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Power of companies in supply chains and their effect on network development

Abstract

A general supply chain functions as a closed cluster and consists of at least three companies: supplier, producer and buyer. In an optimal case the companies within a supply chain are well integrated, partnership rests on trust which results in common strategic decisions. Business practices show that there is a stronger company within the chain that uses its power position to influence network development.

The objective of the research is to measure how and what kind of power position is needed to influence the supply chain. The hypothesis states, that power and network development are opposite effects in a supply chain. Statistical examination of data gained from 221 companies state that the company with power position has advantages if the supply chain extends. SPSS analysis proves that the hypothesis is false and opens a new direction of research.

Companies within the supply chain have to cope with power structures while cooperating with each other. They tend to look for solutions to ease dependency. Using or misusing power has several factors; mainly they are inherited from the strongest link of the supply chain. This is usually a problem but the results of the statistical analysis show that still a win-win situation is needed for the companies in order to deepen the cooperation. To conclude this research the data shows that the goal is to be more competitive as a chain, not just as a company.

Keywords: cooperation, supply chain, SPSS analysis, power position, network formation

JEL Classification: L22, R11.

Introduction

A general supply chain consists of at least three companies: supplier, producer and buyer. Looking at the supply chains is essential and so the perspective

will come from the approach of clusters. Partnership and power elements will be discussed and the methodology section will explain how the hypothesis is being evaluated. SPSS statistical calculations prove that network formation and power are not opposite to each other. With the rejection of hypothesis a managerial implication is drawn and also a conclusion. The aim of this publication is to highlight the fact that there is a power player in supply chains however, the chain can still expand giving possibilities to smaller companies of a given supply chain.

1. Supply chains

In order to understand supply chains the term has to be defined. Supply chain management developed very fast in the past decades so from several definitions we chose the one closest to explain also the bits of it. We take three definitions by word in order to have a very solid starting point and background to this research. „The supply chain encompasses all activities associated with the flow and transformation of goods from the raw materials stage (extraction), through to the end-user, as well as associated information flows. Material and information flow both up and down the supply chain. Supply chain management is the integration of these activities through improved supply chain relationships to achieve sustainable competitive advantage” (Handfield, Nichols 1999). As the term and perspectives developed more aspects came into the definition. „Supply chain management is the design, maintenance, and operation of supply chain processes for satisfaction of end-users” (Ayers 2001). A more business like term explains supply chains from the best practice side as well. „Entire network of entities, directly or indirectly interlinked and interdependent in serving the same consumer or customer. It comprises of vendors that supply raw material, producers who convert the material into products, warehouses that store, distribution centres that deliver to the retailers, and retailers who bring the product to the ultimate user. Supply chains underlie value-chains because, without them, no producer has the ability to give customers what they want, when and where they want, at the price they want. Producers compete with each other only through their supply chains, and no degree of improvement at the producer’s end can make up for the deficiencies in a supply chain which reduce the producer’s ability to compete (*Business Dictionary* 2013). The practical perspective of supply chain shows the term’s complexity and it gives factors how to manage the whole as one so it also includes the whole vertical dimension of an industry. Serious point is to get value created for the customer by the end of the chain. Product or services move mainly from supplier to customer, however, information, money

can move both directions. Supply chain management as a process comprises planning and executing activities that are valid for the companies within the supply chain. Plans contain concepts, modelling, strategies, about supply and distribution. Strategic planning in supply chains should also link long and midterm plans and should concentrate on the common connection of the two. Views, missions need to be brought down to actions, the question is when and how this can be realised (Faragó 2005). A feedback is required in order to have a control on what kind of actions really moved the strategic decisions towards future goals and aims.

Supply chain can be defined from the perspective of integration so from clusters (Brown 2000). According to Brown a supply chain can function as part of a cluster, where processes of procurement and sales are highlighted. Background of the theory is regional development for which value creation by local vendors is necessary. The cluster should increase its economic influence through the supply chain so it will be able to successfully influence a geographical region. This is only possible if the supply chain is made of processes that generate high value so Tier 1 and Tier 2 suppliers and buyers are present or connected to the cluster. Chain of companies with simple activities and low value outputs cannot result in successful cluster and regional development. Research of Brown concludes that supply chain in a given region should be the starting point of a strategy aiming cluster development of the same region. Findings of Murdoch are similar but go a bit further. Supply chains should be considered as central in the network of regional development, so cannot be characterised neither vertical, nor horizontal (Murdoch 2000). Vertical integration is based on sectors, it is performance oriented, a unique producing and sales network could describe it. A horizontal integration includes rather smaller producers that due to their network connections concentrate on development and knowledge transfer. They reach regional development in other ways (Rechnitzer, Smahó 2011). Networks and clusters can be grouped in the following ways (Lengyel 2010). 'Hard' networks, 'soft' networks and clusters show different characteristics based on several aspects. Table 1 demonstrates the differences of the three types.

Table 1. Comparison of networks and clusters

1	'Hard' networks 2	'Soft' networks 3	Clusters 4
Membership	Closed, defined membership	Open, but based on membership	Not needed
Connections	Contribution	Cooperation	Cooperation and competition
Basis of cooperation	Business contracts	Regulations of members	Social value and reciprocity
Position	Stabile	Partially stabile	Flexibly changes
Increase of added value	Companies focus on their core competences	Concludes and arranges the needs for services	Exploitation of external economical impacts

Table 1 cont.

1	2	3	4
Important results	Increase of turnover and profit	Joint resources, decreased costs, performance measurement	Connection to vendors, service providers, labour market
Basis of external thrift	Shared functions and resources	Membership, flow of information	Locality, geographical closeness
Members	Companies	Companies, organizations, agencies	Companies, organisations, agencies, institutions, free riders
Goals and cohesion	Business results	Collective mission	Not needed

Source: Based on Lengyel (2010).

Vertically integrated supply chains are good examples of ‘hard’ networks. Companies take part in it with a closed membership. Every company focuses on its own advantages and core competences and works towards a goal to reach global competitiveness of supply chain. The aim is to reach higher profit. Intensity of cooperation might vary but only companies are members of the chain. A good example would be a company assembling cars and considering all its supplier and buyer companies. In contrast to this ‘soft’ networks and clusters are more open, horizontal connections are present, they are more flexible and not just profit but other aspects are essential as well. Tradition, locality, common values characterize them. ‘Soft’ network would be for instance an Italian economic area producing shoes; a typical cluster is Silicon Valley with its many companies, institutions and agencies. Lengyel underlines that in many cases clusters evolve from networks.

2. Partnerships in supply chains

Partnerships within the supply chains can be grouped according to several factors. Close and distant relationships are one approach for characterising supply chains: ad hoc agreements, cooperation with commitment, cooperation based on trust and strategic alliances show how the partnership gets more and more important (Szegedi, Prezenszki 2003). The logical next step would be the joint venture or a merger and acquisition but these would lead to the break-up of supply chains. An ad hoc order of products or services between companies or a contract that last for a shorter period of time does not comply with partnerships. These forms are only for a fast solution, a quick buyer-seller relationship where the parties would reach a fast transaction of money and products or services. The conditions are strict, market prices are set for the business, and completion should be also very fast. There are no common strategies between seller and buyer, long run relationship is not the point. A very good bargain position is the

key element of the parties involved. Cooperation based on commitment and trust shows a direction towards a future partnership. Trust has to be highlighted. After the completion of a couple of businesses the partners reach a point where they know each other so they can develop with each other. The decisions are for long run, the approach is common, the aim is to move towards a joint business development and so the contracts are only frames the work together goes beyond it because: “[...] trust is the basic condition of well functioning business relations. Network connections transform competition into cooperation, so competition will be moved to other fields or market boundaries are created according to it” (Mandják, Piricz, Kővágó 2010). Competition becomes cooperation with the help of contacts. Personal contact is essential before trust evolves furthermore trust is the basis of a long run cooperation with additional financial investments. Strategic alliance can be understood as long run cooperation between two or more independent companies that join their business activities in order to gain profit together. Long run of course does not mean a certain time interval but it shows that cooperative agreements are not temporary. In the line strategic alliance is the next step, it happens when the common goals and aims are so close the idea of a merger might come up. Management decisions analyze both interests, work is done together and companies interact on a daily basis.

3. Power in supply chains

Power can be characterized as “the ability to act or produce an effect” and the “capacity for being acted upon or undergoing an effect” or it can mean “possession of control, authority, or influence over others” (*Merriam Webster Dictionary* 2013). Furthermore power is a chance that our will can be enforced even against the opposition of others (Weber 1987). Power can be matched with strength, it influences the other party as well whether it accepts or rejects the decision. For understanding dependence on power the relationship to power has to be defined. Power structures or power relations come into existence if one party has to give in due to the other’s sanctions in the conflicts caused by different interests (Bachrach, Baratz 1962). Sanctions can be real acts or some kind of threats the point is that both sides understand the effects of it. Power can be found and works in every supply chain and determines the strongest company of the chain. If chain members understand what it means to have a strongest link then they have possibilities to respond and react.

Chains, frameworks, systems, organizations all have fundamentals that rest on common advantages and they are eager to reach win-win situations. It is ob-

vious that companies in different situations could be changed easily, but the entire supply chain would lose time, energy and money compared to the continuous cooperation. Communication is the tool of power misuse, restrictions, decreased number of orders and late payments are the subject of power misuse. Power of a company or its strength in a supply chain can be seen in most of the cases so the firm does not need to stress it. It does not need to highlight power directly, misuse of power is not necessary, having a normal way can also show that power is there. Situations, business decisions, simple surroundings all give idea which link is stronger but power can shift from one company to another in different projects. Knowledge is power. This classical saying has to be analyzed from the perspective of supply chains. Knowledge that cannot be substituted has a great value for companies. In case of research and development companies make efforts towards this tacit knowledge. Collecting continuously and working for the best knowledge puts the supply chain into a spiral and moves it further on (Bencsik 2009). Always a better, a more accurate, a developed technology is the goal so technical improvements go on all the time. Knowledge needs to be saved and stored so the supply chain members give in their best for a successful chain performance. The methodology of such knowledge saving is based on problem solving sessions that take place on meetings or during researches and tests. This drives the company towards new solutions. Knowledge will become power, if one company has that special knowledge or not many are aware of it. If knowledge is in the possession of many companies then a firm can be changed in the supply chain. In a supply chain a certain level of connection and interdependency develops gradually. Which company is dependent on the other? How can a situation arise in which instead of a partnership rather a subordinate connection is evolving? The huge number of potential suppliers and the harsh price competition among them can push a producer towards a powerful position in a supply chain. It is important to see that all the links of a given supply chain can have such factors that will be relevant in power games.

A successfully operating supply chain contains a company that has power position. We would like to show an example from the automobile industry and analyse the factors. A multinational company and its suppliers have certain relationship in the chain and some kind of space to move within the market. The international car manufacturer can push several services to its suppliers due to the market position, great quantity of orders and brand image. A supplier can be any kind of company producing metal or plastic components or providing services it is most likely that it depends on the producer. This statement is valid, if the supplier could not diversify its activity, product range and so its own clients. A company in a power position continuously demands from its supplier the

given price level according to agreements, the right quality and certain standards in quality checks, precise delivery time and long payment conditions. Accurate delivery or just-in-time delivery has at once for factors that is demanded by the producer (Chikán 2003). It is important that the transported products arrive in the right place, in the right time, in the needed quantity and in the needed quality. Till this point a supplier would not need to do anything special it could have only a contract and the partnership would not be deeper. Importance of supply chains lie in the connections within companies; not just selling and buying activities take place but others as well. This practical approach needs to be taken on. Power positions can be weakened by suppliers, if they do regular research and development, renewal of products, work on innovative approaches and techniques. These all can highlight the importance of suppliers. Dependence will be two-sided; partnership within chain members will be longer. Next step is the joint coordination of different projects. Brainstorming is indispensable for the two companies; it is the first phase of such processes. It is important to emphasize that these beginning steps are causing the breakdown of power positions. Several meetings, official gatherings, meals, factory visits, PR occasions and of course building personal connections all show the way towards a strengthening level of trust. If trust evolves between partner companies then the position of power will be pushed to the background. In such situations common work, research activities are based on at least two firms, the aim is the same for both so there is no point misusing power because one could harm itself as well. A producer does not look for another supplier because the common business advantages can lead to strengths of the supply chain (Johnson-Scholes 1997). If partnership reaches this level then outsourced personnel and experts working for both companies show how two companies can cut back on their own company hierarchies in order to save costs and concentrate on cheap solutions for the chain. There is no need to maintain divisions that are duplicated; with trust one department is enough. Personnel working for both companies and having a common interest in mind has to know exactly what is with great advantage for both producer and supplier. Apart from the above mentioned a company using a diversified strategy can supply other producers as well and reach good partnership with more companies in the same time.

There are several examples how the strongest link of the supply chain misuses its power position, how it extremely exploits the capacity of other companies and why the whole process operates unsuccessfully without any optimal factors for the chain. It can be stereotyped that producers demand a fast completion of product delivery, perfect service fulfilment in situations where these happen as orders. An example would be tyre supplying in automobile industry or

outsourced transportation service in case of food industry. In case of a contract based partnership the producer does not want further activities or services from the supplier, just the one is agreed in the contract, but if mistake or failure happens the producer changes the supplier very fast. In many situations multinational companies use their positions to decrease prices in the short run; the bargain position is the tool of their power (Handfield, Nichols 1999). Long run strategic alliance cannot be maintained or operated in such cases. The usual conclusion of the above mentioned short run situation gives competitive edge to other supply chains so more innovations and common work, strategy causes higher market share. Power position can take place between producer and customer as well. Clients with distribution channels can use the situation for their best when it comes down to precise payment. Grocery store chains or hypermarkets are good examples for the misuse of power. They use the ‘payment technique’ on purpose they can decide on payment conditions differently based on their interests.

Table 2. Factors of power misuse within the members of a supply chain as they are derived from principles of economics

Source of power	Factors of power misuse		
	<i>Supplier</i>	<i>Producer</i>	<i>Customer</i>
	essential raw materials, scarcity of resources	unique production technology	unique distribution channel
	pre-payment	fast payment	fast payment
	continuous research and development, skills	continuous research and development, know-how	analysis of customers, feedback of clients
	extracting a huge quantity of basic material	ordering a huge quantity of raw materials at once	ordering a huge amount of products at once
	diversified sources of basic materials	production linking several countries	sales activity that involves several countries
	local advantages	local advantages	customer behavior, knowledge of local culture
	market presence	market and brand image	market availability

<ul style="list-style-type: none"> • scarcity • economies of scale • globalization • regionalism • trade theories • finance • marketing • ... 	}
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We would like to highlight the factors that lie behind the power positions of a given company in the supply chain. Table 2 collects the most important ones with reference on the principles of economics. The first part of the table consists factors that are source of power. The bigger part of the table illustrates factors of power misuse. Suppliers can use the principal of scarcity for their best. Raw materials that might run out will be more and more important and so it is a factor that

can cause business opportunities that go beyond ethics. Oil resources, gold mines can influence the whole vertical of an industry not to talk about a supply chain. Gold and oil cannot be substituted for the time being. Research and development, local characteristics of markets can be factors for both suppliers and producers. Unique production technology is a factor that gives advantages for the producer company. There are several examples for this; one would be a tool manufacturer that uses its own equipment that was researched by the company itself. Innovations causing knowledge, knowhow will drive the company forward so continuous improvement will be the engine of further advantages. Payment conditions, orders in great quantities are further factors of producers that could be used for power misuse in the supply chain. Subsidiary companies have greater importance in a globalized world. In a fair partnership these subsidiaries can recommend a certain supplier for other subsidiary companies or even for the central firm. This might cause further advantages for both sides but losing one company can mean that the whole business with others is gone as well. Market and brand image comes along with company size. A well known and expensive product can attract suppliers that might like to belong to a system that gains prestige, is successful and generates profit (Józsa 2005). Such advantages can be used by the producer in a negative way as well. In case of customers of a supply chain factors include the quantity of ordered products, distribution channels and the knowledge of local consumer behaviour. Market availability, market coverage, distribution in several countries has to be taken into consideration, if a producer sells its products. Geographic location of the company becomes very important. Final sales activity can determine the success or failure of a chain. Payment condition is the most important factor for customer. Playing power games means in most of the cases that delayed payment of customer causes liquidity problems for the producer. Several food industry examples show how an enterprise gets into problems because a multinational grocery store uses 180 days for payment after receiving the invoices. Customer is the final link in the supply chain it is in connection with the consumer, the person who buys the product. Regional knowledge, knowledge about the buyer, consumer feedbacks, consumer behavior are all information for the customer and so for the whole chain. Using this information for the further improvement of the supply chain is necessary but misusing these factors can lead to extortion. A short time advantage could be gained from it but long run solutions are based on cooperation.

4. Research indication, methodology and hypothesis

After analysing background information and definition of supply chains, power and partnership we would like to introduce the research. Power in supply

chain and network development tends to block each other. The assumption needs to be examined, measured and statistically analysed. We set up a hypothesis to find out the relationship of the mentioned two factors. We use a questionnaire with quantitative and qualitative approaches. The methodology of our analysis includes primary research of 221 companies that operate in supply chains. These are suppliers, producers or buyers, they can be seen in Table 3. The questionnaire collects data of middle sized or big firms that operate in Hungary and have connections with other companies on daily basis (Harnett, Soni 1991). The basis of the sample is the list of companies received from the Hungarian Chamber of Commerce and Industry and the Hungarian Central Statistical Office. The rate of return of questionnaires is just under 3%. Data was collected in 2012 and all research findings explain the situation of companies based on the financial year of 2011.

Table 3. Statistical categories of companies in the questionnaire

		Frequency	Percent
Valid	supplier	53	24.0
	producer	91	41.2
	buyer	77	34.8
	Total	221	100.0

Beside of the company demographics we use scale questions to understand relationship between different variables. (Saunders, Lewis, Thornhill 2003). According to the questionnaire there were 1-5 scale questions about cooperation, power and depth of integration. 1 means that the statement is absolutely false and 5 means that the statement is absolutely true. Companies very much count on their vendors or buyers, they tend to understand advantages of supply chains, very high scores were given in this sense. We use SPSS statistical analysis to prove whether it is true that power and network formation are opposite processes. According to the statistical tables conclusions were drawn.

Hypothesis: *Power and network formation are opposite processes in supply chains because the company with power position blocks the continuous expansion of the supply chain.*

In order to analyze the hypothesis we use five questions of our questionnaire. The statistical evaluation and connection of the answers will highlight whether the hypothesis is true or false. In the methodology we use frequency tables, correlation tables and crosstabulation (George, Mallery 2005). The answers of the questions point out the processes of power position and network formation within the supply chain. The hypothesis is split up into two parts, we will analyse both first and second part and the gained results will show the conclusion. Table 4 is an SPSS table and it shows the sample size valid for all questions.

Table 4. Case Processing Summary of Questions – Sample Size (N)

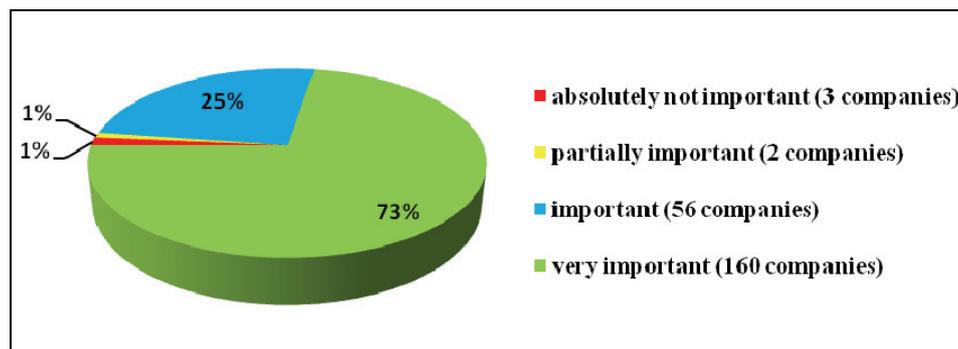
Cases					
Valid		Missing		Total	
N	Percent	N	Percent	N	Percent
221	100,0%	0	,0%	221	100,0%

5. Analysis

5.1. Analysis of questions

The first question shows the importance of cooperation: How important is a close relationship for companies with partner firms in the supply chain? The answers are shown in Fig. 1. To sum up the results 97.7% of the companies find it important or very important to have a close relationship in the supply chain. Partner companies depend on each other and a continuous cooperation can explain the very high positive results.

Figure 1. How important is a close relationship for companies with partner firms in the supply chain?



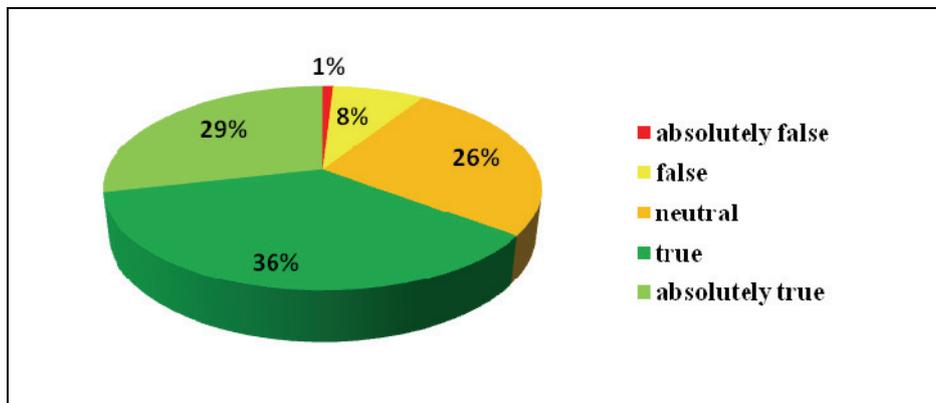
If company revenue increases, then the company would expand in other business spheres than the one it is acting in. The second question suggests whether a developing company would start up activities or processes in segments that differ from the profile. After grouping the answers it can be stated, that 20,3% of the companies would not expand in other business spheres but 58,8% of the firms would start up new processes or activities in other segments. Table 5. shows the exact figures.

Table 5. If company revenue increases, then the company would expand in other business spheres than the one it is acting in

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	absolutely false	20	9.0	9.0	9.0
	false	25	11.3	11.3	20.4
	neutral	46	20.8	20.8	41.2
	true	88	39.8	39.8	81.0
	absolutely true	42	19.0	19.0	100.0
	Total	221	100.0	100.0	

According to the third question: The company realized the advantages of cooperation in the supply chain. The answers were given by companies that are either middle or big by definition so we assume that there will be more true answers than false ones. Figure 2 shows the exact ratio of answers. We would like to highlight that after summing up the answers the statement is only for 9% of the firms false. 64.7% of them realised the advantages of cooperation in the supply chain. This is a proper result for supply chains, but we would like to stress that further research would be needed to discover the background and reasons of the other companies, namely how they can operate in supply chains without having advantages.

Figure 2. The company realized the advantages of cooperation in the supply chain



The bigger the power of the company is, the more it intends to control processes of procurement and sales. The statement of question four is absolutely false for 4 companies (1.8%), false for 9 companies (4.1%), neutral for 16 companies (7.2%), true for 110 companies (49.8%) and absolutely true for 82 firms (37.1%). A total of 5.9% show a negative result, but according to 86.9% of the companies the bigger power position comes along with an intensified control of

procurement and sales activities. This control equals the intensified control of processes of the whole supply chain.

The bigger the power of partner companies are, the more they intend to control processes of procurement and sales. The fifth question is logically the opposite of the fourth one but according to the answers the same conclusions can be made. This statement is absolutely false for 11 companies (5%), false for 19 companies (8.6%), neutral for 63 companies (28.5%), true for 89 companies (40.3%) and absolutely true for 39 companies (17.6%). After grouping the answers and neglecting the neutral ones 13.6% of partner companies do not, but 57.9% do connect power of partner companies with the intention of controlling procurement and sales. Taking the fourth question and this one into account at least 57.9% of the companies and partner firms intend to control processes of supply chains if it has power to execute the activities.

5.2. Cooperation and network formation

Crosstabulation of Table 6 proves the connection of the questions related to the hypothesis. Question 1 and 3 are the following:

- How important is a close relationship for companies with partner firms in the supply chain?
- The company realized the advantages of cooperation in the supply chain.

If cooperation is important for the company then it has to be true in the supply chain. 221 answers are in the sample and for 143 companies (64.7%) it is relevant to have close cooperation with partner firms and so these companies see also the advantages of cooperation in supply chains. The two statements are very close, they do not differ much, but the point is that a company cooperating with partner firms is willing to integrate or take part in network formation. According to the crosstabulation 5 companies (2.3%) are absolutely not able to comply with any of the two statements, the variables are false. There is a significant connection between the variables. Chi-square test was carried out, directional and symmetric measures indicate that the strength of the connection is middle (0.206). The result gained from the crosstabulation does not prove any part of the hypothesis. The company does not block cooperation or continuous expansion of supply chain, if it is able to work continuously with partner firms. The crosstabulation proves the opposite of the hypothesis, so the company helps cooperation and expansion of supply chain.

Table 6. How important is a close relationship for companies with partner firms in the supply chain?*

			The company realized the advantages of cooperation in the supply chain		Total
			false	true	
How important is a close relationship for companies with partner firms in the supply chain?	not important	Count	5	0	5
		% of total	2.3%	.0%	2.3%
	important	Count	73	143	216
		% of total	33.0%	64.7%	97.7%
Total		Count	78	143	221
		% of total	35.3%	64.7%	100.0%

* The company realized the advantages of cooperation in the supply chain. Crosstabulation.

5.3. Company expansion and cooperation according in comparison with turnover

We analyze question 1 and 2 with correlation. The presence of the connection is important and the mathematical sign of the connection. Statements are the following:

- If company revenue increases, then the company would expand in other business spheres than the one it is acting in.
- The company realised the advantages of cooperation in the supply chain.

221 companies are in the sample ($N = 221$), according to correlation table there is a significant connection between the two variables. Correlation coefficient shows that $r = 0.132$ which is a weak connection but the mathematical sign is positive. The meaning of the correlation is that the company in a supply chain is willing to expand in other sectors if the turnover is high enough to do so and this company realized the advantages of cooperating with partner companies. The positive mathematical sign is important and the presence of the correlation. Increasing turnover means also an increased market power that is in connection with power position. This positive connection proves that the hypothesis is partly false.

5.4. Cooperation and control in supply chains

The connection between question 3 and 4 can be seen in the crosstabulation. The two statements are:

- The company realized the advantages of cooperation in the supply chain.
- The bigger the power of the company is, the more it intends to control processes of procurement and sales.

These statements are two variables in statistical sense. We will analyse the first part of the hypothesis, whether control is the tool of cooperation and power and they weaken or strengthen each other. Sample size is the same as before $N = 221$, Table 7. shows a connection between variables. For 130 companies (58.8%) it is true that they realised the advantages of cooperation in supply chain and if they get bigger power then they would control processes of procurement and sales. Connection is steady, relationship of the two is proved because only for 16 companies (7.2%) are both variables false. Connection is significant and all statistical assumptions are met. We conclude that if a company realised the advantages of cooperation in supply chain then it works towards its power position, if this position is met then it would like to control processes of procurement and sales. It is the interest of the company to expand supply chain with new partner companies and the goal is to reach power position and gain control. This summary partially denies the hypothesis because power and cooperation so network integration are not processes that work against each other.

Table 7. The company realized the advantages of cooperation in the supply chain*

			The bigger the power of the company is, the more it intends to control processes of procurement and sales		Total
			false	true	
The company realized the advantages of cooperation in the supply chain.	false	Count	16	62	78
		% of total	7.2%	28.1%	35,3%
	true	Count	13	130	143
		% of total	5.9%	58.8%	64,7%
Total	Count	29	192	221	
	% of total	13,1%	86.9%	100.0%	

* The bigger the power of the company is, the more it intends to control processes of procurement and sales. Crosstabulation.

5.5. Connection between power and control

Connection between power and control will be analyzed with the help of questions 4 and 5 and the results will be shown in the crosstabulation (Table 8).

- The bigger the power of the company is, the more it intends to control processes of procurement and sales.
- The bigger the power of partner companies are, the more they intend to control processes of procurement and sales.

Table 8. The bigger the power of the company is, the more it intends to control processes of procurement and sales*

			The bigger the power of partner companies are, the more they intend to control processes of procurement and sales		Total false
			false	true	
The bigger the power of the company is, the more it intends to control processes of procurement and sales	false	Count	22	7	29
		% of total	10.0%	3.2%	13,1%
	true	Count	71	121	192
		% of total	32.1%	54.8%	86,9%
Total	Count		93	128	
	% of total		42.1%	57.9%	

* The bigger the power of partner companies are, the more they intend to control processes of procurement and sales. Crosstabulation.

The two variables in fact intend to find the same answer. Where power position is there is also control to find, this applies to the company and also to partner firms. The controlled process can be anything but in case of supply chains it is mostly procurement and sales because through these processes can partner companies interact. These processes are the places where one company can influence the other or force the other to the wished direction. There is a significant connection between variables, chi-square test indicates a value of 0.000 in which sample size is $N = 221$. Symmetric measures show that the level of connection between variables is middle, value of phi is 0.266. For 121 companies (54.8%) both variables apply, but for 22 companies (10%) none of the variables are true. The one true and one false result can be neglected here because they make no difference in statistical sense. According to research results it is proven that where power is to find there is also control. The more power a company has, the more it intends to control business processes in supply chain. This statement is true and another conclusion is that the company with power position would like to keep up its status.

6. Rejection of hypothesis

We analyzed five questions with statistical methods including frequency, correlation and crosstabulation in order to prove connection between variables relevant for the hypothesis. Significant results state that companies intend to have close cooperation with partner companies. In supply chains this means a daily interaction between departments of different companies this cooperation helps network development. Companies realize advantages of cooperation and the bigger the turnover is the more they intend to expand towards other business segments. The

market power of the company is in relation with increasing turnover, but this does not block network development it generates it. The first part of the hypothesis is false so power and network formation in supply chains are not processes that block each other. It is proven that companies cooperate but with bigger power position also bigger control is the goal to reach. Companies do not intend to block the expansion of supply chains, rather they intend to control processes like procurement or sales. The second part of hypothesis cannot be justified, it is also false. Partner companies also aspire to reach power position and control; they plan this in line with continuous cooperation and expansion. Power and network formation are opposite processes in supply chains because the company with power position blocks the continuous expansion of the supply chain. According to the research analysis the hypothesis must be rejected.

7. Managerial implications

The rejection of the hypothesis indicates an implication for researchers and managers of companies as well. The gained result is backed by statistical figures but calls for an explanation. Supply chains act as clusters in which expansion is possible, but very hard. On purpose the company with power has no interest to block network development because maintaining its power is still possible also with more companies in the chain. Managers of partner companies need to work with the company with power position, however, an expansion or network development gives them also chances for further collaboration. This dual understanding of power and network development within supply chains opens a new direction of research in which the boundaries will have to be examined. This might be the next step and the basis of further analysis.

Conclusions

Power and network formation are not opposite processes of supply chains they can go along each other keeping up the continuous expansion of the supply chain. A hard network compressing supplier, producer and buyer companies will always have one with power position. Statistical data and SPSS results show that usually it works well for the supply chain, if this company is embedded in a partnership based on trust with strategic orientation. The company with power normally stresses a common goal for the whole supply chain that will lead to competitiveness. In order to work efficiently and reach supply chain excellence member

companies use common language, have the same plans, strategies, goals and a communication model where each member participates so network formation cannot be blocked by power.

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