is the desire to give a signal of enhanced legitimacy, which has been discussed by Baum and Oliver (1991).

Most studies concentrate on cooperation in a given field. Vrande et al. (2009) were interested in the SMEs cooperating for the sake of open innovation. They divided the cooperation motives into the following groups: control, focus, innovation process, knowledge, costs, capacity, market, utilization, policy, motivation and others. According to their research, most of the motives for SMEs' cooperation in regard to open innovation are related to the market (i. e. meeting customer demand, keeping up with market development, market share growth). Moreover, different innovation practices stem from the same cooperation motives (except for the employee involvement).

An interesting study on R&D cooperation motives has been presented by Gallié and Roux (2008), who classified the cooperation types as follows: long-term relationships for the management of a common structure; multi-partnerships in upstream research; common market-oriented research; subcontracting relations and contractual relationships based on strong collaboration and involvement. They found out, that "the search for scale economies explains the development of relations that involve important involvement and investments. The search for equipment is a strong motive to subcontract. Firms looking for access to new markets prefer contractual relationships based on strong collaboration and involvement. A lack of competencies leads firms to choose a multi-partnership in upstream research or a contractual relationship based on a strong involvement in it".

Research on cooperation motives has also been carried out by Polish scientists. For instance, Szuster (2009) examined company cooperation in the furniture industry. The cooperation goals cited by the respondents in his study concerned the following elements: cost reduction, flexible employment, refraining from purchasing, and maintaining costly machinery and equipment (39% of the answers); ability to execute special orders, offer a wider range of products and act in a more flexible manner (33% of the answers); focus on key competences (33% of the answers); simplification of executed tasks along with elimination of timely and painstaking activities (11% of the answers); improved product quality (11% of the answers). Other examples of research on partner cooperation, conducted by Polish scientists, include: partner cooperation in the Dolina Lotnicza cluster (Bembenek, 2009), furniture clusters (Stawiarska, 2009) and cooperation alliances (Rzońca, 2009).

1.2. Cooperation barriers

As mentioned before, there have been fewer studies devoted to barriers disturbing or blocking cooperation. Nevertheless, Leick's study on cross-border networks (2011) is remarkable – the author distinguishes five types of barriers: barriers related to firms' internal resources (i.e. financial problems); barriers connected to collaboration (e.g. problems with partners opportunistic behavior); barriers which are external both to the firm and cooperation itself (i. e. macroeconomic factors); information deficits (e.g. the lack of knowledge about foreign markets); socio-cultural differences (i.e. language barriers, corporate culture differences). The Saxon and North Bohemian companies under research have struggled with different obstacles hampering cooperation, which can be explained by the differences in their competitive position. Some of the barriers can be reduced or even overcome during or because of the cooperation. According to Leick, the most important barriers are those connected to cooperation, information deficits and socio-cultural differences.

Dimitrov et al. (2003), who also studied cross-border cooperation barriers (in a different region of Europe) analyze a different set of obstacles: infrastructure conditions, border crossing conditions, trade conditions, financial conditions, lack of assistance (i.e. government assistance), general conditions (i.e. corruption), and language. Again, some national tendencies in the perception of cooperation barriers have been discovered. However, the following barriers seem to be more important than the others: general conditions prevailing in a country, the lack of assistance in developing cross-border relations and weak financial conditions.

Van de Vrande et al. (2009) studied also barriers to open innovation. They discuss the following categories of factors hampering the open innovation practices: administration, finance, knowledge, marketing, organization/culture, resources, intellectual property rights, quality of partners, adoption, demand, competences, commitment, idea management and others. Different sets of barriers are connected to various types of innovation activities, whereby the organization and culture related barriers seem to be most significant.

Threats related to cooperation in Polish companies and collaboration obstacles have been examined in the abovementioned research carried out by Szuster (2009), Nowak (2009) (cooperation links in MSEs), Zaremba (2009) (exchanging data between medium size enterprises and their customers) and Stepień (2011). The reasons behind the cooperation deficiencies haunting Polish MSEs have also been looked into by M. Strzyżewska (2011). The following are the most often listed barriers in Nowak's research: delayed deliveries, fear of failure to observe contract clauses, lack of trust, insufficient information about the customer, anxiety about possible changes in cooperation conditions without proper notice, and information flow. What is interesting, certain differences in perceiving the abovementioned barriers have been thought to depend on company size. As for Zaremba's respondents, they have mentioned the following basic obstacles hindering entry into effective collaboration: too many competitive projects/tasks, no cooperation between company organizational units, no partnership limiting technologies, no belief that cooperation may be improved, and insufficient experience of staff with regards to the management of large restructuring projects.

According to the literature, one of the most important factors influencing the cooperation is trust (Danik, Żukowska, (2011).

2. Motives of and barriers to cooperation in the Polish engineering industry – research outcomes

Both the motives of and barriers to cooperation have been analyzed in numerous Polish and foreign studies some of which (e.g. Das et al., 1998) suggest that cooperation motives regarding various spheres of company activity may be quite diverse. The purpose of this paper is to check whether the said motives and barriers are in fact different in the context of divergent cooperation scopes.

2.1. Aim of the research, research sample and methods used

The rising significance of the broadly understood company cooperation is conducive to verifying the research theses proposed in this regard. The main reasons for taking up this empirical study are to define the motives for which Polish companies cooperate with one another, to specify the subject scope of that cooperation, and to find both durable elements and problems occurring therein.

For the sake of the study, it has been assumed that the engineering industry in Poland encompasses enterprises classified in PKD (Polish Classification of Activities) 2007, division C – industrial processing, sections $26-29^*$. The empirical examination concerning the companies involved in the Polish engineering industry was conducted in March 2009 with an all-Polish sample of 155 firms representing this line of business.

Important outcomes from this research, such as cooperation linkages in capital groups or cooperation in different firms functions are presented in several articles (Gołębiowski, Lewandowska, 2009, 2010a,b; Lewandowska, 2010).

The research project was executed in 2009 by Tomasz Gołębiowski and Małgorzata Lewandowska under the framework of statutory analyses conducted by the Warsaw School of Economics (pol. *Szkoła Główna Handlowa* – SGH). The area research has been commissioned to the Marketing Study Center Indicator which applied the CATI method. The largest number of enterprises (77) belonged to the section "production of machines and appliances not classified elsewhere", 36 to the section "production of automobile vehicles, trailers, and semi-

PKD (pol. *Polska Klasyfikacja Działalności Gospodarczej*, eng. Polish Classification of Business Activity) 27-29, i.e.: production of computers, electronic and optical equipment (section 26); production of electric appliances (section 27); production of machines and appliances not classified elsewhere (section 28), as well as production of automobile vehicles, trailers, and semitrailers – apart from motorcycles (section 29). This classification is referred to in sections 29-34 PKWiU (pol. *Polska Klasyfikacja Wyrobów i Usług*, eng. Polish Classification of Products and Services).

trailers", 25 to the section "production of electric appliances", and 17 to the section "production of computers, electronic and optical equipment". The analysis concerned 91 large companies (with at least 250 employees) and 64 medium size enterprises (from 50 to 249 employees).

2.2. Research results

Based on the mean results it was found out, that the most important motives of cooperation, both in general for all firms functions and separately for each function were: improvement of product quality (M = 0.74, SD = 0.44), better access to final markets (M = 0.70, SD = 0.46) and improvement of production processes (M = 0.64, SD = 0.49), whereas the least important were: decline of local demand (M = 0.32, SD = 0.47), the need to internationalize (M = 0.32, SD = 0.47) and informal contacts between managers (M = 0.21, SD = 0.41). Somewhat surprisingly, increasing of products range was one of the important motives of cooperation in R&D (M = 0.45, SD = 0.51), whereas in production cooperation it was one of the least important motives (M = 0.22, SD = 0.42).

Although there are some exceptions, in general the results indicate, that cooperation motives for the given sample are universal for all company functions.

As for cooperation barriers, the general results for all firms functions indicate, that the most influential cooperation barriers are: negative cooperation experience (M = 0.46, SD = 0.84), lack of full trust (M = 0.46, SD = 0.80) and legal barriers (M = 0.43, SD = 0.80). Although the indications for cooperation barriers in each of firms functions slightly differ among each other, the ranking is very similar to this for the average for all functions. It seems, that as it was in the case of cooperation motives, also cooperation barriers are universal and do not differ between various firms functions. The only visible difference is the strengths of perception of the most important barrier – the lack of trust. In R&D cooperation the mean reached 0,57, whereas the average for all functions attained only 0.46.

Indication for the least important cooperation barriers (average for all functions) were the following: necessity to share profits (M = 0.22, SD = 0.60), language barriers (M = 0.21, SD = 0.49) and lack of need for cooperation (M = 0.20, SD = 0.56). Again, as it was in the case of most important barriers, the indications for particular firm functions were quiet similar as the general average for all functions.

Conclusions

Concluding the considerations, it is worth noting that the analyzed data form but an illustration of behaviors in the examined sample, and the small number of individual observations makes it impossible to draw far-reaching conclusions.

It should be pointed out, however, that companies' declarations both on motives and cooperation barriers are universal for all company functions.

In the ranking of cooperation motives, access to final markets, improvement of product quality and improvement of production processes were ranked the highest.

This may lead to the conclusion, that surveyed Polish firms from engineering industry, eager to enter international markets, on one hand rely to high extend in their competitive strategies on process innovations in order to maintain their cost/price competitive advantage, on the other do make efforts to compete based on product quality.

As for cooperation barriers, the general results for all firms functions indicate, that the most influential cooperation barriers are: negative cooperation experience, lack of full trust and legal barriers.

Our research supports earlier findings indicating the lack of trust in Polish society (Growiec and Growiec, 2011). Moreover, the study confirms it's adverse effect on the cooperative approach among Polish companies.

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Source: Own calculations based on research data.

Table 1. Motives of cooperation in the Polish engineering industry – research outcomes

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BarriersMeanSDBarriersMeanSDBarriersMeanSDBarriersMeanNegative cooperation experience 0.46 0.84 Lack of full trust 0.57 0.77 Lack of full trust 0.46 Lack of full trust 0.36 0.37 0.77 Lack of full trust 0.42 Lack of relating new competitors 0.30 0.37 0.76 Negative cooperation experience 0.40 Lack of relating new competitors 0.30 0.30 Negative cooperation experience 0.42 0.42 Siks of creating new competitors 0.32 0.70 Lack of full trust 0.42 Necessity to share profits 0.20 0.30 Necessity to share profits 0.20 No need to cooperate 0.20 0.30 0.32 0.32 0.32 No need to cooperate 0.20 0.30 0.32 0.32 0.32 No need to cooperate 0.20 0.30 0.32 0.32 0.32 No need to cooperate 0.32 0.32 0.32 0.32 0.32 No need to cooperate 0.32 0.32 0.32 0.32 0.32 No need to cooperate 0.32 0.32 0.32 0.32 0.32 No need to cooperation experience 0.32 0.32 0.32 0.32 No need to cooperation experience 0.32 0.32 0.32 0.32 No need to cooperation experience 0.32 0.32 0.32 0.32 No need t	All functions			R&D			Production		
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Legal barriers0.430.80Negative cooperation experience0.460.82Legal barriers0.04Risk of creating new competitors0.390.71Legal barriers0.410.81Risk of creating new competitors0.40Necessity to share profits0.220.60Language barriers0.250.65Necessity to share profits0.21Language barriers0.210.49Necessity to share profits0.250.65Necessity to share profits0.21Voneed to cooperate0.210.30No need to cooperate0.250.65Language barriers0.20No need to cooperate0.200.25No need to cooperate0.260.23No need to cooperate0.21Marketin0.200.78Needeto cooperate0.460.73No need to cooperate0.21Barriers0.410.78Language barriers0.240.78NoLack of full trust0.500.78MeanSD0.74Negative cooperation experience0.440.73No need to cooperate0.24Negative cooperation experience0.440.73No need to cooperation0.44Negative cooperation experience0.450.740.75NoLegal barriers0.410.79No0.740.75Negative cooperation experience0.450.740.75NoNegative cooperation experience0.450.740.75Negative cooperation experience0.450.	Lack of full trust	0.46	0.80	Risk of creating new competitors	0.51	0.76	Negative cooperation experience	0.42	0.79
Risk of creating new competitors0.390.71Legal barriers0.440.81Risk of creating new competitors0.40Necessity to share profits0.220.60Language barriers0.250.65Necessity to share profits0.22Language barriers0.210.49Necessity to share profits0.250.65Necessity to share profits0.21Language barriers0.210.74Necessity to share profits0.250.65Language barriers0.20No need to cooperate0.200.55No need to cooperate0.200.53No need to cooperate0.20Marketin0.200.78Need to cooperate0.240.78No need to cooperate0.24Marketin0.740.78Rarriers0.540.85No need to cooperate0.24Marketin0.410.73Negative cooperation experience0.440.750.84Negative cooperation experience0.430.840.840.84Negative cooperation experience0.440.750.840.75Negative cooperation experience0.440.750.840.75Negative cooperation experience0.440.750.840.75Negative cooperation experience0.440.750.840.75Negative cooperation experience0.440.750.840.75Negative cooperation experience0.440.750.750.75Negative cooperation experience0.440.750	Legal barriers	0.43	0.80	Negative cooperation experience	0.46	0.82	Legal barriers	0.42	0.77
	Risk of creating new competitors	0.39	0.71	Legal barriers	0.44	0.81	Risk of creating new competitors	0.40	0.71
	Necessity to share profits	0.22	0.60	Language barriers	0.25	0.56	Necessity to share profits	0.22	0.60
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BarriersMeanSDBarriersMeanSDLack of full trust 0.50 0.78 Lack of full trust 0.54 0.84 Risk of creating new competitors 0.44 0.73 Negative cooperation experience 0.45 0.84 Negative cooperation experience 0.42 0.30 Risk of creating new competitors 0.44 0.73 Legal barriers 0.41 0.73 Legal barriers 0.44 0.73 Necessity to share profits 0.24 0.73 Legal barriers 0.42 0.73 Necessity to share profits 0.24 0.73 Legal barriers 0.23 0.23 0.52 None du converste 0.24 0.73 None of the converste 0.23 0.52 No need to converste 0.9 0.54 None of the converste 0.9 0.65	Marketing			Sales					
Lack of full trust 0.50 0.78 Lack of full trust 0.54 0.85 Risk of creating new competitors 0.44 0.73 Negative cooperation experience 0.45 0.84 Negative cooperation experience 0.42 0.80 Risk of creating new competitors 0.45 0.84 Negative cooperation experience 0.42 0.80 Risk of creating new competitors 0.44 0.73 Legal barriers 0.41 0.79 Legal barriers 0.42 0.73 Necessity to share profits 0.25 0.55 Language barriers 0.23 0.52 No need to converste 0.9 0.56 No need to converste 0.9 0.65	Barriers	Mean	SD	Barriers	Mean	SD			
Risk of creating new competitors 0.44 0.73 Negative cooperation experience 0.45 0.84 Negative cooperation experience 0.42 0.80 Risk of creating new competitors 0.44 0.73 Legal barriers 0.41 0.79 Legal barriers 0.42 0.73 Necessity to share profits 0.25 0.65 Language barriers 0.72 0.73 Language barriers 0.24 0.73 0.23 0.52 0.52 No need to conversite 0.9 0.54 No need to conversite 0.9 0.65	Lack of full trust	0.50	0.78	Lack of full trust	0.54	0.85			
Negative cooperation experience 0.42 0.80 Risk of creating new competitors 0.44 0.73 Legal barriers 0.41 0.79 Legal barriers 0.42 0.73 Necessity to share profits 0.25 0.65 Language barriers 0.23 0.52 Language barriers 0.24 0.73 0.23 0.65 No med to conversite 0.9 0.66 No med to conversite 0.9	Risk of creating new competitors	0.44	0.73	Negative cooperation experience	0.45	0.84			
Legal barriers 0.41 0.79 Legal barriers 0.42 0.78 Necessity to share profits 0.25 0.65 Language barriers 0.23 0.52 Language barriers 0.24 0.54 Necessity to share profits 0.23 0.52 No need to conversite 0.19 0.56 No need to conversite 0.19 0.56	Negative cooperation experience	0.42	0.80	Risk of creating new competitors	0.44	0.73			
Necessity to share profits 0.25 0.65 Language barriers 0.23 0.52 Language barriers 0.24 0.54 Necessity to share profits 0.23 0.62 No need to connerste 0.19 0.56 No need to connerste 0.19 0.56	Legal barriers	0.41	0.79	Legal barriers	0.42	0.78			
Language barriers 0.24 0.54 Necessity to share profits 0.23 0.62 No need to connersate 0.19 0.56 No need to connersate 0.19 0.56	Necessity to share profits	0.25	0.65	Language barriers	0.23	0.52			
No need to connerate 0.19 0.56 No need to connerate 0.19 0.56	Language barriers	0.24	0.54	Necessity to share profits	0.23	0.62			
	No need to cooperate	0.19	0.56	No need to cooperate	0.19	0.56			

Table 2. Barriers of cooperation in the Polish engineering industry – research outcomes

- "not important") of the cooperation. They were allowed to choose more than one Note: Respondents had to point out the barriers ("1" – means "important", "0" cooperation barrier.

Source: Own calculations based on research data.

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