Conflict Resolution in Vertical Collaborations in the Agri-food Sector

Vera Belaya[1] and Jon Henrich Hanf[2]

[1]*Thünen Institute, Braunschweig, Gemany*
[2]*Geisenheim, University Geisenheim, Germany.*
vera.belaya@ti.bund.de, Jon.Hanf@hs-gm.de

ABSTRACT

Vertical collaborations in supply chains imply the achievement of mutual benefits for the participating partners such as increasing sales, reducing costs and risks and improving the overall performance. However, the benefits are sometimes difficult to gain due to existing differences in interests and goals of the individual chain members. Thus, conflicts are inevitable. Power can be seen as one of the mechanisms to resolve conflicts in supply chains. By and large, the findings provide support that power could have a profound impact on conflict resolution in vertical collaborations. However, in order to successfully resolve conflicts the knowledge of different power types is essential.

Keywords. conflict, supply chains, power, Russia, vertical collaboration

1   Introduction

Vertical collaborations in supply chains imply the achievement of mutual benefits for the participating partners such as increasing sales, reducing costs and risks and improving the overall performance. However, the benefits are sometimes difficult to gain due to existing differences in interests and goals of the individual chain members. Each firm tries to maximize its own profit and to minimize its own costs which may occur at the expense of other actors' profitability. Simchi-Levi et al. (2000) named two important reasons for these existing difficulties: the heterogeneity of business partners and the dynamics of the whole system. Since members are different from one another in many ways (resources, objectives, capabilities, etc.), the conflicts are inevitable. Examples of conflict between supply chain members may include such issues as disputes over maintenance of inventory levels, discount merchandising, representational policies, prices (Stern et al., 1973) or product quality, customer relations, hours of operation (Lusch, 1976). One can say that conflicts in supply chains and marketing channels have been dealt with as a pervasive phenomenon.

Power can be seen as one of the mechanisms to resolve conflicts in supply chains, since it can be considered to be one of the strongest and most influential tools for managing business-to-business relationships. Its importance is underlined by many scientists who refer to power as a key behavioural construct which is a driver for improved networking and better performance and has a significant impact on buyer-supplier relationships (Etgar, 1976; Liu and Wang, 2000). According to Cox (2002) power is at the heart of any business-to-business relationship and that power can be used very effectively to achieve a better deal between buyers and suppliers in supply chains. The biggest advantage of using power could be its commanding nature which is perfectly suited for completing specific managerial tasks. Nevertheless, the actual role of power in business-to-business relationships has been treated in contrasting ways in the literature. For many decades there has been a discussion going on about the positive and negative aspects of power (Craig and Gabler, 1963).

In the endeavour to investigate the role of power for conflict resolution we turn to the example of Russian agrifood-business. The Russian example shows that power asymmetries within supply chains result in many different conflicts. In Russia suppliers traditionally are used to occupying a strong position in relationships with domestic buyers. The empirical findings of Popova and Sorensen (2001) demonstrate that Russian suppliers are in a stronger and more dominant position and have the upper hand in the negotiation of contracts with buyers. This fact is also supported by Kouchtch (2005) who discusses the evolution of industrial companies' relationships with suppliers and defines their trend of development in the view of transformation process relationships among Russian industrial companies and their suppliers. He notes that Russian suppliers' powerful position on the market is due to the supreme significance of the raw materials market. Among some of the reasons of suppliers' powerful position in Russia are weak enforcement of contracts, low transparency of legal system, and persisting corruption (Tretyak and Sheresheva, 2004), insufficient quality of delivered goods (Struck and Strubenhoff, 2002), difficulties in obtaining supplies and raw materials (McCarthy et al., 1993), and a supply chain characterized by distrust and absence of professionalism (Tretyak and Sheresheva, 2004).

Hence, the aim of our paper is to investigate the role of power in resolving conflictful situations arising in supply chains and to work out recommendations for managers about how to use power as a tool for conflict resolution. Russian agri-food processor-supplier relationships serve as an empirical setting for our research. The structure of our papers is as follows. In the next chapter, we study power and conflict and develop a set of hypotheses which are tested in the empirical part of the paper. The article ends with a discussion and concluding remarks.

2 Theoretical background

2.1 Power and conflict

Power generally refers to the ability, capacity or potential to get others do something, to command, to influence, to determine or to control the behaviours, intentions, decisions or actions of others in the pursuit of one's own goals or interests despite resistance, as well as to induce changes (Belaya and Hanf, 2009). However, it is not enough to talk about power in the generic sense. It is necessary to be specific about the nature of the power. French and Raven (1959) and Raven and Kruglanski (1970) used the following classification of power: coercive, reward, expert, informational, legitimate and referent. They say that power is derived from the more dependent firm's perception of the dominant firm's ability to mediate rewards, mediate punishment, its legitimate right to prescribe behaviour, some specific knowledge or expertise, and the extent to which the more dependent firm identifies with the dominant firm.

Johnson et al. (1993) developed the classification power into mediated (coercive, reward, legal legitimate) and non-mediated power (expert, informational, referent, traditional legitimate power) (figure 1).
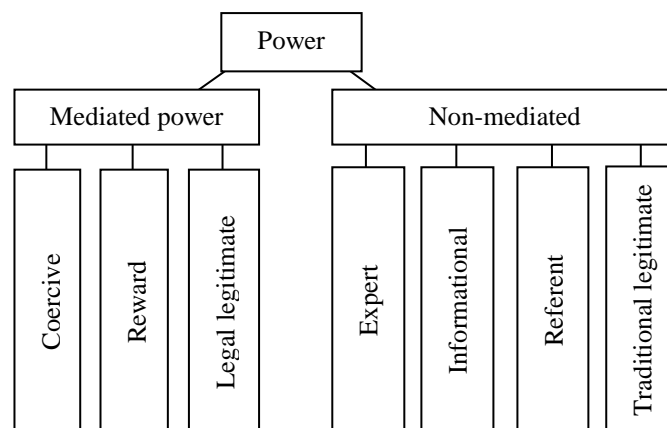
Figure 1. Classification of power by Johnson et al. (1993) (Source: Own illustration based on Johnson et al., 1993)

Coercive power enables a power holder to mediate punishments to others: for example, to dismiss, suspend, or reprimand them, or to make them carry out unpleasant tasks. It is usually based on the expectation of punishments and/or threats and relies on the belief that punishments will be forthcoming or rewards will be withheld unless the requested behaviour is exhibited (French and Raven, 1959).

Reward power depends on the ability of the power holder to offer or mediate rewards to others. It is based on the degree to which the individual can give others a reward of some kind such as recommendations, desired gifts, and increases in pay or responsibility. If a focal company can mediate rewards due to the access to resources which are valuable to other actors, then it can make the actors perform in the way the company desires.

Legal legitimate power is based on a system of rules that is applied in accordance with legal principles or laws. It stems from a legitimate right to influence and an obligation to accept this influence(French and Raven, 1959).

Expert power is derived from the skills or special knowledge of the power holder in a specific subject. This knowledge applies to the restricted area in which the specialist is trained or qualified. In the case of a supply chain network, the expert power of a focal actor depends on the perception of other actors that it possesses a special expertise (Belaya and Hanf, 2012).

Informational power stems from the ability to explicate information not previously available and the ability to demonstrate the logic of suggested actions with this information (Raven and Kruglanski, 1970). They believe that even though the difference between expert and informational power is subtle, the power holder tends to be well-informed, possess up-to-date information and can, therefore, persuade others. The difference between these two types of power can be observed when the power holder wanting to apply expert power may develop credibility and trust through image and respect, while the power holder wanting to apply informational power may not.

Referent power is based on an individual's ability to be attractive to others and depends on the charisma and interpersonal skills of the power holder. French and Raven (1959) define the source of referent power as "a feeling of oneness or a desire for such an identity". It is difficult to identify specific instances of pure referent power in interfirm relationships, since it usually occurs in conjunction with other kinds of power and plays a stabilizing role (Beier and Stern, 1969).

Traditional legitimate power derives from societal customs, commonly accepted codes or standards and usually involves positions and not the personal qualities of individuals. It is also sometimes called "position power" and is usually accompanied by various attributes such as uniforms, offices, etc. For instance, at some food markets a small number of the biggest companies hold a significant share of the market, which allows them to enjoy a powerful position (Glauben and Loy, 2001).

This dichotomization of power was also extensively used by a number of scientists in the context of marketing channels and supply chains (Maloni and Benton, 2000; Zhao et al., 2008). Non-mediated power is different from the mediated power in the way that it is not specificallyexercised or threatened to manipulate the target (Maloni and Benton, 2000). In fact, coercive and reward power represent the use of sanctions. In the case of coercive power the sanctions are negative and the reward power implies the use of positive sanctions. Legitimate power is the only kind of power among the remaining kinds which also refers to the use of sanctions (Saam, 2007), but the legal character of sanctions is apparently more effective than the traditional one. Thus, non-mediated power can be viewed as a possibility or potential, whereas the mediated power represents the direct action or in other words the intentional use of power by the powerful actor.

Some scholars argued that using power in supply chains may be effective in some cases, however it can also yield unwanted side effects, such as evoking conflict (Gaski, 1984, Hunt and Nevin, 1974) and opportunistic or defensive behaviour of the less powerful actors (Ojala and Hallikas, 2007). Conflict may be defined as a disunity caused by competitive or opposing action (Maloni and Benton, 2000) or a as the actual or threatened use of force (Dubin, 1960). Lusch (1976) defined conflict operationally as the frequency of disagreement between manufacturer and dealer over numerous issues. The causes of conflict are rooted in the incompatibilities of beliefs, values, and goals, or in differences in desires for esteem, control, and connectedness (Wilmot and Hocker, 2011).Therefore, conflicts seem to be inherent in all relationships including supply chain relationships because of the existing interdependences among partners.

In the context of supply chains the existence of conflict seems to be unavoidable due to the complexity of relationships among the supply chain actors. There are providers of raw materials and components to contract manufacturers, product designers, logistics-management providers, distributors and resellers. Each of these actors has its own opinion and interest which could inevitably lead to conflict. However, conflicts need to be resolved as soon as possible since their existence simply hinders the effective functioning of supply chains and causes additional costs.

2.2 Theoretical model and development of hypotheses

But how does power affect the conflict resolution in supply chains? Many authors put an emphasis on the necessity for symmetry and mutuality in order to foster longer-term relationships, whilst power asymmetries are associated with less stability and more conflict and are considered to be detrimental to sustaining a business relationship (Rokkan and Haugland, 2002). The party with more power would always use it for its own benefit, since the imbalance of power fosters abusive practices. For example, powerful manufacturers have been noted to use their position of strength to push for price concessions from suppliers in order to obtain superior economic returns (Halley and Beaulieu, 2001).

However, there is a body of literature stating that power can be used as an effective tool for promoting harmonious relationships and solving conflicts. Condliffe (1944) stated that power, involving the possible use of force, is not necessarily evil but may be used to achieve moral purposes. Kumar (2005) emphasized the role of power in providing for effective coordination of the exchange relationship, rather than its potential for exploitation and argued that power is vital, because it can take the relationship out of the realm of chance and give it purpose, order, and direction. Therefore, there seems to be two views on the role of power for solving conflicts in supply chain relationships - positive and negative.

In order to develop our theoretical model and research hypotheses about the effects of power on conflict we use the classification of power by Johnson et al. (1993) (figure 2).
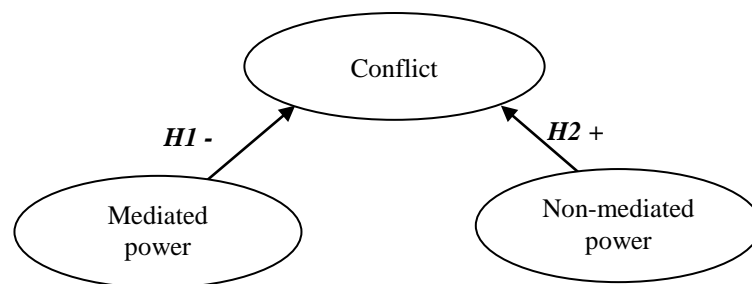
Figure 2. Theoretical model of the effects of power on conflict (Source: Own illustration)

The use of different kinds of power may have diverse effects on conflict. The studies of Gaski (1984), Lusch (1976) and Hunt and Nevin (1974) suggest that the use of coercive power is associated with increased conflict, while the use of non-coercive power exhibit the opposite relationship. Other researchers have argued that the use of coercive power will lead its possessor to exploit the other party (Bannister, 1969; Robicheaux and El-Ansary, 1975), for example in order to negotiate lower costs, higher quality, reasonable delivery times, and special exigencies (Maloni and Benton, 1997), which is seen detrimental for the weaker actor (Stolte and Emerson, 1976). So coercion is the classical case of the negative side of power. A number of scientists found that the use of non-coercive power has a positive impact, since it aims at changing the attitude of the other party (Kähkönen, 2014) and results in a greater level of satisfaction of the weaker party than in the case of coercive power (Hunt and Nevin, 1974). Gaski (1984) stated that it is through reward power that partner perceptions are managed to create harmonious and enduring interorganizational exchange relationships. The positive effect of legitimate power can be observed in providing a positive effect on exchange relationships, as the distribution of power has become legitimate over time (Kalafatis, 2000). The study conducted by Lee and Low (2008) indicated that legitimate power positively affects satisfaction in business relationships. Based on this argumentation, we have developed the following research hypothesis about the effect of mediated power on conflict:

Within a supplier-buyer relationship the use of mediated power negatively affects conflict (H1).

Expert power is considered to be less effective than coercive and reward power because it is less flexible and not related to specific performance of supply chain members (Etgar, 1976). Besides, its effectiveness may decline over time. For example, expert advice, once given, may provide the supply chain actor with the ability to operate without such assistance in the future. Another major disadvantage is that it may have a more limited scope of applicability than rewards and penalties. The fact that information is shared and exchanged may be convincing for the target of influence, since the power holder does it voluntarily. However, Payan and McFarland (2005) found that information exchange has a lower likelihood of compliance with the requirements of the power holder because it is the most unfocused kind of power and because it lacks specificity as to what needs to be done. As for the referent power, the use of a

positive image and good reputation by a supply chain leader may positively impress the supplier and foster the development of trust, since it is ranked highest among other kinds of power in connection to satisfaction and since high degrees of identification between supply chain members may be more associated with moral purpose and commitment rather than with the threat of punishment (Lee and Low, 2008). Therefore, we argue that non-mediated power affects conflict in the following way:

Within a supplier-buyer relationship the use of non-mediated power positively affects conflict **(H2).**

3 Empirical study

3.1 Data and sample

To test our research assumptions we conducted a series of expert interviews via telephone about relationships of international food processing companies with their suppliers in Russia. We contacted 1000 companies of foreign origin registered in Russia as companies operating in the area of food processing with at least 10% of foreign direct investment capital. A total of 89 complete telephone interviews were conducted, which represents the response rate of 8.9%. We made a thorough selection of the interviewees who were chosen according to their leading positions in order to effectively gather relevant information (Blankertz, 1998; Merkens, 2000; Patton, 1990). Specifically, we employed an expert (concentration) sampling approach (Fritsch 2007; Patton, 1990). The persons chosen were in positions with a high level of concentration of appropriate information.

Before contacting the companies from the database we made a thorough pre-test study by contacting 15 experts from the field of agri-food business and conducting telephone conversations with them. This pre-test allowed us to identify potential problems and to improve the questionnaire, which was designed in three languages (Russian, English and German) in order to allow the experts speaking different languages to participate in the questionnaire. The translation of the questionnaire was made by the author and cross-checked by two experts. The interviewees were first informed about the interviews via email. After receiving their consent, the calls were given at the time appointed by the interviewees.

The survey tool contained three sections: 1) Introduction; 2) Mechanisms for managing agri-food supply chains; 3) Problems with partners. The questions were grouped according to the thematically connected blocks within each section. We applied the four-point Likert scala (Worcester and Burns, 1975) in order to avoid the neutral position. The answer option "don't know" was also given in order to increase the reliability of the answers. One of the first questions which was asked was "Do you feel responsible for coordinating the supply chain of this product ("from the field to the fork")?" Two answer options were given: "yes" and "no". We selected the focal companies which were the target of our research by asking this question. As the results show, most of the respondents chose Russian as the interview language (97%). Only 2% chose English and 1% - German. Duration of interviews was between 10 and 45 minutes, which makes the average duration per interview about 16 minutes.

The companies from our sample stem from a variety of different Western European and North-American countries. Altogether, the head offices of the companies originate from 27 different countries. The biggest group of the interviewed companies comes from Germany (21%).Some other important big groups were from the USA, France, the Netherlands and Italy. Also Asian countries (China and Singapore) were represented. The majority of the companies operated in Moscow and the Moscow region (81%). Among the respondents were general directors, sales managers, category managers, logistics managers, quality and supply chain managers, etc.

3.2 Methodology

Partial Least Squares (PLS) path modeling represents one of the techniques of Structural Equation Modeling (SEM). SEM represents a statistical methodology which allows the causal relationships among several complex constructs composed of a number of separate indicators to be investigated.PLS has been enjoying increased popularity in many different scientific disciplines and areas of research recently. The idea of PLS was developed by Herman Wold as an econometric technique for statistical data analysis (Wold, 1966). This technique was designed for working with complex models and small sample sizes as compared to the number of variables and represents a modeling technique linking a block of response variables with a block of explanatory variables. PLS generally combines the features of Principal Component Analysis (PCA) and Multiple Regression (MR) and represents a second-generation multivariate statistical method for analysing indirectly measured causes and effects of different concepts in complex behavioural systems. PLS Path Modeling is able to simultaneously model the structural (relationships among latent variables) and the measurement paths (relationships between a latent variable and its manifest variables). The direction of pathways and arrows in the measurement model and the causality

between the latent variables and its indicators can either be described by a reflective or a formative mode (Albers and Hildebrandt 2006; Jarvis et al., 2003).

Numerous researchers have addressed the advantages of PLS (Jöreskog and Wold, 1982; Fornell et. al., 1990). One of the advantages of PLS is its ability to handle huge amounts of data in a situation when there is limited theoretical knowledge. PLS is considered to have a better ability for estimating complex relationships. Very complex models with multiple latent variables and indicators can be estimated and analyzed with PLS because the algorithm treats the model step by step and does not face the model complexity as a whole in one single step.

Besides, PLS has minimal demands on measurement scales, sample size, and residual distributions (Chin, 1998). The PLS path modeling is more robust and it can be used even in cases when measurement models are falsely specified (Jarvis et al., 2003). It is also simple to use for both formative and reflective indicators and can be used to estimate latent constructs with only one manifest indicator (Hair et al., 2006). In addition, despite the fact that PLS is generally considered to be prediction oriented, it can also be used for theory confirmation, since it can predict a set of dependent variables from a large set of independent variables (i.e., predictors).

Another advantage of PLS is its ability to deal with small samples. Although there is no unanimous agreement as to what a 'small' sample size really means, PLS is generally applicable in situations when the sample size is very small. There is a strong rule of thumb which allows the sample size be equal to: (1) ten times the scale with the largest number of formative indicators, or (2) ten times the largest number of structural paths directed at a particular construct in the structural model (Chin, 1998). There is also the weak rule of thumb which suggests using a multiplier of five instead of ten for the described requirements (Tabachnik and Fidell, 1989). Chin and Newsted (1999) used PLS for estimating a model with a sample size of 50. Others report on even lower numbers of observations possible (27 variables using two latent constructs with a data set consisting of ten cases) (Chin et al., 2003). Generally one should be cautious with smaller sample sizes, since they begin to lose their explanatory power and may represent problematic solutions (Nasser and Wisenbaker, 2003). However, this discussion should be continued in each individual case in order to able to reason about the appropriate technique for a certain sample size.

The advantages of PLS have encouraged its application more recently in agri-food business (Schulze et al., 2006; Gagalyuk et al., 2010; Gagalyuk, 2011; Herzlieb, 2011). Schulze et al. (2006) investigated relationship quality in the German pork and dairy sectors based on 566 face-to-face interviews. Gagalyuk (2011) investigated the goal achievement in supply chain networks on the example of the Ukrainian agri-food business by using a data set of 101 branded food processing companies. PLS was also used for even smaller sample sizes (e.g., 67 – in Herzlieb (2011)).

Therefore, the decision to use PLS in these studies was based on such considerations as small sample sizes; early stages of research development with high complexity and low theoretical information; theoretical problems such as inadmissible solutions (i.e., negative error) and factor indeterminacy; as well as the possibility to use both formative and reflective indicators simultaneously. The main advantages of using PLS can be summarized as follows. Firstly, PLS path modeling algorithm allows using both reflective and formative way of modeling without causing any problems. Secondly, PLS can be used to estimate models for fairly small samples. Thirdly, PLS can cope with complex models with a high number of latent and manifest constructs in relation to the number of observations without causing estimation problems. Fourthly, PLS path modeling uses few or no distributional requirements.

3.3   Results of PLS path modeling

The evaluation of results of the PLS path modeling is accomplished in two steps: 1) the assessment of the measurement (outer) model and 2) the assessment of the structural (inner) model (Chin, 1998).In our case the measurement model is a reflective one. The outer model is evaluated by examining the individual item reliabilities and convergent validity of the model. The individual item reliabilities are examined through the factor loadings of the items on their respective constructs. According to Hair et al. (1998), an item is considered insignificant and removed from the model if its factor loading is less than 0.4. The remaining indicators represent more than 50% of the share of the variance of each indicator in respect to the corresponding latent variable and can be considered as the most reliable. The blue ovals represent the latent constructs, whereas the yellow rectangles represent the manifest variables (figure 3).
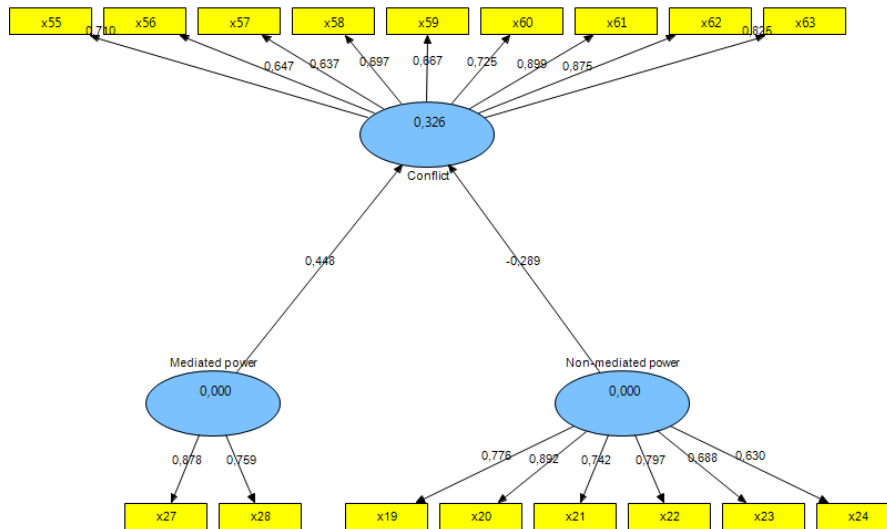
Figure 3. Graphical representation of the model in SmartPLS (Source: Own illustration)

In our case the measurement model is a reflective one and should be assessed according to its reliability and validity. Cronbach's α is a measure of internal consistency and must not be lower than 0.6. In our case all variables except for *Mediated power* have their Cronbach's α within the borders of the advised number. Unfortunately, the measure of Cronbach's α for *Mediated power* is 0.523 which is slightly lower than 0.6. In spite of this fact, the composite reliability is achieved for this variable as it is done for all the other variables. The composite reliability index is more reliable in assessing convergent validity because it takes into account the relative weights of the various indicators in a latent construct while Cronbach's α assumes equal weights (Gyau and Spiller, 2009).

Table 1.
Results of the assessment of the measurement model

Latent variables	Cronbach's α	Composite Reliability	AVE	R^2
Conflict	0,901008	0,918490	0,559820	0,325711
Mediated power	0,523012	0,803871	0,673210	
Non-mediated power	0,852497	0,889395	0,575616	

Source: Own accomplishment

The composite reliability is a measure of internal consistency and must not be lower than 0.6. In our case it is even better, since it is over 0.8. The average variance extracted (AVE) should be higher than 0.5. AVE value means that a latent variable is able to explain more than half of the variance of its indicators on average. R^2 answers the question "How well does the model fit the data?" A rule of thumb which is applied for explorative studies is that R^2 values lower than 0.1 are weak, between 0.1 and 0.2 are moderate and over 0.3 are strong (Acock, 2014). In the model the construct *Conflict* has the value of R^2 0.326, which represents moderate assessment and considering the complexity and the explorative nature of the research model indicates a good fit.

The next step is to evaluate the fit of the structural (inner) model. It is necessary to test the goodness-of-fit of the path coefficients. In this case we use the method of t-statistics through resampling (Venaik et al., 2001). We used the method of bootstrapping (samples = 200) to generate t-statistics to test the significance levels of standardized path estimates (Martinez-Ruiz and Aluja-Banet, 2009). In order to test the hypotheses one must quantify the paths' significance (by means of a resampling method) and examine the absolute values of the relationships. Another way to assess the structural model is to multiply the beta (path) coefficients (b) and correlation coefficients (r) of each latent variable. The results indicate an approximate measure of the variance of the construct explained by the latent predictive variable. In this

case values of less than 1.5 % are not making significant contribution to their respective latent variables (Gyau and Spiller, 2009).

Table 3.
Results of the assessment of the structural model

Hypotheses	Constructs	t-statistics	Beta (path) coefficients (b)	Correlation coefficient (r)	b*r
H1	Mediated power→ Conflict	1,620808	0,448307	0,494286	0,222
H2	Non-mediated power → Conflict	3,025997	-0,288974**	-0,360305	0,104

Source: Own accomplishment

According to the results the hypotheses did not have the expected sign. Statistical hypotheses testing have received a lot of criticism in recent years. Cohen (1994) criticized this technique by saying that it "does not tell us what we want to know" and "out of desperation, we nevertheless believe that it does". It is also stated that this term is often misused leading to the misunderstandings in the meaning of theoretical or practical significance. Many authors state that this term is rather misleading, since it implies that a research result should be considered important because it is statistically significant, or that it is not important because it is not statistically significant. For example, Gall (2001) states: "My claim, then, is that tests of statistical significance say virtually nothing about the importance of a research result." Therefore, we think that it might be more important to consider which practical importance the research findings have. Obtaining statistically insignificant results could also be connected with insufficient sample size. Therefore, whether the statistical significance really has the subjective importance remains unclear. The discussion of the results in the Russian context is presented in the following section.

4 Discussion and conclusions

The central goal of our study was to investigate the role of power in conflict resolution in the context of agri-food supply chains in Russia. Specifically, we posited that the use of mediated power is negatively and the use of non-mediated power is positively related to conflict. The main idea behind this argumentation was that mediated power is only the kind of power which represents a conscious decision of the more powerful actor to exert influence on the behavior of the less powerful partner. Thus, we assumed that the non-mediated power is less focused and not related to the specific task that powerful actor wants the less power partner to fulfill. However, our assumptions turned out to be wrong.

In contrast to our assumptions, the results of our analysis demonstrate that by increasing the use of mediated(coercive, reward, legal legitimate) power the degree of conflicts will rise. Therefore, we would advise not to use this kind of power in the agri-food processor-supplier relationships in Russia. On the first sight this result is not surprising. However, regarding the positive attitude the Russian culture has towards power (Hofstede, 2001) and hierarchical orders (Kadochnikov, 2004) one could have also expected a positive relationship between mediated power and conflict. This startling result might be perhaps explained by the industry structure in the Russian agrifood-business. As shown, differently to Western European supplier structures Russian agricultural suppliers are mostly large scale producers hold by large investors. Furthermore, due to the former business ethics managers are still afraid of taking initiative and making their own decisions (Arino et al., 1997). In this context, for example the use of rewards could be evaluated skeptical as they promote self initiatives exceeding the basic agreement.

The results of our model also indicate that non-mediated (expert, informational, referent, traditional legitimate) power has a positive effect on conflict resolution and, therefore, should be used more often by supply chain practitioners. This is also the opposite of our expected theoretical assumption. As we have surveyed focal companies with FDI one could expect that such companies are accustomed to knowledge transfer. Furthermore, as shown above, Russian firms are strong in learning from foreign companies (Yudaeva et al., 2000). Hence, suppliers value the knowledge of FDI embracing knowledge transfer. Overall status symbols are being more valued in Russian culture than in the western European one (Hofstede and Hofstede, 2005). To some extend doing business with a 'foreigner' is regarded in Eastern Europe as a kind of status symbol. Gagalyuk and Hanf (2009) were able to show on the example of the Ukrainian agri-food business that suppliers of well known foreign processors had less problems obtaining loans to favorable interest rates. Hence, referent power is able to smoothen conflicts in the supply chain.

Overall, our findings document thatpower is not necessary a negative or evil force as it was already stated in earlier studies on power (Condliffe, 1944;Hingley, 2005, Hoejmose et a., 2013).Analyzing supply chain networks in the agri-food business it gets evident that power asymmetries are existing due to their hierarchical structure. The example of the Russian agri-food business shows that these power asymmetries in many conflicts hamper the management of the whole chain. The power asymmetry is a natural state for any relationship including supply chain relationships. To believe that power asymmetry is bad is not correct. More powerful leaders in supply chain networks known as 'chain captains' can use the power advantage for the good of the whole network. Moreover, weaker partners in asymmetric relationships can benefit from the existence of 'chain captains' and their strategies. Power asymmetry is not a barrier in supply chain networks.

By and large, the findings of the current study provide support that power could have a profound impact on conflict in supply chain networks. However, in order to successfully resolve conflicts in supply chains the knowledge of different power types is essential. Depending on the type of power (mediated vs. non-mediated), its effect on conflict may be completely different. It can destroy a cooperative relationship or help solving problems in supply chains. Our recommendations can help managers to understand different interactions of these factors, and to design their management practices to successfully manage conflicts in supply chains. We hope that our research results and ideas will be of interest for both academics and practitioners and will encourage them to rethink their current practices and ideas and to use power as an effective tool in problem-solving and constructive ways to enhance the performance of a supply chain network as a whole as well as of its individual members.

Literature

Acock, A.C. (2014). A Gentle Introduction to Stata, Stata Press, College Station, USA.

Albers, S., Hildebrandt, L. (2006). Methodische Probleme bei der Erfolgsfaktorenforschung – Messfehler, formative versus reflektive Indikatoren und die Wahl des Strukturgleichungs-Modells. *Zeitschrift für betriebswirtschaftliche Forschung*, February 2006: 2-33.

Arino, A., Abramov, M., Skorobogatykh, I., Rykounina, I., and Vila, J. (1997). Partner selection and trust building in west European-Russian joint ventures: a western perspective. *International Studies of Management & Organization*, Vol. **27**.

Bannister, E. (1969). Sociodynamics: An Integrative Theorem of Power, Authority, Influence, and Love. *American Sociological Review*, 34: 374-393.

Beier, F.J., Stern, L.W. (1969). Power in the distribution channel, in Stern, L.W. (Eds), Distribution Channels: Behavioral Dimensions, Houghton Mifflin, Boston, MA: 92-116.

Belaya, V., Hanf, J.H. (2012). Managing Russian Agri-Food Supply Chain Networks with Power. *Journal on Chain and Network Science*, Vol. **12**, (3): 215-230.

Belaya, V., Hanf, J.H. (2009). A Multi-theoretical Perspective on Power in Managing Interorganizational Relationships. *International Journal of Social Economics*, Vol.**36**, Issue 11: 1040-1049.

Blankertz, L. (1998). The value and practicality of deliberate sampling for heterogeneity: A critical multiplist perspective. *American Journal of Evaluation*, Vol. **19**, No. 3:. 307-324.

Chin W.W., Newsted, P.R. (1999). Structural equation modeling analysis with small samples using partial least squares In: Hoyle, R.H. (ed.): Statistical strategies for small sample research, Sage, Thousand Oaks, CA: 307-342.

Chin, W. W., Marcolin, B. L., and Newsted, P.R. (2003). A partial least squares latent variable modelling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, Vol. **14**, No. 2: 189-217.

Chin, W.W. (1998). The partial least squares approach to structural equation modeling. In: Marcoulides, G.A. (ed.): Modern Methods for Business Research, Lawrence Erlbaum Associates, Mahwah, NJ,: 295-358.

Cohen, J. (1994). The Earth Is Round (p < .05). *American Psychologist*, Vol. **49**, No. 12: 997-1003.

Condliffe, J.B. (1944). Economic Power as an Instrument of National Policy, The American Economic Review, Vol. 34, No. 1, Part 2, Supplement, Papers and Proceedings of the 56th Annual Meeting of the American Economic Association, (Mar., 1944): 305-314.

Cox, A., Ireland, P., Lonsdale, C., Sanderson, J., and Watson, G. (2002). *Supply Chains, Markets and Power: Mapping Buyer and Supplier Power Regimes,* London: Routledge.

Craig, D.R., Gabler, W.K. (1963). The competitive struggle for market control. In: Readings in Marketing (Westing, J.E., ed.). Englewood Cliffs, New Jersey: Prentice Hall.

Dubin, R. (1960). A theory of conflict and power in union-management relations. *Industrial and Labor Relations Review*, Vol. **13**, Issue 4: 501-518 .

Etgar, M. (1976). Channel Domination and Countervailing Power in Distribution Channels. *Journal of Marketing Research*, Vol. **13**, No. 3: 254-262.

Fornell, C., Lorange, P., and Roos, J. (1990). The cooperative venture formation process: a latent variable structural modeling approach. *Management Science*, Vol. **36**, No. 10: 1246-1255.

French, J.R.P., Raven, B. (1959). The bases of social power, in Cartwright, D. (ed.): Studies in Social Power, University of Michigan Press, Ann Arbor, MI: 150-167.

Fritsch, N. (2007). Erfolgsfaktoren im Stiftungsmanagement, Erfolgsfaktorenforschung im Nonprofit-Sektor, Gabler, Wiesbaden.

Gagalyuk, T. (2011).Goal Achievement in Supply Chain Networks – A Study of the Ukrainian Agri-Food Business, Dissertation, Halle (Saale).

Gagalyuk, T., Hanf, J.H. (2009). Impact of Retail Internationalization on East-European Business Environment: The Case of Ukrainian Agribusiness. *Journal of East-West Business*, Vol. **15** (1): 96-118.

Gall, M.D. (2001). Figuring out the Importance of Research Results: Statistical Significance versus Practical Significance, Paper presented at the Annual Meeting of the American Educational Research Association, April 2001, Seattle, WA.

Gaski, J. (1984). The Theory of Power and Conflict in Channels of Distribution. *Journal of Marketing*, Vol. **48**, No. 3: 9-29.

Glauben, T., Loy, J.-P. (2001).Marktmacht ausgewählter Branchen der deutschen Ernährungswirtschaft auf internationalen Märkten, *Agrarwirtschaft*, Vol. **50**, No. 2: 100-108.

Gummesson, E. (1996). Relationship Marketing and Imaginary Organizations: A Synthesis. *European Journal of Marketing*, Vol. **30**, No. 2: 31-44.

Gyau, A., Spiller, A. (2009). An integrated model of buyer-seller relationship performance in agribusiness: the partial least squares approach. *Journal on Chain and Network Science*, **9** (1): 25-41.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., and Black W. C. (1998). Multivariate data analysis, 5th ed. New Jersey: Prentice Hall.

Hair, J.F, Black, W.C., Babin, B.J., Anderson, R.E., and Tatham, R.L. (2006). Multivariate data analysis (6th ed.), Upper Sadle River, New Jersey, Prentice Hall.

Halley, A., Beaulieu, M. (2001). Supply Chain Management And The Development Of Competencies: The Learning Concept And Application. Supply Chain Forum. *An International Journal* , **2**(2): 12-19.

Herzlieb, C. (2011).Management von Supply Chain Netzwerken: Erarbeitung eines mehrdimensionalen Managementkonzeptes für den Fischsektor in Anlehnung an die Balanced Scorecard, Dissertation, Halle (Saale).

Hingley, M.K. (2005). Power to all our friends? Living with imbalance in supplier-retailer relationships. *Industrial Marketing Management*, Vol. **34**, No. 8: 848-858.

Hoejmose, S.U., Grosvold, J., and Millington, A. (2013). Socially responsible supply chains: power asymmetries and joint dependence, Supply Chain Management: An International Journal, 18/3, pp. 277-291.

Hofstede, G., Hofstede, G.J. (2005).Cultures and Organizations: Software of the Mind. 2. edition, McGraw-Hill, New York.

Hofstede, G. (1993). Cultural Constraints in Management Theories. *The Executive*, Vol. **7**, No. 1: 81-94.

Hunt, S.D., Nevin, J.R. (1974). Power in a Channel of Distribution: Sources and Consequences. *Journal of Marketing Research*, Vol. **11**, No. 2: 186-193.

Jarvis, C.B., MacKenzie, S.B., and Podsakoff, P.M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of Consumer Research*, Vol. **30**, No. 2: 199-218.

Johnson, J.L., Sakano, T.,. Cote, J.A, and Onzo, N. (1993). The exercise of interfirm power and its repercussions in US-Japanese channel relationships. *Journal of Marketing*, **57**(April): 1–10.

Jöreskog, K.G., Wold, H. (1982).The ML and PLS techniques for modeling with latent variables: historical and competitive aspects, in: Jöreskog, K.G., Wold, H. (eds.): Systems under indirect observation, Part 1, North-Holland, Amsterdam: 263-270.

Kadochnikov, S. (2004). Pryamye zarubeshnye investitsii v sovremennoi teorii instotutsyonalnoy ekonomiki i teorii meshdunarodnoy torgovli: osnovnye podhody i empiricheskiy analiz, [Foreign direct investments from the view of modern institutional theory and theory of international trade: main approaches and empirical analysis], Yekaterinburg.

Kähkönen, A.-K. (2014). The influence of power position on the depth of collaboration, Supply Chain Management. *An International Journal*, **19**/1:17-30.

Kalafatis, S.P. (2000). Buyer-seller relationships along channels of distribution. *Industrial Marketing Management*, Vol. **31**, No. 3: 215-228.

Kouchtch (2005). Evolution of interrelations between industrial company and suppliers, Bulletin of St. Petersburg State University. *The Management Series*, Issue **2**: 3-23.

Kumar, N. (2005). The power of power in supplier-retailer relationships. *Industrial Marketing Management*, Vol. **34**, No. 8: 863-866.

Lee, K.L., Low, G.T. (2008). The Exercise of Social Power and the Effect of Ethnicity: Evidence from Malaysian's Industrial Companies, *International Business Research*, Vol. **1**, No. 2: 53-65.

Liu, H., Wang, Y. P. (2000). Interfirm Channel Relationships, Influence Strategies and Performance in China: An Empirical Examination. In: Culture and International Business, Kip Becker (Ed.): The Haworth Press, Inc.

Lusch, R.F. (1976). Sources of power: their impact on intrachannel conflict. *Journal of Marketing Research*, Vol. 13, No.4, pp. 382-390.

Maloni, M.J., Benton, W.C. (1997). Supply chain partnerships: Opportunities for operations research*. European Journal of Operational Research*, Vol. **101**, No. 3: 419-429.

Maloni, M.J., Benton, W.C. (2000). Power Influences in the Supply Chain. *Journal of Business Logistics*, Vol. **21**, No. 1: 49-73.

Martinez-Ruiz, A., Aluja-Banet, T. (2009).Toward the definition of a structural equation model of patent value: PLS path modeling with formative constructs, *REVSTAT Statistical Journal*, Vol. **7**, No. 3: 265-290.

McCarthy, D.J., Puffer, S.M. and Simmonds, P.J. (1993). Riding the Russian roller coaster: US firms' recent experience and future plans in the former USSR. *Calfornia Management Review*, **36**(1): 99-115.

Merkens, H. (2000). Auswahlverfahren, Sampling, Fallkonstruktion, in: Flick, U., von Kardorff, E., Steinke, I. (eds.): Qualitative Forschung – Ein Handbuch, Reinbek bei Hamburg, Rowohlt.

Nasser, F., Wisenbaker, J. (2003). A Monte Carlo study investigating the impact of item parceling on measures of fit in confirmatory factor analysis. *Educational and Psychological Measurement*, Vol. **63**, No. 5: 729-757.

Ojala, M., Hallikas, J. (2007). Financial Decision Risks in Supplier Networks, Supply Chain Forum: *An International Journal*, **8**/2: 80-91.

Patton, M.Q. (1990). Qualitative evaluation and research methods. 2nd ed. Newbury Park, CA: Sage.

Payan, J.M., McFarland, R.G. (2005). Decomposing Influence Strategies: Argument Structure and Dependence as Determinants of the Effectiveness of Influence Strategies in Gaining Channel Member Compliance. *Journal of Marketing*, Vol. **69**, No. 3: 66-79.

Popova, J., Sorenson, O. (2001). Management of Relations between Suppliers and Buyers: The Case of Russia. *Journal of East-West Business*, Volume **6**, Issue 4: 35-60.

Raven, B.H., Kruglanski, A.W. (1970). Control and power, in: Swingle, P. (eds): The Structure of Conflict, Academic, New York, NY: 69-109.

Robicheaux, R. A., El-Ansary, A.I. (1975). A general model for understanding channel member behaviour. *Journal of Retailing*, Vol. **52**, No. 4: 13-30.

Rokkan, A.L., Haugland, S.A. (2002). Developing Relational Exchange: Effectiveness and Power. European *Journal of Marketing*, Vol. **36**, No. 1: 211-230.

Schulze, B., Wocken, C., and Spiller, A. (2006).Relationship quality in agri-food chains: Supplier management in the German pork and dairy sector*, Journal on Chain and Network Science*, Vol. **6**, No. 1: 55-68.

Simchi-Levi, D., Kaminsky, P., and Simchi-Levi, E. (1999). Designing and Managing the Supply Chain, McGraw-Hill, London.

Stern, L.W., Sternthal, B., and Craig, C.S. (1973). Managing Conflict in Distribution Channels: A Laboratory Study. *Journal of Marketing Research*, Vol. **10** (2), pp. 169-179.

Stolte, J. F., Emerson, R.M. (1976). Structural inequality: Position and power in network structures. In: Hamblin, R., Kunkel J. (eds.): Behavior Theory in Sociology, New York, Trans-Action: 131-149.

Struck, M., Strubenhoff, H.-W. (2002). Russian agriculture in 2002 - observations, potentials, tendencies, barriers. Report of GFA Terra Systems GmbH, Hamburg.

Tabachnick, B.G., Fidell, L.S. (1989). Using Multivariate Statistics, Second Edition, New York: Harper and Row.

Tretyak, O., Sheresheva M. (2005). Russian Retail Chains vs. Foreign Retailers: Changes within the Industry and Supplier-Retailer Relationships, Paper presented at the 21st Annual IMP Conference in Rotterdam, Netherlands, September 1-3, 2005.

Venaik, S., Midgley, D.F., and Devinney, T.M. (2001). Autonomy, Networking and Interunit Learning in a Model of MNC Subsidiary Innovation and Performance, Working Paper, Australian Graduate School of Management, Sydney, 2001.

Wilmot, W.W., Hocker, J. (2011). Interpersonal conflict (8th ed.). New York: McGraw-Hill.

Wold, H. (1966). Estimation of principal components and related models by iterative least squares, in: Krishnaiah, P.R. (ed.): Multivariate Analysis, Academic Press, New York: 391-420.

Yudaeva K., Kozlov K., Melentieva N., and Ponomareva, N. (2000).Does Foreign Ownership Matter? Russian Experience, Social Science Research Network Electronic Paper Collection, available at: http://papers.ssrn.com/paper.taf?abstract_id=257081

Zhao, X. D., Huo, B. F. , Flynn, B. B., and Yeung, J. H. (2008). The Impact of Power andRelationship Commitment on the Integrationbetween Manufacturers and Customers in a Supply Chain. *Journal of Operations Management*, **26**(3): 368-388.