

THE DIMENSIONS OF NEGOTIATIONS WITHIN SUPPLY CHAIN

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Purpose: one of the crucial factors determining effective performance of supply chain is conducting negotiation processes between its participants. Therefore, an important and promising objective of the paper is to present the authors' concept of describing and analyzing these processes, considering their key dimensions.

Design/methodology/approach: the paper is of a theoretical nature, i.e. it contains an original approach to the considered processes, based on authors' ideas supported by the comparative analysis of the literature.

Findings: developing an original, multidimensional concept of negotiations within supply chain suitable for their precise and comprehensive description and analysis.

Practical implications: the presented concept as a very useful tool enables insightful identification and effective conducting of negotiation processes. That concept is also of universal character, i.e. it can be used to assess and implement a wide variety of practical negotiation situations.

Originality/value: unlike many other works on negotiation processes within supply chain, which concern fragmentary and selective problems related to these processes, the concept of their description and analysis presented in the paper is of a synthetic and complex nature.

Keywords: business negotiations, supply chain, negotiations within supply chain, dimensions of negotiations within supply chain.

Category of the paper: Viewpoint.

1. Introduction

Integration of cooperation in supply chain is distinguished among the key factors enabling the achievement of competitive advantage and increasing performance effectiveness. In the supply chain, suppliers (of raw materials, materials, semi-finished products, parts), manufacturers, wholesalers, retailers, as well as providers of specialized logistics services cooperate with each other. In terms of the development of the concept of Green Supply Chain and Sustainable development, the companies operating in the area of reverse logistics are also

of great importance. This applies to service providers collecting waste and secondary raw materials, firms disassembling used and damaged products, companies processing secondary raw materials, as well as companies dealing with final waste disposal.

Due to the diversity and multiplicity of enterprises participating in the supply chain activities, differences in the expected effects of cooperation, as well as the need to ensure continuity and security of cooperation, it is important to properly prepare and conduct negotiations, in the frame of both bilateral and multilateral relations. These negotiations are conducted in special conditions, in which the expectations and attitude to cooperation depend on the links with other partners.

Therefore, the objective of the paper is to present a multidimensional concept for describing and analyzing negotiations within supply chain. Firstly, the features of supply chain as specific negotiations environment are presented. Within the main part of the paper in order to characterize the considered negotiations original methodological framework is applied, comprising their eight key dimensions, distinguished on the basis of literature comparative analysis. The summary synthesizes the most important characteristics of the considered negotiations, and also indicates the directions of research enriching the proposed concept.

2. Literature review

On the one hand, the number of works and research projects dealing with issues related to the organization and functioning of supply chain, in particular negotiation processes conducted within such cooperation is significantly large, especially the papers and books issued throughout last twenty years, as a result of the dynamic development of logistics caused by globalization and the rapid development of information technology.

Some of those publications are traditional ones, like (Atkin, Rinehart, 2006; Curver, 2009; Homburg, Schneeweiss, 2000; Ramsay, 2004; Zacharejassen, 2008), the others were issued in recent years, e.g. (Cooper, 2025; Jayarathna, 2023; Kozina, Małkus, 2023; Trowbridge, Trowbridge, 2023; Yin, 2024).

The books and papers worth considering from the point of view of the paper objective may be divided into three groups. The first group comprises publications within which the considered negotiations processes are seen in broader context, including different determinants to those processes, in particular perceived in the frame of managing relationships between the participants of supply chain as one of the important aspects of their performance. The examples of the discussed publications are (Atkin, Rinehart, 2006; Cooper, 2025; Kłonsiewicz-Górecka, 2015; Perks, Oosthuizen, 2013; Roger, Fells, 2018).

There are also managerial (Firouzi, Nezarat, 2012), international (Cooper, 2025), cultural (Biesaga-Słomczewska, 2011; Krzywda, 2017), political (Ramsay, 2004), as well as psychological (Trowbridge, Trowbridge, 2023) determinants of considered negotiations discussed in the literature.

The second group of remarkable works on the considered negotiations tends to describe and analyze them from very general, universal perspective, for example (Curver, 2009; Homburg, Schneeweiss, 2000; Kozina, Małkus, 2022; Leider, Lovejoy, 2016). Those publications are important for identifying and clarifying the nature and features of the discussed negotiations, contributing substantially to formulate their general concepts and models. That group of publications only indirectly refers to the discussed problem, i.e. emphasize merely the general characteristics and determinants of the considered negotiations. It is focused on different aspects of negotiations within supply chain, for instance including their meaning and importance from different perspectives.

From the point of view of the objective of the paper the most substantial is the third group of discussed works, which characterize thoroughly the key features and dimensions of the discussed negotiations, their different aspects as well as the tools for their conducting, enabling us to identify and clarify them comprehensively. Such publications are more specialized, i.e. focused on particular, specific issues and problems concerning the considered negotiations, in particular:

- their features (Kozina, Małkus, 2022), functions performed by them (Stelzer, 2017a), their role and importance (Jayarathna, 2023; Roger, Fells, 2018; Stelzer, 2017a), contemporary challenges (Jayarathna, 2023), as well as strategies for conducting them (Cooper, 2025; Kozina, Małkus, 2023; Zachareiasen, 2008);
- interactions and dependences between their partners, in particular focused on cooperation (Atkin, Rinehart, 2006; Cooper, 2025; Roger, Fells, 2018);
- conflict resolution (Biesaga-Słomczewska, 2011), decision making (Curver, 2009) and information processes (Yin, 2024) taking place within those negotiations;
- transactions and contracts concluded as a result of them (Stelzer, 2017a, 2017b), and the benefits achieved as a result of them (Jayarathna, 2023);
- managing their resources, both material and intangible ones (Gumus, Love, 2012);
- difficult situations occurring in these negotiations (Hughes, Wadd, Weiss 2013).

It should be added that the majority of publications on the discussed negotiations concern theoretical issues, e.g. (Atkin, Rinehart, 2006; Curver, 2009; Homburg, Schneeweiss, 2000; Jayarathna, 2023; Kozina, Małkus, 2023; Stelzer, 2017a; Yin, 2024). Only very few present practical negotiations situations and the results of empirical research on them, or case studies e.g. (Atkin, Rinehart, 2006; Gumus, Love, 2012; Kłonsiewicz-Górecka, 2015; Krzywda, 2017; Perks, Oosthuizen, 2013). Several review works were also issued, summarizing and comparing many other publications on the discussed mater, e.g. focusing on best practices in the considered area (Hughes, Gordon, 2018; Perks, Oosthuizen, 2013).

On the other hand, despite the key role played by negotiations processes within supply chain, there has not been commonly recognized, complex and coherent methodological concept of the description and analysis of those processes elaborated so far. Very few authors (like these quoted in the paper) have discussed that issue, without trying to elaborate such a concept suggesting purely partial solutions to selected problems and presenting limited tools for analyzing and conducting the discussed negotiations, without applying systems approach to them. Empirical studies on the discussed problem are scarce as well. That considers in particular the negotiations on difficult and complex ventures like mergers and acquisitions, strategic alliances, restructuring programs and within other complex transactions, mostly financial ones, comprising numerous issues and parties.

In addition to the above-mentioned shortcomings in the comprehensive approach to the negotiations under consideration, the literature also contains numerous limitations and deficiencies concerning the study of individual dimensions of these negotiations, discussed in the main part of the paper. In particular, these negotiations are discussed relatively rarely and selectively as a method of managing conflicts. The types of such conflicts are described to a limited extent and their conditions and effects are explained. Also, the decision-making processes carried out in supply chain negotiations are not sufficiently researched and described in the literature, especially the issues of generating creative problem solutions and risk analysis. There is also a shortage of studies on the processes of communication, mutual exchange and value creation in the negotiations under consideration, which is mainly due to the complexity of identifying and analyzing the above-mentioned processes.

Considering the theoretical weaknesses of the research on negotiations within supply chains, the paper is focused at presenting authors' own multidimensional concept of such negotiations, taking place within those chains, between their different participants as well as those occurring between their representatives and external stakeholders. Thus, the paper aims at filling at least partially the methodological gap indicated above.

The paper is of theoretical character, i.e. contains original concept of negotiations processes within supply chain. In order to describe such processes in the main part of the paper, the authors' own approach to the key dimensions of the general interpretation of negotiations was adopted as a methodological scheme (Kozina, 2018, pp. 13-17), i.e. perceiving them as a process, method of conflict management and reaching agreement, mutual dependence of the parties and processes of: decision making, communicating, mutual exchange and value creation. These dimensions were distinguished based on the analysis of the extensive literature on the subject, e.g. (Jung, Krebst, 2019; Lewicki et al., 2018; *Negocjacje i komunikacja...*, 2023; Rockman et al., 2020; Thompson, 2013; Weiss, 2020). The author's own approach to the considered dimensions was supplemented with selected findings by other authors based on a comparative analysis of the literature on the subject.

3. Supply chain as a negotiations environment

As the starting point of consideration in the paper may be the definition of supply chain management can be implemented. In general, supply chain management is treated as a total system approach to managing the entire flow of information, products, and raw materials through factories and warehouses to the end customer (Bowersox, Closs, Cooper, 2002; Lutz, Vang, Raffield, 2012). Thus, processes related to supply, production and distribution are carried out in the supply chain, and a number of entities are responsible for their implementation, e.g. suppliers, manufacturers, intermediaries and recipients. Nowadays, supply chains are characterized by high complexity due to globalization and advanced information technology, which results in an increasing intensity of various types of flows between companies and customers, as well as in dynamic changes related to global consumption models. In the contemporary approach to organization of cooperation in the supply chain, reflected primarily in concepts of Green Supply Chain (Zhu, Sarkis, Lai, 2008) and Sustainable development (Sarkis, 2001; Sarkis, Helms, Hernani, 2010), the companies operating in reverse logistics are also of great importance.

Nowadays, cooperation in supply chains requires numerous changes to adapt to new operating conditions. The directions of the introduced changes are related to integration of supply chains, focus on cost reduction, ensuring of agility, e-business development, globalization, outsourcing and other changing practices in logistics. Frequent changes in the environment increase business risk and make supply chains more vulnerable to that risk. One of the main issues that require special treatment is to increase the resilience of logistics activities to changes in the environment (Waters, 2011).

In the description of the supply chain as a specific environment in which negotiations are conducted, it is also important to indicate the main features that distinguish negotiations between partners in the chain from negotiations conducted in other social and economic relationships. From this point of view, in general terms, the following features should be highlighted:

- the need to negotiate within different types of relationships – ranging from straightforward bilateral agreements, such as those between a supplier and a recipient of goods, or between a supplier or recipient and a specialized logistics service provider to more complex, multilateral relationships involving multiple parties (for example a supplier, a logistics service provider, and a recipient of goods, or a supplier coordinating simultaneously with multiple representatives of recipients,
- taking into consideration various scopes of negotiated issues, depending on the role of a partner in the supply chain – negotiations may cover various aspects, such as terms for manufacturing and delivering goods, arrangements for freight forwarding services, execution of specific logistics operations related to delivery of goods, as well as the

- management of activity in the area of reverse logistics involving waste and recyclable materials, negotiations may also address the use of IT systems that facilitate logistics cooperation and the development of risk management strategies within the relationship,
- treating negotiations as a process that is carried out both before the beginning of cooperation (agreeing on conditions that should be included in contract), as well as starting this process during cooperation, when it is necessary to adapt the rules of cooperation to changes in the environment, treating negotiations as an ongoing process that begins prior to the beginning of cooperation (focusing on establishing terms to be included in the contract) and continues throughout the collaboration (allowing for adjustments to the terms in response to changes in the external environment),
 - considering both the influence of the individual interests of other partners involved with each negotiating party, and, conversely, the impact that agreements between the negotiating parties may have on those other partners,
 - the necessity to align expectations within bilateral and trilateral relationships with the overarching strategy established for the entire supply chain,
 - ensuring the compliance of logistic expectations of negotiating parties with the guidelines developed by the provider of complex logistics service integrating activity in the entire supply chain – it is related to operations within the supply chain that are structured around a logistics integrator, which is treated as a unit responsible for coordinating and negotiating new terms of cooperation with each partner in the chain,
 - varying duration of cooperation, which in turn affects the terms agreed upon between partners – supply chain may include long-term relationships (involving participants jointly preparing offers for the end customer) as well as short-term (for example in cases where carriers are frequently changed and transactions are conducted on a one-time basis).

It is important to emphasize, that all successive types of companies mentioned above negotiating with partners in the supply chain can be treated as a negotiation channel, which stands out among marketing channels together with logistics channel, ownership channel, financing channel and promotions channel (Murphy, Knemeyer, 2018). Negotiation outcomes in one segment of the supply chain can influence the terms of collaboration in subsequent segments. Additionally, actions taken within the negotiation channel can impact solutions implemented in other channels. In the context of this article, the effect of the negotiation channel on the logistics channel is especially significant.

Research findings presented in the following section are primarily based on the authors' own experience, as well as an analysis of literature concerning the nature of inter-company negotiations, the organization of supply chain logistics, key factors for successful supply chain collaboration, modern supply chain development concepts, and the factors affecting transaction costs between cooperating parties.

4. Multidimensional concept of negotiations within supply chain

4.1. Negotiation process

Negotiations constitute a complex activity extended over time, including a number of sub-processes (stages, phases), and within them, detailed activities carried out sequentially, in parallel and/or cyclically, as well as a series of events and interactions between the parties to the negotiations. The consequence of treating them in such a way is their variability, which makes their modeling difficult. It is the most general and widespread way of interpreting negotiations, applicable to most of their cases in socio-economic life. Negotiation processes are auxiliary in relation to the basic processes and projects performed by their parties.

Negotiations do not tend to be structured easily due to their nature. It is rather difficult to program and formalize them via procedures. The models of negotiations are usually too simplified. Many activities, especially in the sub-process of conducting negotiations, must be carried out intuitively (Kozina, 2018).

Negotiations within the supply chain primarily take place during the preparation for contract signing and the beginning of collaboration, as well as when changes in operating conditions call for adjustments to the terms of cooperation. Successfully carrying out these negotiation processes demands direct and multidirectional coordination of activities across complex networks of interactions. Each negotiation must address a wide range of issues and balance diverse interests and goals, which can be both shared and conflicting. The nature of supply chain collaboration often necessitates negotiating with multiple partners simultaneously. Additionally, the behavior of parties in bilateral relationships can be shaped by the distinct interests of other partners as well as the shared goals of the entire supply chain. As a result, negotiation processes within supply chain are highly complex, dynamic, and adaptable. In particular, negotiations aimed at agreeing on how to adapt to changing cooperation conditions tend to occur largely spontaneously and instinctively, taking place directly in the areas where the issues arise.

4.2. Conflicts resolution

This is a competitive dimension of the negotiations as their parties strive to achieve their own goals and obtain the best possible results. Negotiators have divergent goals and views on particular issues in the scope of the negotiations. The contradictions also concern the values, principles, expectations, perceptions, etc., which create the emotional context of the negotiation that requires identification due to its significant impact on substantive issues. Therefore, in the negotiation process, it is necessary to look for a solution to one or more disputable issues, e.g. the resolution of emerging conflicts (Kozina, 2018).

Above all, in the considered negotiations, the principle of reciprocity can and should be applied in the event of conflict. negotiating partners respond favorably to the positive reactions and actions of others, avoid negative moves and refer to the similarity of the situation in which they find themselves together, in accordance with the old adage “what goes around comes around”.

Due to the numerous and varied interactions among supply chain participants, conflicts arise frequently. These conflicts are typically addressed promptly by parties involved, who are responsible for managing them. Causes of conflict can include misunderstandings of certain expectations of parties to the contract, ambiguous contract terms that impact the coordination of cooperation, as well as disagreements over technical and technological solutions used in the partnership. Additionally, conflicts may stem from opportunistic shifts in parties' attitudes, often triggered by changes in the cooperative environment.

Considering the positive features of conflicts, especially their motivational role, as well as the stimulation of changes that improve organizational performance can be highlighted. It should be the interest of each party to the conflict to use this conflict to improve cooperation and, as a result to use the advantages of cooperation in the supply chain, as well as to use logistics as a source of competitive advantage for the entire chain (Biesaga-Słomczewska, 2011).

On one hand, due to the large amount of data in the area under consideration, a number of potential, various conflicts, especially during cooperation may arise between the negotiation participants, as a result of many various interactions between them. Considering the widespread typology of conflicts according to C.M. Moore (2014), in the case discussed, mainly data conflicts may appear, very often occurring in practice and sometimes difficult to recognize, resulting from both their lack and excess, which also causes unnecessary disputes. The participants of the negotiations are then not able to properly identify and assess the negotiating situation. The data available to them may be unreliable, erroneous, selective, inadequately compiled, etc., or differently interpreted by negotiators. Unnecessary data conflicts can cause other unnecessary misunderstandings, mainly regarding relationships, and even stimulate real conflicts of interest.

On the other hand, the increasing pace of interactions, the virtualization of relationships, and sometimes the anonymity of partners mean that potential conflicts tend to be brief or even go unnoticed, preventing them from emerging or escalating. Furthermore, employing competitive negotiation tactics (such as surprise, information asymmetry, leveraging bargaining power, making threats or promises, or bluffing) is much more challenging because the parties are generally well-informed. It becomes easier to understand the nature of conflicts, their causes, and consequences. These conflicts must be addressed promptly and directly at their point of origin. Managing them in real time allows for better utilization of their positive aspects, particularly in driving changes that enhance overall performance.

4.3. Focus on agreement

This aspect concerns the intended result of the negotiations, beneficial to all their participants, i.e. satisfying their needs. The parties cooperating in supply chain also have common goals. By definition, therefore, they are interested in the implementation of negotiations, and especially in their effects, which constitute important values for them (tangible and intangible). The cooperation of the parties is therefore necessary to achieve the expected level of effectiveness. This, in turn, requires concluding a number of contracts (open and virtual) specifying the terms of the agreement between them. Such an interpretation is rarely adopted without emphasizing other attributes of the negotiation. It is therefore their cooperative dimension. It does not fully reflect their nature, but it is a necessary "logical complement" to another aspect that determines their taking up (Kozina, 2018).

By definition, the existence of permanent cooperation between the parties to the negotiations encourages them much more to cooperate than to compete. It creates conditions conducive to the search for solutions beneficial to all negotiators.

Contemporarily operating conditions make it possible to identify a greater number of potential partners for cooperation. There is a higher than usual likelihood of establishing and maintaining positive and beneficial relationships with them based on mutual trust (Małkus, 2017a). Effective cooperation within the supply chain depends on a thorough assessment of partners' trustworthiness. However, there are often constraints on accessing information necessary for verifying partners. These limitations may stem from a lack of awareness about the availability of certain types of information, or from the perception that the cost of acquiring such information is too high. Therefore, parties to cooperation sometimes resign from obtaining certain types of information or even underestimate the value of information for the success of relationship. As a result, there are cases of wrong decisions as to their choice and/or disloyalty on their part, related to the abuse of trust (Małkus, 2017b).

In addition, currently, limited, short-term or even virtual contracts are often concluded, which on the one hand may increase flexibility of partners, but on the other hand, it increases the risk of losses due to the failure to comply with contractual arrangements or the conclusion of incomplete contracts (Stelzer, 2017a, 2017b).

It is important to note that today, with the use of technologies providing access to wide range of data and information, indications of lack of reliability and trustworthiness of partners can be easily found within the negotiation environment. However, identifying and gathering this information can require much time and effort. Other cooperating parties can also help in finding the necessary data and information. Overall, negotiating parties who are well-informed tend to build and sustain positive relationships more effectively and are more inclined to employ cooperation-focused negotiation strategies.

4.4. Interdependence between partners

There is an interaction of the dimensions of cooperation (collaboration) and competition (rivalry), i.e. the coexistence of contradictory and convergent goals of negotiation participants. It expresses the efforts of the parties to achieve a favorable result, conditioned by the necessity to resolve the conflict between them. Neither party can achieve its goals on its own, and at the same time, each of them can help the other in achieving its goals. If the partners saw alternative and more effective ways of achieving their goals, they would not negotiate. Therefore, this dependence expresses a close relationship between the two previous aspects of negotiations definition (Kozina, 2018).

By definition, cooperation within supply chain a decidedly creates positive, strong and enduring dependence between negotiators, strengthened and enriched by the accumulation of positive experiences from cooperation, beneficial to all parties involved. There is a need for complete understanding between the partners and mutual acceptance of their needs, expectations and requirements. Individual opportunistic attitudes that interfere with the implementation of beneficial cooperation opportunities are not revealed (Atkin, Rinehart, 2006; Cooper, 2025; Roger, Fells, 2018).

The abundance of available data and information about market participants, such as suppliers, customers, and service providers and their offerings can, on one hand, expand the pool of potential partners and support the development of positive relationships. On the other hand, the sheer volume of information, challenges in identifying the most relevant data, and uncertainty about the reliability of sources can complicate the process of finding, selecting, and evaluating suitable partners within the context of potential negotiations. Competition between potential partners (e.g. suppliers), as well as related conflicts, may intensify. Rivalry may lead to the interested party restricting access to some unfavorable information. Although, of course, the aim is to shape partnership relations-based trust and cooperation beneficial for the parties involved, but it is not always possible and/or necessary. Cooperation and competition coexist in the form of a coopetition strategy (Czakoń, 2010). Moreover, the interactions between the negotiating parties are numerous and varied, multi-directional and multi-faceted, symmetrical and asymmetrical, stronger and weaker, positive and negative, incidental and permanent, etc., creating complex networks of connections. Therefore, they are difficult to identify and shape.

In addition to possible information overload and the associated challenges of identifying the most critical data and evaluating the credibility of its sources, a significant issue may also arise from the unequal access to necessary information among cooperating parties. It is the problem considered in agency theory, reflected in „agent-principal“ relationship (Jensen, Meckling, 1976). If certain data or information could reflect negatively on the party delivering specific tasks or services commissioned by the principal, the provider may selectively present information to the principal. As a result, the principal may develop a distorted understanding of

the provider's performance and may be unable to respond appropriately in a timely manner—either by renegotiating the terms of cooperation or by initiating negotiation of terms to terminate cooperation.

4.5. Decision making process

This is the most important interpretation of the concept under consideration, as it is aimed at finding solutions to the negotiated issues directly by the parties involved (Kozina, 2018). In the preparatory phase, this process is first carried out by the parties to the negotiations, that they act usually independently of each other, from the point of view of the essence of the company's market activity (Coase, 1988; Williamson, 1985). Each of them analyzes the negotiating situation from the point of view of their goals and interests. On this basis, they determine initial solutions to negotiated problems based on their own criteria for selecting solutions. At the same time, being involved in the supply chain, they have to take into consideration assumptions of strategy of entire supply chain. All these negotiating parties iteratively make the necessary arrangements of variants, determining the area of negotiation, i.e. a set of acceptable solutions to negotiated problems, based on the analysis of the community and the divergence of goals and interests. By adopting common selection criteria and rules, they find a solution acceptable to everyone. By disseminating the chain strategy among the participants and their consent to adapt to the assumptions of this strategy, the involvement of the leading company (as main coordinator) in the supply chain in each individual negotiation is limited.

A key positive aspect of negotiation processes within the supply chain lies in their ability to facilitate and support the full range of typical activities involved in interactive decision-making by negotiators. This includes identifying and analyzing problems, gathering and evaluating information, collaboratively developing alternative solutions, establishing criteria for assessing those solutions, selecting the most appropriate options, and carrying out the necessary steps for implementation.

General assumption that information about the terms of cooperation within the supply chain is readily accessible greatly enhances the ability of negotiators (decision-makers) to meet their informational needs. Such improved access to relevant data significantly lowers the risk associated with both the outcomes of negotiations and the actions taken based on the agreed-upon terms. Furthermore, it enables a more thorough and accurate analysis of the negotiation context, allowing negotiators to better understand the dynamics at play. Most importantly, it facilitates the creative exploration and formulation of alternative solutions, thereby substantially improving the overall quality of decisions made during the negotiation process. In this case, the difficulty may be the excessive amount of information, requiring its careful selection, as well as the aforementioned, individual opportunistic attitudes of the negotiating parties, aimed at limiting the access of the other party to unfavorable information (Curver, 2009).

4.6. Communication process

This process concerns the mutual exchange of information, "penetrating" all activities of the parties in the negotiation process, from the initial presentation of positions, though, formulating and exchanging offers, shaping relationships, persuading, asking questions and answering, listening, clarifying doubts, etc., to final arrangements and drafting the contract (Kozina, 2018).

It is desired for the firms cooperating in supply chain participants to show full openness and symmetry of information, i.e. there are no communication barriers between cooperating partners. All data relevant to the implementation of tasks undertaken by individual participants in the negotiations flow freely and without restrictions. Communication channels are sufficiently (Yin, 2024).

With a large amount of data and information, all negotiating participants have virtually access to most of the necessary information in real time. Transparency of communication allows each negotiator to determine how to better achieve the goals. Data and information necessary to undertake joint actions (e.g. included in the part of the contract called Service Level Agreement) become public, made available to everyone on the forum.

By its nature, the availability of a large volume and wide variety of data and information supports negotiation processes. It plays a crucial role in enhancing analytical and diagnostic tasks within the planning and evaluation phases of negotiations. During the negotiation itself, data and information significantly broadens the range and effectiveness of tools available to negotiators. Specifically, it leads to a greater number and higher quality of proposals, strengthens the precision and persuasiveness of arguments, increases the relevance and impact of questions, and helps clarify uncertainties more efficiently. Additionally, it enables the informed and strategic selection of negotiation techniques, ultimately contributing to more effective and outcome-driven negotiation processes.

In general, it enables a more effective fulfillment of the information needs of negotiation participants, enhances the efficiency of multidirectional communication channels, and improves the quality and relevance of information by ensuring key attributes such as reliability, authenticity, appropriate formatting, and sufficient detail. Additionally, by emphasizing the long-term benefits of collaboration, particularly in a supply chain context where value is created collectively, it becomes possible to limit opportunistic behaviors, such as withholding unfavorable information, thereby promoting greater transparency and trust among all parties involved.

4.7. Exchange process

The exchange - through mutual agreements and necessary concessions - takes place on the terms agreed by the parties. It is favored by the differences in the hierarchy of their goals, i.e. it seeks to obtain significant resources and values, giving back less important but important

to other parties in return. It applies not only to measurable resources, as well as intangible ones, e.g. ideas, concepts of solutions. This aspect is closely related to the previous one, as the communication process is a form of exchange of information as such and data about other resources. In this way, negotiation is an effective means of acquiring the value that their parties need (Kozina, 2018).

In supply chain negotiation processes, defining the scope and terms of a potential exchange is relatively straightforward, thanks to the extensive opportunities for interaction and collaboration between the negotiating parties and the broad communication channels available to them.

Supply chain cooperation is built on a series of market transactions mutually agreed upon by the partners. These transactions may be directly tied to the production of the final product delivered to end customers, or they may support various aspects of the product development process within the supply chain. As such, the establishment of relationships directly connected to the manufacturing of the product is primarily important, while transactions related to support activities are structured to serve and enhance the overall product development efforts.

It is important to emphasize, that large datasets expand the range of options for selecting potential exchange partners and evaluating their offers. They enable the collection and sharing of comprehensive, reliable information about each party's needs, making it easier to access relevant data even in the early stages of negotiation, as such information is widely accessible. However, the potential for continued or imbalanced exchanges becomes more limited under these conditions.

4.8. Values creation process

The interdependence of the parties and the process of mutual exchange in the negotiations allow the parties to the negotiations to achieve mutual benefits by creating additional value, which would not be possible without negotiation. These common values are a synergistic effect of the cooperation of the parties. Creating them is also possible when one party has something to offer that is not worth much for itself but is of great value to other negotiating participants - and vice versa. By exchanging these values, each side loses little, but gains a lot (Kozina, 2018).

The negotiation processes under consideration are distinctly marked by a significant potential to create new value that would be difficult to achieve without negotiation. Typically, there is strong alignment and co-creation of shared values based on consensus, which also promotes ethical behavior among participants. Negotiating parties embrace a community of values that includes both tangible benefits, such as profits, and intangible ones like loyalty, solidarity, quality, reliability, and the continuous improvement of cooperation principles. These shared values establish the boundaries and possibilities of the partnership's development. Intangible assets may also manifest as new concepts, ideas, or innovative projects. Consequently, negotiators often find it relatively easy to agree on common values that serve as the foundation and outcome of their cooperation.

Generating value for the user is one of the attributes of Big Data. Undoubtedly, many of them reflect the various values constituting the context of negotiations and at the same time being their subject. Obviously, there may be differences in the assessment of the values represented by the participants of the negotiations, although it is thanks to these differences that the possibility of reaching an agreement arises (Rockman, Langfred, Cronin, 2020). Wider possibilities of generating value in negotiation processes concern mainly intangible assets, especially in virtual space, which leads to the co-creation and sharing of value by the negotiating parties in the form of innovative concepts and ideas, based on exhaustive and easily available information. There may, of course, be the danger of unjustified appropriation of values, and as a result, reliable partners must be relied on in the search for common values. In addition, cases of such unethical activities are exposed online and widely stigmatized. In turn, potential conflicts of values should be resolved by explaining their causes and mutual conviction about the positive impact of different values on negotiations. A large amount of data makes it easier.

When negotiating the terms of cooperation between partners in the supply chain, value is created in several different forms:

- knowledge of the market of suppliers of goods and services by the potential recipient, including awareness of the possibilities and limitations in the scope of the supply of services and goods on the market, adequacy of the recipient's expectations towards suppliers,
- understanding and agreement of expectations of each party,
- shaping the company's image together with a partner,
- new concepts, approaches, and methods to perform specific tasks,
- learning how to improve own activities (based on partner's experience and suggestions),
- the basis of trust i.e. reliance on the partner,
- facilitating orientation to ensure a long period of cooperation, based on benefits for each of the negotiating parties (related to reliance),
- the reliance-related perspective of the possibility of extending and tightening cooperation,
- synergy effect in the form of developing new, creative solutions.

Securing the aforementioned values is essential for realizing further value throughout the course of ongoing cooperation. This value can relate, for example, to the transformation of raw materials into semi-finished and finished products, with services enhancing the overall offer within the supply chain and boosting customer confidence. The nature and extent of the impact that negotiated cooperation terms have on the value generated in the supply chain depend on the specific focus of the collaboration being negotiated.

It should be added that creating value in the negotiations under consideration should also be viewed from the perspective of the process of these negotiations. More precisely, these values should be analyzed within the framework of subsequent sub-processes of this

process, i.e. their planning, conducting and summarizing. In each of these sub-processes, different values are important.

Firstly, in the negotiation planning process, the most important values are the reliability, credibility, and objectivity of both the information about the specific negotiations and their environment, as well as their analysis. In addition, special attention should be paid to the credibility of the negotiation partners.

Secondly, while conducting negotiations, creativity is a key value when formulating variants of solutions to negotiated problems. It is also desirable for partners to focus primarily on co-creating value, not just on acquiring it. In addition, mutual respect and trust are conducive to achieving mutual benefits. Values such as openness, assertiveness and empathy are also very important.

Finally, the most important values should be considered precision, thoroughness, care and caution when constructing the contract, in order to avoid so-called incomplete contracts. The reliability of partners is also important in order to fully and timely fulfill the obligations undertaken.

5. Conclusions

Considering the dimensions of negotiations within supply chain, which were the subject of analysis in the paper, the following conclusions may be drawn from such analysis:

1. Numerous, not easily structured and relatively simple versus occasionally too stretched out in time and laborious negotiations processes.
2. Focusing on integrative and cooperative resolution of the most important conflicts of interests as well as the possibility of ignoring less important and sometimes hidden misunderstandings.
3. Very strong and determined desire to reach a deal versus the necessity to submit to the dictates of the party with greater bargaining power, imposing the terms of the agreement.
4. Positive, strong and symmetrical interdependence of the parties, frequently as much important as important than high-quality agreements.
5. High-quality and utility of interactive decision-making process however accompanied the inability of avoiding risk.
6. Open and unlimited exchange of highly usable information limited by the need for confidentiality concerning data of strategic importance.
7. Fully equivalent and effective exchange, satisfying the interests of all parties, sometimes limited possibilities of reciprocal exchange due to the lack of resources.
8. Effective creation of common values accompanied by excessive concentration on material resources and failure to match these values to the needs and expectations of all cooperators and contractors.

On the basis of the concept presented in the paper, several recommendations for negotiating the terms of cooperation in the supply chain can be presented:

- greatly speeding up the execution of these processes, particularly the analysis conducted before negotiations,
- considerably expanding the scope of such analysis within a broader negotiation context,
- actively seeking reliable negotiation partners and cultivating positive relationships with them,
- while simultaneously exercising careful discretion in forming partnerships, applying a principle of cautious trust,
- emphasizing the management of contract-related risks, such as those associated with virtual agreements,
- embracing a wider view of the entire supply chain's operations when exploring potential solutions,
- enhanced operational flexibility, particularly in exploring alternative solutions,
- exploring innovative strategies and negotiation methods designed to balance cooperation with competition,
- expanding the repertoire of multilateral negotiation techniques prevalent in today's socio-economic context,
- fully embracing cultural diversity within the negotiation environment and leveraging it creatively,
- placing greater emphasis on protecting information security,
- utilizing advanced internet-based negotiation support systems.

The multidimensional framework for describing negotiations within the supply chain, as presented in this article, represents an initial and largely theoretical approach to the topic, given that these issues are relatively new and remain underexplored in both academic research and socio-economic practice. Consequently, the authors intend to further develop and refine this concept by identifying more precise characteristics of the negotiation processes involved. Future plans include conducting comparative empirical studies across multiple supply chains to assess the practical applicability of the framework. Additionally, a promising direction for further research is to expand the focus beyond negotiation alone to encompass the broader area of relationship management.

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