# Chapter 8
# Interorganizational Trust in Business Relations: Cooperation and Coopetition

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**Abstract** This study aims to answer the question: How level and character of interorganizational trust in different groups of partners influences a firm's collaboration expressed by cooperation and coopetition. The literature suggests many factors determining the interorganizational trust, but our results, based on research conducted in 53 companies operating in Poland, grouped them into three different variables: the level of trust in a particular group of partners from the value network, the general trust in a potential partner, and the general trust in collaboration. Our findings also show that if the level of trust in a particular group of partners (i.e., suppliers, customers, other non-competitive partners) increases, the partnership cooperation with particular group is greater, and similarly if the level of trust in competitors increases, the inclination to coopetition is greater. Moreover, the other variables of interorganizational trust are not significant in this context.

**Keywords** Trust · Interorganizational relations · Cooperation · Coopetition

**JEL** L14 · L21

## 8.1 Introduction

The concept of Industry 4.0. is a result of the need for creating the environment in which the digital world and the physical world would be smoothly and fluidly blending [1]. It is caused by the technological progress, role of cyber-physical systems, robotization and digitalization in the network economy [39, 43]. Industry 4.0 is a new industrial stage in which there is an integration between manufacturing operations systems and information and communication technologies (ICT) [19]. Today's

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businesses have to respond to evolving trends through the increasing vertical and horizontal integration of value chains [66]. This, in turn, requires a wide collaboration of enterprises based on cooperation and coopetition. Interfirm collaboration in dyads and networks allows firms to specialize in core businesses, to outsource value-chain stages, to act more quickly than rivals, and finally to achieve a sustained competitive advantage [74]. Cooperation is a kind of collaboration with non-competitive partners, while coopetition is a kind of collaboration with competitive partners by which simultaneous cooperation and competition between enterprises are implied [76]. In general, the need for cooperation and coopetition is explained by technological progress, globalization, shortening life cycles of technologies and products, deeper and faster changes in the environment and its high uncertainty [59] which closely relate to conditions of industry 4.0.

Cooperation and coopetition are determined by many factors, among which trust is one of the most important ones. Trust has been found to reduce conflict and risk by creating goodwill that secures relationships, while at the same time strengthening satisfaction and partners' commitment in the exchange [53]. Existing literature primarily focuses on indicating the important role of trust in the collaboration process and in its outcomes. Among other things, it was shown that trust in partners has a significant impact on the process of knowledge creation and exchange [10], as well as protecting the company against its leakage [35]. A higher level of trust between network participants leads to an increase in its effectiveness [38], contributes to the reduction of the propensity to opportunistic behavior [48, 51], but also increases partners' loyalty and satisfaction with the cooperation [33]. Most research focuses on the role of trust in cooperation (e.g. [20, 22, 62]), less frequently in coopetition (e.g. [16, 18]). In addition, researchers often analyze the impact of trust on cooperation in general and not in relation to a specific group of partners, which, after all, are different.

It is, therefore, a research gap. This study aims to fill this gap by answering the question: How level and nature of interorganizational trust in different groups of partners influences a firm's collaboration expressed by cooperation and coopetition. A relational view perspective [27] and the associated concept of a value network [52] were adopted. Relational View is an approach in which a company builds and develops interorganizational relations with various partners (i.e., suppliers, customers, competitors, partners), and their portfolio is a key factor in the process of gaining competitive advantage expressed by relational rent [28]. In order to create value, the company and its market stakeholders are required to collaborate and constantly adapt to changing external and internal exchange conditions [31]. Collaboration with individual groups of partners in the value network is therefore partnership and long-term, based not only on exchange, but also on commitment and reciprocity [17, 57], as opposed to the logic of the value-chain related to the concept of the economic path [9, 75], which is reflected in short-term transactional cooperation, primarily based on price [65].

This paper contributes to the literature on interfirm collaboration by showing how identified level and character of trust in a particular group of partners from the value network drive firms to coopete or cooperate with them, and what kind of cooperation

that is, transactional or based on partnership. Because of the sample size, the obtained results cannot be generalized, and they only refer to managers' perceptions and the context of companies operating under Polish conditions; however, the study could be a good starting point for further explorations and research.

In the following sections, we discuss trust in interorganizational relations form the perspective of its dimensions and its role in cooperation and coopetition. Next, we present the research methodology used and discuss the findings. Finally, we draw conclusions and outline the limitations of this study and suggest directions for further research.

## 8.2 Trust in Interorganizational Relations: Literature Review

### *8.2.1 Interorganizational Trust and Its Dimensions*

The literature highlights the importance of trust in interorganizational relations [3, 20, 37, 40, 67]. It is pointed out that establishing and maintaining relations is much easier if partners can trust each other. Mayer with colleagues [47] defines trust as the willingness of one party to accept the actions of the other party, based on the expectation that the partner will behave in a certain way without having to monitor and control its actions. Trust in business relationships therefore reduces uncertainty in the relationship. It is a state including positive expectations about the motives of the other party in risk situations [11]. It is based on the subjective, gradable probability of behavior and actions taken by the other party in a particular situation and the conviction that the other party will not act to the disadvantage of the partner by taking advantage of the partner's weaknesses [48]. The degree of trust is therefore the decisive criterion for choosing between a multitude of business alternatives. Cooperation based on trust generates many benefits for the organization. Among others partners do not have to bear the costs of complex mutual agreements, because they are ready to act in a way that considers the interests of both parties, e.g. in non-standard situations, which leads to lower transaction costs [2, 27].

Trust-building is gradual and consists in providing new premises for consolidating trust. As Dobiegała-Korona [24] points out, trust should be treated as a process that grows thanks to positive experiences, built on the basis of both rational and emotional premises by both parties and with the support of institutional trust.

Trust-building is, therefore, a process based on the history of mutual contacts. Hardwick et al. [32] noted that different types of trust are important at different stages of cooperation development. For the purposes of their research, they have identified two types of trust: trust-based on technical capabilities (convergent with trust in competences) and trust resulting from personal qualities (convergent with trust in honesty and kindness). It turned out that trust based on technical capabilities often initiates cooperation.

In case of lack of knowledge about a potential partner, in order to decide about the collaboration, an initial bond of the relationship—which may be a recommendation from another source—a third party is necessary. This can be trusted in another partner or a related institution. Then there is a transfer of trust from the third party to the relations emerging in the network. In this situation, the third party shall offer to all entering into the relationship evidence of the reliability of each party to the relationship. In this way, a third party acts as a trusted distributor [63]. Research shows that trust in the third party in the relationship is of particular importance in the initial stage of collaboration between partners/companies. Repeated contacts through a third party initiate trust in the organization (but also interpersonal) between representatives of the partners [54].

According to the model by Mayer et al. [47], it is pointed out that trust is based on three components: ability, benevolence, and integrity. The first of them refers to the skills, knowledge, and experience of the partner, important for the implementation of the substantive scope of collaboration. It boils down to the conviction that the partner will be able to carry out the tasks assigned to it in a competent manner. Benevolence means the scope of care for the common good and strengthening the atmosphere conducive to building long-term relationships [50]. Integrity, on the other hand, concerns the extent to which the partner respects the principles of collaboration which are important for both parties, such as quality or timeliness. It also refers to the scope of information provided to the partner. These dimensions build the credibility of the partner, while at the same time being a source of trust in it.

Many authors point out that trust is an essential condition for each type of relationship [29, 42, 61]. At the same time, studies confirm the significant role of trust in interorganizational relations, which helps to reduce conflicts [5], stimulates cooperative behavior [25], increases partners' loyalty and satisfaction with cooperation [33].

### *8.2.2 Trust in Cooperation*

Trust-based cooperation is based on the conviction that it will bring significant benefits to the organization, such as cost reduction, knowledge, innovation potential and many others [36]. Finding a trustworthy and competent partner is crucial for cooperation [37]. It is stressed that cooperation based on trust improves communication and exchange of information between partners [30] and ensures that the implementation of a contract takes place in an atmosphere of mutual understanding, which is particularly important in unpredictable situations [68].

The theory of transaction costs assumes rational actions of players (actors) on the economic market [73]. Transactions conducted by entities are related to incurring transaction costs, which include: partner search, costs of negotiations, contract conclusion, its control, and others. It also points out that, as operators seek to maximize their own interests, they are at the same time exposed to opportunistic action by other operators who do not hesitate to take advantage of favorable opportunities

to maximize their own profits [41]. Therefore, transactional relationships require a number of collaterals, detailed agreements and monitoring activities. Comprehensive contracts that describe in detail the rules of cooperation and the consequences of failure to meet commitments may reduce opportunistic behavior and minimize the risk of conflicts or misunderstandings in the course of cooperation. In line with these assumptions, it is assumed that continued close cooperation reduces transaction costs and increases the benefits to partners.

Many authors point out that relationships based on trust can replace transactional relationships [27, 68]. Researchers also stress that transactional relationships can stifle the development of trust between partners because they base their relationships on detailed rules, making it impossible to naturally build mutual credibility [56]. If a gap in the contract is found, it may be very expensive for one of the parties [46]. Malhotra and Lumineau [45] indicate that contracts based on extensive and detailed provisions aimed at controlling and minimizing the risk of opportunistic behavior reduce the goodwill trust in the relationship and willingness to continue cooperation [48].

The literature on the subject, therefore, perceives relations as one of the most important resources, building the value of the company and its competitive advantage [8, 69]. This resource is the basis for its market power, reducing uncertainty and stabilizing its market position in the . Participation in the network, i.e., a group of actors with strategic links between them, provides access to technology information, faster learning, risk sharing, and cost-sharing. Integration of own resources with partners' resources makes them more unique, which makes it possible, among other things, to generate a greater relational rent. The network theory clearly defines the role of trust in the process of partner selection. The impact of two types of trust on the process is indicated, i.e., knowledge-based trust and deterrence-based trust. In the first case, the network may be a source of information on the potential partner's capabilities and reliability [60]. In the second, it is based on the fear of costly sanctions that can be imposed on a company that shows opportunistic behavior [64]. Damage to reputation may result in the loss of current and future opportunities for cooperation [34].

As a result, it can be concluded that cooperation of a partnership nature is characterized by a higher level of trust in partners, partnership and the overall value of cooperation than in the case of other relationships (e.g. [27]). This study focuses on particular groups of cooperation partners, i.e., customers, suppliers and other non-competing partners, which gave rise to the formulation of the following hypotheses:

H1: Cooperation with suppliers has a partnership character: (a) the higher the level of trust in suppliers, (b) the higher the overall level of trust in cooperation partners, (c) the higher the overall level of trust in the cooperation itself.

H2: Cooperation with customers/clients has a partnership character: (a) the higher the level of trust in the customers/clients, (b) the higher the overall level of trust in the cooperation partners, (c) the higher the overall level of trust in the cooperation itself

H3: Cooperation with other non-competing entities has a partnership character: (a) the higher the level of trust in them, (b) the higher the overall level of trust in cooperation partners, (c) the higher the overall level of trust in the cooperation itself.

On the other hand, in the case of transactional relations, a lower level of trust in partners, partnership and the overall value of cooperation can be expected than in the case of partnership relations (e.g. [45]). This is the basis for the formulation of reverse hypotheses, i.e.:

H4: Cooperation with suppliers has a transactional character: (a) the lower the level of trust in suppliers, (b) the lower overall level of trust in cooperation partners, (c) the lower the overall level of trust in the cooperation itself.

H5: Cooperation with customers/clients has a transactional character: (a) the lower the level of trust in the customers/clients, (b) the lower the overall level of trust in the cooperation partners, (c) the lower the overall level of trust in the cooperation itself.

H6: Cooperation with other non-competing entities has a transactional character: (a) the lower the level of trust in them, (b) the lower the overall level of trust in cooperation partners, (c) the lower the overall level of trust in the cooperation itself.

### *8.2.3 Trust in Coopetition*

Coopetitive relations remain in the circle of growing interest due to the growing uncertainty of the business environment and the growing interdependence of enterprises. The requirements of competition make it necessary for market rivals to cooperate with each other in order to generate more value together [26]. An important condition for coopetition is the continuous development of relations, necessary to maintain cooperation between competitors, as well as to guarantee the sustainability of the organizational network, knowledge transfer and organizational efficiency [15, 44]. Many authors emphasize the important role of trust as a factor supporting coopetitive relations [13, 23]. This is due, among other things, to the fact that trust is an essential building block of voluntary cooperation, and coopetition consists of two elements: competition and cooperation. However, in this system trust is only one of the factors that may explain the tendency to establish coopetitive relations.

So far, however, little research has been devoted to the mechanism of trust emergence in coopetition. The research findings to date definitely confirm the positive effects of trust in relations between companies [21]. It is stressed that trust reduces opportunism [14, 70], improves interactions between partners and develops identifications around shared values [13]. Trust can partially replace formal agreements and reduce the costs of activities. Where there is a high level of trust, the parties will rely more on oral commitments and promises. In addition, some activities can be initiated horizontally by line managers who are in direct contact with their counterparts in the other company. Research also shows that trust in coopetitive relations is developing on the basis of monitoring the other party's behavior and open communication, which leads to better mutual understanding [4, 7].

Bouncken and Fredrich [12] showed that the strength of trust affects the likelihood and effects of coopetition. These studies tested trust in four alternative combinations, demonstrating that coopetition leads to the best results in case of high trust and high dependency.

To sum up, it is worth emphasizing that research results indicate that trust is an extremely desirable, and even a necessary condition for effective coopetition. Therefore, it can be assumed that the propensity to voluntary coopetition and coopetition at the request of customers is related to the level of trust in partners, partnership and the value of cooperation in general. The above gives rise to the following hypotheses:

H7: The propensity for voluntary coopetition is higher: (a) the higher the level of trust in competitors, (b) the higher the overall level of trust in cooperation partners, (c) the higher the overall level of trust in the cooperation itself.

H8: The propensity for coopetition on demand is higher: (a) the higher the level of trust in competitors, (b) the higher the overall level of trust in cooperation partners, (c) the higher the overall level of trust in the cooperation itself.

Based on the assumptions of the role of interorganizational trust in cooperation and coopetition and the hypotheses set, we built a research model as shown in Fig. 8.1. In order to test these hypotheses, research was conducted in Polish companies in 2018.

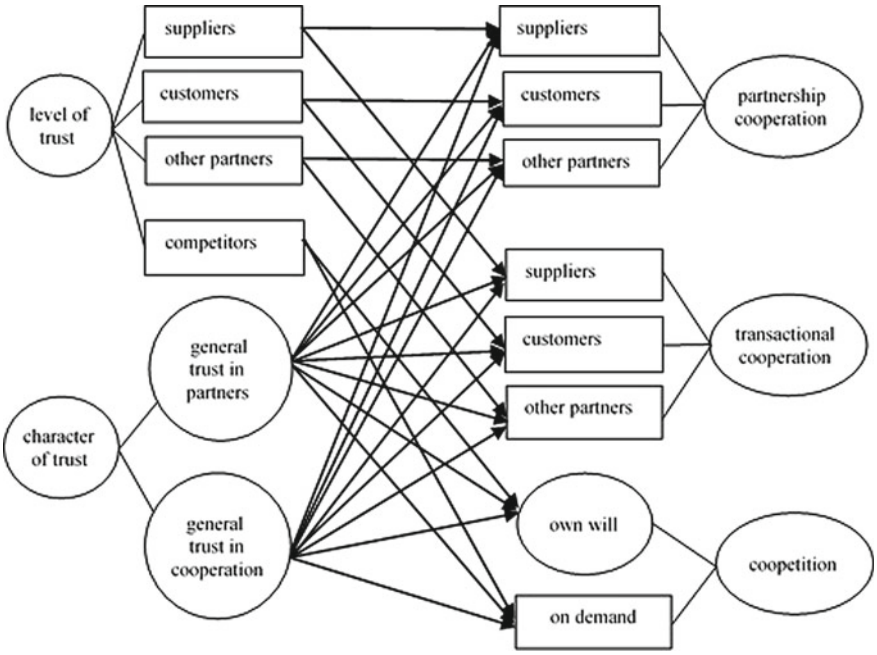


**Fig. 8.1** Research model

## 8.3 Methodology

### *8.3.1 Sample and Data Collection*

The research subject was medium-sized companies (i.e., with 50–249 employees) operating in Poland. Companies of this size were chosen specifically, as they are characterized by a high level of diversity. In this group, there are entities with qualities ascribed to small companies, as well as those whose characteristics are closer to those of large companies. We used a questionnaire survey to collect the primary data for this study.

The research presented here is part of a broader project devoted to the study of the content, characteristics and effects of relational strategy of enterprises. The impact of trust on taking up coopetition and cooperation was one of the partial issues. The research was carried out in three stages. In the first one, field research was carried out using the method of semi-structured interviews on a sample of 53 medium-sized companies selected deliberately according to the number of employees. A selection of that 21 companies was assumed with employment from 50 to 70 people and 32 companies with employment from 71 to 249 people, of which at least 16 with employment of more than 200 people, but less than 250, were selected. The sampling frame was the database of the National Economy Register (REGON), from which the so-called gross sample was obtained, i.e., the list of entities several times exceeding the number of the assumed sample. Ultimately, 53 companies agreed to participate in the study. Respondents were owners or top management. The research was conducted from November 2016 until the end of July 2017. The results allowed to create a standardized tool for examining the relational strategy, its features, effects and conditions, which were subject to expert evaluation. Hence, the second stage of research was expert research. It was carried out from May to June 2018. Experts were a group of 20 people who were representatives of the Polish scientific community. Their selection was purposeful, and the criterion for selection was significant scientific achievements in the scope of strategic management and/or issues related to interorganizational relations or networks, which was verified by the number of publications and their subject matter on the basis of data from the Google Scholar database. Each of the experts was asked to give an opinion on the items describing the variables under examination from the perspective of their validity and theoretical relevance, as well as the degree of understanding by economic practitioners. Among them there were variables related to trust (its level and character) and those related to the nature of cooperation and coopetition. The results of expert research allowed us to develop and refine the research tool that was used in the third stage of research. At this stage, respondents from the first stage (i.e., 53 medium-sized companies) were again asked to complete a standardized questionnaire this time.

The studied population was mainly mature entities, i.e., entities operating on the market for over 20 years. Therefore, having appropriate experience in creating, developing or withdrawing from interorganizational relations. The majority of them

were manufacturing companies (28 companies) and those which were active on the domestic market (31 companies).

### *8.3.2 Variables Measures*

We consulted the existing literature to compile measurement items. Next, the items were modified after the expert research. All constructs were measured on a seven-point Likert scale from strongly Disagree (1) to strongly Agree (7).

Trust was measured by its level and nature. The level of trust was determined by respondents in relation to selected groups of partners, i.e., suppliers, customers/clients, competitors and other key entities with which the company cooperates. The nature of trust was defined by eight items. In order to check whether the items determining the nature of trust are one factor, we conducted an Exploratory Factor Analysis (EFA), which was facilitated by the value of Kaiser-Meyer-Olkin's statistics of 0.829. According to the screen plot criterion, the nature of trust should be determined by two factors that explain 80.54% of the output variance, of which the Eigenvalue is higher than 1. We conducted EFA on the scale items by principal component analysis rotated with varimax rotation. From this extraction, we obtained two components: (1) overall trust in cooperation partners and (2) trust in cooperation itself. The factor loadings are significantly above the requisite 0.7, except for the item of we trust that as a result of the cooperation we will obtain benefits exceeding the outlays with a factor loading of 0.60, but it is still acceptable. Table 8.1 displays the EFA results. Next, we ran reliability analyses for these two variables. The Cronbach's $\alpha$ value for the first variable is 0.97, and for second is 0.66 (Table 8.1). Thus, these two variables demonstrate adequate reliability and convergent validity.

Cooperation was measured separately in relation to particular groups of partners (i.e., suppliers, customers/clients, other non-competitors), and was determined through the prism of transactional cooperation based primarily on exchange and price [65] and through the prism of partnership cooperation, based on long-term relations, characterized by commitment and reciprocity [17]. To this end, respondents were asked to respond to two items: (1) "Our cooperation with suppliers/customers/other non-competitors is primarily transactional", (2) "Our cooperation with suppliers/customers/other non-competitors is primarily partnership-based".

Coopetition, in turn, meaning simultaneous cooperation and competition, was measured by identifying this type of relationship and the propensity for it. For this purpose, we proposed 4 items (Table 8.2) and carried out an exploratory factor analysis, which was made possible by the value of Kaiser-Meyer-Olkin's statistics amounting to 0.841. According to the scree plot criterion, coopetition and propensity to it should be determined by two factors: (1) voluntary coopetition and (2) coopetition on demand, which together explain 95.56% of the output variance, of which the Eigenvalue is higher than 1. In this case, we also conducted EFA by principal component analysis rotated with varimax rotation. The factor loadings are significantly greater than 0.7. We checked reliability and validity of the first variable calculating

**Table 8.1** EFA results and coefficient alpha for the nature of interorganizational trust

| Variable | Item | Factor loading | Validity and reliability—Cronbach's $\alpha$ |
|---|---|---|---|
| Overall trust in cooperation partners (OTP) | We trust that the partner, based on its competences, is able to meet the conditions of cooperation | 0.90 | 0.97 |
| | We trust that our partner pursues common goals | 0.96 | |
| | We perceive our key partners as predictable/operating on the basis of specific principles | 0.96 | |
| | We see our key partners as fair | 0.94 | |
| | Our current experience with key partners is positive | 0.86 | |
| Trust in cooperation itself (TCI) | We trust that as a result of cooperation we will obtain benefits exceeding the outlays | 0.60 | 0.66 |
| | We trust that in case of disputes we will find a solution together (with a partner) | 0.77 | |
| | If an entity (company, institution), in which we trust, recognizes another entity as reliable, we also trust it in case of potential cooperation | 0.86 | |

Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization. Accumulate explained variance = 80.54%

the Cronbach's $\alpha$ value, which is 0.88. The second variable consists of the only one item, thus we did not calculate the Cronbach's $\alpha$ for it. Results are presented in Table 8.2.

Because we collected data from owners and managers using a single questionnaire, any relationships observed may be susceptible to common method bias. We followed the procedures recommended by Podsakoff et al. [55] for limiting the potential for common method variance. Specifically, we assured respondents that there were no

**Table 8.2** EFA results and coefficient alpha for coopetition

| Variable | Item | Factor loading | Validity and reliability—Cronbach's $\alpha$ |
|---|---|---|---|
| Voluntary coopetition (VC) | We actively and systematically develop cooperation relations with selected competitors | 0.91 | 0.88 |
| | If competitors offer cooperation, we accept it (if it is legal and advantageous) | 0.89 | |
| | We cooperate with competitors on our own initiative | 0.90 | |
| Coopetition on demand (DC) | We cooperate with competitors on request/demand of customers | 0.98 | – |

Extraction method: Principal component analysis. Rotation method: Varimax with Kaiser normalization. Accumulate explained variance = 92.56%

right or wrong answers, encouraged them to respond as honestly as possible, grouped construct items in sections and not in variables, and employed multi-response formats.

## 8.4 Findings

Next, we tested our research model and corresponding hypotheses. Firstly, we present the means, standard deviations, and bivariate correlations for the variables (Table 8.3). We used following symbols:

1. LTS—level of trust in suppliers
2. LTC—level of trust in customers/clients
3. LTOP—level of trust in other partners
4. LTCp—level of trust in competitors
5. OTP—overall trust in cooperation partners
6. TCI—trust in cooperation itself
7. PCS—partnership cooperation with suppliers
8. PCC—partnership cooperation with customers/clients
9. PCOP—partnership cooperation with other partners
10. TCS—transactional cooperation with suppliers
11. TCC—transactional cooperation with customers/clients

**Table 8.3** Descriptive statistics and correlation matrix

| Variables | *M* | *X* | Sd | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. LTS | 6 | 5.24 | 0.92 | 1.00 | | | | | | | | | | | | | |
| 2. LTC | 6 | 5.41 | 1.00 | **0.41** | 1.00 | | | | | | | | | | | | |
| 3. LTOP | 5 | 4.84 | 1.08 | −0.02 | 0.02 | 1.00 | | | | | | | | | | | |
| 4. LTCp | 3 | 3.73 | 1.00 | 0.15 | 0.15 | **0.33** | 1.00 | | | | | | | | | | |
| 5. OTP | 6 | 5.67 | 0.64 | **0.47** | **0.46** | 0.01 | 0.21 | 1.00 | | | | | | | | | |
| 6. TCI | 5 | 5.18 | 0.62 | **0.44** | **0.54** | 0.08 | 0.25 | **0.43** | 1.00 | | | | | | | | |
| 7. PCS | 6 | 4.49 | 1.77 | **0.83** | 0.26 | −0.11 | 0.09 | **0.38** | **0.28** | 1.00 | | | | | | | |
| 8. PCC | 6 | 4.79 | 1.69 | **0.47** | **0.49** | **0.33** | **0.38** | **0.43** | **0.47** | **0.28** | 1.00 | | | | | | |
| 9. PCOP | 3 | 3.90 | 1.82 | 0.25 | **0.34** | **0.40** | **0.47** | **0.29** | **0.37** | 0.08 | **0.43** | 1.00 | | | | | |
| 10. TCS | 3 | 3.83 | 1.74 | **−0.82** | **−0.29** | 0.14 | −0.06 | **−0.31** | **−0.33** | **−0.93** | −0.25 | −0.03 | 1.00 | | | | |
| 11. TCC | 3 | 3.60 | 1.57 | **−0.41** | **−0.44** | **−0.34** | **−0.42** | **−0.39** | **−0.47** | −0.22 | **−0.94** | **−0.46** | 0.20 | 1.00 | | | |
| 12. TCOP | 5 | 4.35 | 1.79 | −0.21 | −0.25 | **−0.42** | **−0.49** | **−0.28** | **−0.28** | −0.08 | **−0.39** | **−0.93** | 0.01 | **0.41** | 1.00 | | |
| 13. VC | 3 | 3.29 | 1.11 | 0.19 | 0.25 | **0.32** | **0.72** | 0.22 | 0.18 | 0.07 | **0.36** | **0.46** | −0.04 | **−0.36** | **−0.45** | 1.00 | |
| 14. DC | 3 | 3.21 | 0.96 | 0.18 | 0.15 | −0.02 | 0.03 | −0.04 | 0.12 | 0.23 | 0.14 | 0.00 | −0.26 | −0.20 | 0.01 | −0.13 | 1.00 |

$n = 53$ business entities, *M*—median; *X*—mean, SD—standard deviation; Bold value signifies the correlation is statistically significant for $|r| \geq 0.28$ with min. $p < 0.05$

12. TCOP—transactional cooperation with other partners
13. VC—voluntary coopetition
14. DC—coopetition on demand.

The results confirm that the surveyed companies cooperate primarily with partners from the economic path, i.e., suppliers and customers, and this cooperation has a partnership character, as evidenced by the median value of 6. In relation to these groups of partners, they also show the highest level of trust. In relation to the complementors, the level of trust is high ($M = 5$), however, the surveyed companies maintain primarily transactional relations with these entities. Coopetition was the least popular due to the limited level of trust in competitors ($M = 3$). It should also be noted that the overall level of trust in cooperation partners, related to their perception, is quite high ($M = 6$), as is the overall level of trust in cooperation itself ($M = 5$).

Taking into account the correlations between individual variables in the context of the hypotheses, a significant part of the dependencies is statistically significant. The hypothesis H1 should be confirmed, because cooperation with suppliers is a partnership (PCS), the higher the level of trust in suppliers ($r = 0.83$), the higher the overall level of trust in cooperation partners ($r = 0.38$), and the higher the level of trust in the cooperation itself ($r = 0.28$), while in relation to the last two factors these dependencies are weaker.

Similarly, hypotheses H2 and H3 should be confirmed on the basis of the results obtained, with correlations with particular factors determining the level and nature of trust in the case of partnership with customers/clients being on the similar level (from $r = 0.49$ for LTC to $r = 0.43$ for OTP). In the case of partnership cooperation with other entities (LTOP), on the other hand, relations are stronger in relation to the level of trust in them ($r = 0.40$) and trust in cooperation itself ($r = 0.37$) than overall trust in cooperation partners ($r = 0.29$).

At the same time, hypotheses H4, H5, and H6 turned out to be true, based on correlation analysis. All dependencies are negative, which proves that cooperation with suppliers/customers/other entities, respectively, is transactional, the lower the level of trust in a given group of partners, a lower overall level of trust in cooperation partners, as well as the cooperation itself.

In relation to coopetition, only one relation turned out to be statistically significant, i.e., the higher the level of trust in competitors ($r = 0.72$), the higher the propensity for voluntary coopetition. Therefore, only hypothesis H7a is true. Other factors determining the nature of trust, i.e., overall trust in cooperation partners as well as trust in cooperation itself turned out to be irrelevant from the perspective of establishing and developing coopetition relations.

A linear regression was carried out by performing deeper analyses and checking the combined influence of particular factors determining trust on cooperation and coopetition. Its results are presented in Tables 8.4 and 8.5.

When considering cooperation with suppliers, it should be noted that its partnership or transactional nature depends primarily on the level of trust in suppliers (model 3a with variation of PCS of 70.6% and model 6a with variation of PCS of

**Table 8.4** Regression analysis for cooperation

*(a) With suppliers*

| Independent variable: interorganizational trust | Dependent variable: PCS | | | Dependent variable: TCS | | |
|---|---|---|---|---|---|---|
| | Model 1a | Model 2a | Model 3a | Model 4a | Model 5a | Model 6a |
| LTS | | | 0.878*** (0.092) | | | −0.865*** (0.097) |
| OTP | | 0.314** (0.143) | 0.007 (0.091) | | −0.208 (0.145) | 0.094 (0.096) |
| TCI | 0.280** (0.134) | 0.145 (0.143) | −0.107 (0.089) | −0.328** (0.132) | −0.239 (0.145) | 0.010 (0.094) |
| $R^2$ | 0.078 | 0.159 | 0.706 | 0.107 | 0.143 | 0.673 |
| $F$ | 4.344 | 4.725 | 39.292 | 6.141 | 4.160 | 33.697 |

*(b) With customers/clients*

| Independent variable: interorganizational trust | Dependent variable: PCC | | | Dependent variable: TCC | | |
|---|---|---|---|---|---|---|
| | Model 1b | Model 2b | Model 3b | Model 4b | Model 5b | Model 6b |
| LTC | | | 0.268* (0.145) | | | −0.207 (0.149) |
| OTP | | 0.278** (0.132) | 0.205 (0.135) | | −0.237* (0.134) | −0.180 (0.139) |
| TCI | 0.474*** (0.123) | 0.355*** (0.132) | 0.242* (0.143) | −0.469*** (0.124) | −0.367*** (0.134) | −0.281* (0.147) |
| $R^2$ | 0.225 | 0.288 | 0.334 | 0.220 | 0.266 | 0.249 |
| $F$ | 14.792 | 10.112 | 8.211 | 14.404 | 9.066 | 6.798 |

*(c) With other partners (non-competitive)*

| Independent variable: interorganizational trust | Dependent variable: PCOP | | | Dependent variable: TCOP | | |
|---|---|---|---|---|---|---|
| | Model 1c | Model 2c | Model 3c | Model 4c | Model 5c | Model 6c |
| LTOP | | | 0.378*** (0.120) | | | −0.404*** (0.122) |
| OTP | | 0.160 (0.143) | 0.171 (0.132) | | −0.205 (0.147) | −0.217 (0.135) |
| TCI | 0.368** (0.130) | 0.230** (0.143) | 0.262* (0.133) | −0.277** (0.134) | −0.189 (0.147) | −0.149 (0.135) |
| $R^2$ | 0.136 | 0.157 | 0.230 | 0.077 | 0.111 | 0.273 |
| $F$ | 8.011 | 6.643 | 6.953 | 4.249 | 3.128 | 6.133 |

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

**Table 8.5** Regression analysis for coopetition

| Independent variable: interorganizational trust | Dependent variable: VC | | |
|---|---|---|---|
| | Model 1 | Model 2 | Model 3 |
| LTS | | | 0.715*** (0.102) |
| OTP | | 0.176 (0.151) | 0.084 (0.109) |
| TCI | 0.185 (0.137) | 0.110 (0.151) | −0.032 (0.110) |
| $R^2$ | 0.034 | 0.059 | 0.531 |
| $F$ | 1.809 | 1.582 | 18.515 |

*$p < 0.1$; **$p < 0.05$; ***$p < 0.01$

67.3%). This factor is crucial and when compared with other factors determining the nature of trust (OTP and TCI), the latter are no longer significant. Considering only the nature of trust, overall trust in cooperation partners is more important for partnership cooperation with suppliers than trust in cooperation itself (model 2a), and in the case of transactional cooperation these factors have proved to be insignificant (model 5a). Trust in cooperation itself (TCI) is only relevant if its impact on partnership or transactional cooperation is considered in isolation from other factors (models 1a and 4a).

Trust in cooperation itself (TCI), especially in the context of transactional cooperation (models 4b, 5b, and 6b), is of the greatest importance for cooperation with customers. In the case of partnership cooperation, the level of trust in the customers is also an important factor, which, together with the level of trust in cooperation itself, has a significant impact on its nature (model 3b).

Similarly, partnership cooperation with other non-competing entities depends on TCI (models 1c and 2c), but when compared it to the level of trust in this group's partners (LTOP), the latter having a stronger impact on it (model 3c). Meanwhile, in the case of transactional cooperation with this group of partners, it depends primarily on trust in them (model 6c), while TCI is important when considered on its own (model 4c).

On the other hand, coopetition is only affected by the trust if it is undertaken voluntarily (Table 8.5) and depends only on the level of trust in competitors (model 3). The factors determining the nature of trust (OTP and TCI) are irrelevant in this case.

The results indicate that trust affects the type of cooperation with different groups of partners, i.e., suppliers, customers, and other non-competitors. Trust in competitors has an impact on coopetition undertaken by the company on its own initiative.

## 8.5 Discussion and Conclusion

Competitive advantage for contemporary companies results more and more frequently from the ability to collaborate with others in order to obtain relational rent [77]. This creates the need for research on factors influencing it. One of them is the interorganizational trust [3, 37, 67, 71], but its impact on collaboration with different group of partners has not been clearly defined. The research results presented here made it possible to answer the research question: how level and nature of interorganizational trust in different groups of partners influences a firm's collaboration expressed by cooperation and coopetition.

The literature indicates that the level of trust in a partner influences the relations between them [2, 13, 48]. However, undertaking cooperation with others is also influenced by the nature of this trust, expressed, among others, through trust in the competence of the partner [32], trust in the willingness to achieve common goals [49], trust in the predictability of the partner's actions [58], its honesty [48] or positive experience of cooperation to date [24]. As a result of our analyses, these factors can be defined as a single construct expressing overall trust in cooperation partners when making decisions about cooperation. On the other hand, this decision is also influenced by trust in obtaining benefits from cooperation exceeding the outlays [6], trust in the willingness to jointly solve disputable issues [5], or acceptance of an intermediary distributing trust [63]. Our research has confirmed that these factors also constitute a single construct, which can be described as trust in cooperation itself.

Taking into account the combined level of trust in a specific group of partners, as well as overall trust in cooperation partners, and trust in cooperation itself, the results of our research indicate that the key element influencing cooperation based on exchange, involvement, and reciprocity [17], and thus influencing partnership cooperation and coopetition, is the level of trust in a specific group of partners from the value network rather than the overall trust in cooperation partners or the cooperation itself. Thus, this paper contributes to: (1) the understanding of how trust drives firms to coopete or cooperate, (2) identifies three different variables of interorganizational trust, (3) provides a direction for further examination of trust related to a particular group of partners, because this kind of trust is the most important for collaboration.

Limitations that result from the research methods used (subjectivity in the respondents' statements, a relatively small research sample size, limited to only medium-sized firms), may inspire further research conducted on a representative sample. Another interesting direction for scientific exploration may be comparison of the level of trust in particular groups of partners with the level of distrust towards them and their impact on the decision to collaborate, because total trust is rather rare. People usually partly trust their partners, but also partly do not trust them [72]. Therefore, it is necessary to assume the existence of distrust (as the opposite of trust) in interorganizational relations, what will be a subject of our further scientific explorations.

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