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*Horizontal Trust and Intra-Group and Inter-Group Processes in
Enterprises in Innovative Industries*

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Abstract

Theoretical background: Discussions on the search for factors to increase the company's market position increasingly focus on intangible assets. One of them is trust, which, based on interpersonal cooperation within employee groups and organizations, supports the flow of knowledge and information necessary to create innovations. Therefore, it may become a key factor in increasing the company's chances of gaining a competitive advantage on the market.

Purpose of the article: The aim of the article is to identify the connections between horizontal trust and group processes supporting the creation of innovations.

Research methods: The assumed goal was achieved thanks to the use of a survey method that was used to identify the attributes of organizational trust and their impact on intra- and inter-group processes in the surveyed enterprises in the innovative industry. The study was nationwide. The research frame included companies employing over 50 people in innovative industry enterprises. Based on the random selection method, a research sample was constructed consisting of 575 employees employed in enterprises from innovative industries, i.e. pharmacy, energy, automotive and IT.

Main findings: As a result of the research, the impact of organizational trust attributes on intra-group processes was identified, in particular on the quality of tasks performed requiring team cooperation, sharing knowledge with other colleagues and reducing opportunism in the team, as well as inter-group processes, including the flow of information and cooperation between employee teams, departments in the company, creating innovations in cooperation with other teams. The research results provide knowledge on the use of organizational trust attributes that can be used to build an organizational culture based on trust in enterprises. In a cognitive sense, the research results contribute to understanding the role of organizational trust in activities to create innovation.

Introduction

In modern enterprises, the potential for their development lies in interpersonal cooperation within employee groups and the organization as a whole. The basis of cooperation is trust recognized as a cultural feature and an economic value. It can be defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., 1995, p. 712). From this definition, we can see that trust represents the belief that the other party will act honestly and ethically. According to the idea of Mayer et al. (1995), trust means that a person is willing to become vulnerable to another party or trustee, whether it is an individual, group or organization. Therefore, although trust always originates from individuals, its target may be the organization because it takes into account the collective characteristics of the organization and guarantees the continuity of activities in a reliable way (Malik et al., 2017). A definition combining various trust approaches was proposed by Paliszkiewicz (2013, p. 23), according to which “trust is the belief that the other party: will not act against us, will act in a way that is beneficial to us, will be credible and will behave in a predictable manner and in accordance with generally accepted norms”. Therefore, trust is perceived in terms of positive expectations towards the other party and gives a sense of security in conditions of uncertainty. Organizations are increasingly paying attention to trust within the organization because it is considered to be of key importance for the effectiveness and development of individuals, teams and organizations. This trust is a multidimensional construct, including trust relationships between colleagues in the work group and trust in hierarchical relationships. Most studies focus on vertical trust (e.g. Bentzen, 2022; Islam et al., 2021; Qiu et al., 2019; Guinot & Chiva, 2019).

Horizontal trust is examined relatively less frequently. Therefore, this study aims to fill this gap by providing evidence on the role of horizontal trust in creating internal processes in an organization. The aim of this study is to identify the connections between horizontal trust (HT) and group processes – intra-group (IAG) and inter-group (IRG) that support the creation of innovations. To achieve this goal, research was conducted among employees of innovative industries. A quantitative methodology was used to examine the relationship between trust and intra-group

and inter-group processes. The results of this study may contribute to understanding the dynamics of trust in relationships between employees, which has received less attention in the literature than the leader-employee relationship. Moreover, this article develops theoretical and empirical observations on the impact of trust on employees' involvement in group cooperation.

Literature review

Organizational trust is a multidimensional concept, which is why it is defined in various ways in the literature on the subject. Ramos et al. (2021) conceptualize organizational trust as a set of interdependent beliefs about ethical standards, trustworthiness in communication, the economic strength of the organization and its ability to reward employee performance, both financially and professionally. Tan and Lim (2009) view organizational trust as an employee's willingness to be susceptible to the actions of an organization over whose behavior and actions he or she has no control. McKnight et al. (1998) believe that trust is the positive expectations that individuals have regarding the competence, reliability and kindness of organizational members, as well as towards the organization.

According to Darrough (2008), organizational trust is a state of trust in which the employee has no doubt that the employer is true in his commitment. Rudzewicz (2016) believes that trust in an organization is directly related to the belief that the organization functions effectively and its employees demonstrate a high level of job satisfaction. Since the article focuses on interpersonal trust between organizational members, the definition of trust proposed by Ahteela and Vanhala (2018, p. 4) was adopted, according to which it is "the positive expectations of individuals about the competence, benevolence, and reliability of the organizational members on lateral and vertical levels under risk-prone conditions". The analysis of various approaches to organizational trust shows that it is a multi-level construct that originates from interactions at the co-worker, team, organizational and inter-organizational levels. Its most important components are the values: credibility, kindness and honesty.

Organizational trust can be divided into inter-organizational and intra-organizational trust. Inter-organizational trust occurs in the relationships between an organization and its external stakeholders. It is defined as the degree to which members of the focal organization trust members of the partner organization. Vanneste (2016) indicates that trust between organizations occurs when A and B, as people of both organizations, trust each other. This implies that Alice (a member of Organization A) trusts Bob (a member of Organization B) and Ammy (another member of A) trusts Brad (another member of B). However, intra-organizational trust is the relationship between the internal stakeholders of the organization. Intra-organizational trust can be viewed at two levels: trust in superiors (vertical trust) and trust between coworkers (horizontal trust) (Tan & Lim, 2009; Lewicka et al., 2017). Vertical trust is the degree to which employees trust the

actions of their managers in the organization in which they work, and horizontal trust is the degree to which employees trust the people they work with. In the first case, the trusting entity is the manager, while in the second case, there are co-workers. Due to the purpose of the article, research attention was focused on horizontal trust. Trust in coworkers is defined as “the willingness of a person to be vulnerable to the actions of fellow coworkers whose behavior and actions that person cannot control” (Tan & Lim, 2009, p. 46). It can be conceptualized as a latent construct based on an individual’s own tendency to trust others and the perceived trustworthiness of other team members, which in turn leads to cooperative and monitoring behaviors among team members (Costa & Anderson, 2011). Sometimes horizontal trust is recognized as team trust, i.e. “an emergent and dynamic shared state at the team-level whereby team members believe in one another’s competence and are willing to be vulnerable beyond task-related issues” (Feitosa et al., 2020, p. 2). Trust among employees is based on the belief that others or other groups will a) make every effort to honor the commitments they have made, b) act honestly in negotiations prior to accepting the commitments, c) not take advantage of opportunities to gain an advantage over others when opportunities arise (Cummings & Broomiley, 1996).

Horizontal trust brings many benefits. It promotes openness and stimulates internal motivation, which facilitates cooperation in organizations (Agbejule et al., 2021). When colleagues trust each other, the likelihood of opportunistic behavior decreases, which increases organizational effectiveness (Colquitt et al., 2011). Trust is a kind of lubricant for jointly developing new plans and actions (Hughes et al., 2018). Through trust, collaborative discussions and debates develop that stimulate new, useful ideas (Yu et al., 2018). Trust in colleagues also increases trust in the organization as a whole, which allows organizational changes to be accepted as positive. Therefore, employees who trust their coworkers are more likely to believe in organizational integrity and goodwill (Kim et al., 2019). Lau and Liden (2008) argue that coworker trust is important for three reasons. First, co-worker trust is a major factor influencing effective team decision-making and proactive work behavior. Second, when employees trust their co-workers, they are more willing to work hard because they know that their efforts will be rewarded appropriately. Third, trust in coworkers facilitates social exchange relationships. Numerous studies support the idea that trust is positively related to knowledge sharing in the workplace (Hsu & Chang, 2014; Nerstad et al., 2018; Rutten et al., 2016). For example, Ouakouak and Ouedraogo (2019) noted that when employees strengthen interpersonal trust, they are more likely to achieve positive outcomes, thereby influencing knowledge sharing and utilization to a greater extent. Trust among team members enables the free exchange of information, resulting in greater employee involvement (Hakanen et al., 2006).

To sum up, the above-mentioned research allows us to conclude that horizontal trust is a significant variable that is useful for identifying employees with the organization, communication, performance, job satisfaction, and relations between employees and organizations.

Research methods and sample

The research sought answers to three research questions: to what extent is there trust between employees (HT) in enterprises in the innovative industry? To what extent does horizontal trust influence intra-group (IAG) and inter-group (IRG) processes and what impact does horizontal trust have on the degree of employee involvement in cooperation with other employees? In search of answers to these research questions, a survey method was used, with the computer-assisted telephone interview (CATI) telephone survey technique. The research tool was a standardized survey in which questions about horizontal trust were developed based on tools constructed by Paliszkievicz et al. (2015) and Krot and Lewicka (2016). The answers to the following questions were used to analyze horizontal trust: *Below are statements regarding the behavior of employees in your company. Please tell me to what extent you agree with these statements?* 15 statements were adopted to define horizontal trust (Table 1). Such statements are used to capture the degree of trust within the company somewhat indirectly, and not the trust of employees *per se*. However, analyzing data at the employee and firm levels may be a fruitful avenue of research to shed further light on the relationship between trust and group processes. In order to assess group processes, a question was asked. *Below are statements regarding the situation in your company. Please tell me to what extent you agree with these statements?* A total of 11 claims were accepted that facilitate the evaluation of the intra-group and inter-group processes in enterprises (Table 2).

The analysis of the results used the mean and standard deviation test and Spearman's rank correlation coefficient, which assesses the monotonic nature between random variables. The research was conducted in November and December 2022 and was of a nationwide nature. The research frame included companies employing over 50 people in innovative industry enterprises. The sampling frame constituted the REGON base (national business registry number) of Polish enterprises. The respondents represented firms employing from 50 to 100 employees (24.3%), from 101 to 150 employees (18.4%), from 151 to 200 employees (20.3%), from 202 to 250 employees (8.2%) and over 250 employees (28.7%). The respondents were selected according to the key of one firm per person under analysis.

Based on the random selection method, a research sample was constructed consisting of 575 employees employed in enterprises from innovative industries, i.e. pharmacy (25.2%), energy (23.3%), automotive (26.4%), and IT (25%). The surveyed employees performed mental work (97.2%) and physical work (2.8%), with work experience of 4–8 years (10.3%), 9–13 years (23.8%), 14–18 years (33.7) and 19 and over (32.2%). As a result of drawing, a survey was conducted on a representative sample, according to the following parameters: α error: 4%, confidence interval: 95%.

Results

One of the main goals of the study was to determine the level of trust between employees of innovative industry enterprises. Table 1 presents the results of research on the occurrence of trust between employees (horizontal) in enterprises. This trust is based on the belief that establishing positive relationships with other employees is important; on the feeling that employees try to draw conclusions and learn something new even from negative situations; being helpful towards others and caring for the common interest and the belief that most employees can be trusted. The level of horizontal trust in innovative industry enterprises is high (average score 4.05, $SD = 0.836$). In the author's other research conducted among 176 of the largest enterprises in Poland, the level of trust was lower (3.15, $SD = 1.324$) (Byłok & Kuceba, 2021). The analysis of organizational trust attributes indicates that the highest rating was given to the certainty that an employee, if a replacement is needed, will find another employee who will help him. Subsequently, sharing ideas and information with other co-workers was highly rated and the belief in receiving constructive advice when an employee shares his or her professional problems with other employees was highly rated. Moreover, keeping promises by employees and help from my colleagues were highly rated.

The lowest scores were given to drawing conclusions from negative situations and learning something new, feeling of responsibility for the tasks performed and no need to monitor the activities performed, and the belief that employees most of the time try to be helpful towards others and do not only care about their own interests. It should be noted that the value of the lowest-rated attributes is above the average rating.

The assessments of horizontal trust attributes were mostly not differentiated by the variable type of innovative industry, only in the case of the following attributes: the belief that if an employee shares his professional problems with other employees, he will receive constructive advice from them, there was a correlation with pharmaceutical companies ($\chi^2 = 5.043977, p = 0.025$) and automotive ($\chi^2 = 4.744605, p = 0.029$); in the case of the attribute of feeling of responsibility for one's tasks and the lack of need to monitor them, there was a correlation with automotive companies ($\chi^2 = 3.953096, p = 0.047$) and the attribute of trust, employees most of the time try to be helpful towards others and do not care only about their own interest is correlated with automotive companies ($\chi^2 = 6.140681, p = 0.013$).

In order to examine the scope of horizontal trust dimensions within the trust scale, the following dimensions were distinguished:

- tendency to trust (HT1, HT2, HT4, HT13, HT15),
- perceived trustworthiness (HT6, HT9),
- cooperative behavior (HT3, HT5, HT8, HT10, HT14, HT11),
- monitoring behavior (HT7, HT12).

The research results indicate differences in the assessment of dimensions by the surveyed employees. The highest scores were for perceived trustworthiness (4.12,

$SD = 0.836$) and cooperative behavior (4.10, $SD = 0.829$). However, monitoring behavior (3.95, $SD = 0.854$) and tendency to trust (4.03, $SD = 0.838$) were rated lower.

Generally speaking, the management of the surveyed companies should pay more attention to creating conditions for establishing positive relationships between employees, improving the atmosphere in the workplace and encouraging employees to share ideas and information with other colleagues.

Table 1. Assessment of horizontal trust (HT) attributes in the surveyed enterprises

| Type of statement | Average | SD |
|--|---------|-------|
| (HT1) There is an atmosphere of mutual trust between employees in the company | 4.00 | 0.769 |
| (HT2) If I had a problem with anything work-related, I could safely talk to my colleagues about my concerns and get advice | 4.01 | 0.824 |
| (HT3) If I share my career problems with other employees, I am sure I will get constructive advice | 4.14 | 0.821 |
| (HT4) Most employees keep their promises | 4.13 | 0.844 |
| (HT5) If I need a replacement, I'm sure I'll find someone to help me | 4.19 | 0.803 |
| (HT6) Employees can openly talk about what they don't like or how something should be changed | 4.10 | 0.801 |
| (HT7) Employees feel responsible for their tasks and do not need to be monitored | 3.96 | 0.792 |
| (HT8) Most of the time, employees try to be obliging to others and do not only care about their own interests | 3.98 | 0.839 |
| (HT9) I'm sure I would get help from my colleagues | 4.13 | 0.869 |
| (HT10) Employees are happy to share ideas and information with other colleagues | 4.17 | 0.825 |
| (HT11) I am happy to share ideas, knowledge and information with other employees | 4.07 | 0.841 |
| (HT12) Employees try to draw conclusions from negative situations and learn something new | 3.83 | 0.862 |
| (HT13) Employees are preferred to be independent in taking risks, innovative and original | 4.03 | 0.793 |
| (HT14) I believe that establishing positive relationships with other employees is important | 4.06 | 0.829 |
| (HT15) Most employees in the company can be trusted | 3.98 | 0.945 |
| Total | 4.05 | 0.836 |

Rating scale: 1 – I strongly disagree, 2 – I disagree, 3 – I neither agree nor disagree, 4 – I agree, 5 – I strongly agree

Source: Author's own study.

In the next research step, the results of research on group processes were analyzed (Table 2). Intra-group processes were rated significantly higher (3.99, $SD = 0.880$) than inter-group processes (3.08, $SD = 0.839$). Among internal processes in work teams, sharing knowledge with other co-workers and competition between team members were rated the highest. Also important for the surveyed respondents is reducing opportunism in the team and the level of employee satisfaction with cooperation with other employees. The lowest scores were given to mutual assistance within the team, increased innovation within the team and communication between team members.

In turn, among inter-group processes, the flow of information between employee teams, cooperation between employee teams and departments in the company, and the flow and quality of task performance in cooperation with employees of other

teams and departments in the company were rated the highest. However, the lowest scores were given to creating innovations in cooperation with other teams and the speed of performing tasks requiring cooperation with employees of other teams and departments of the company.

To conclude, the analysis of intra-group and inter-group processes indicates the existence of barriers hindering cooperation between teams when creating innovations. Disruptions in the flow of knowledge and information make it difficult to create new solutions and improve existing ones.

Table 2. Assessment of intra-group (IAG) and inter-group (IRG) processes in the surveyed enterprises

| Specification | Average | SD |
|---|---------|-------|
| Intra-group processes | | |
| (IAG1) Sharing knowledge with other colleagues | 4.08 | 0.883 |
| (IAG2) Mutual assistance within the team | 3.89 | 0.828 |
| (IAG3) Communication within the team | 3.93 | 0.776 |
| (IAG4) Level of employee satisfaction with cooperation with other employees | 4.05 | 0.848 |
| (IAG5) Reducing opportunism in the team | 4.00 | 0.925 |
| (IAG6) Speed in performing tasks requiring team cooperation | 3.97 | 0.886 |
| (IAG7) The quality of performing tasks requiring team cooperation | 3.99 | 0.839 |
| (IAG8) Increased innovation in the team | 3.98 | 0.900 |
| (IAG9) Competition between team members | 4.03 | 1.00 |
| Total | 3.99 | 0.880 |
| Inter-group processes | | |
| (IRG1) Information flow between employee teams and departments | 3.19 | 0.852 |
| (IRG2) Creating innovations in collaboration with other teams | 2.95 | 0.824 |
| (IRG3) Flow and creation of knowledge thanks to cooperation between employees of different teams | 3.01 | 0.847 |
| (IRG4) Cooperation between employee teams and departments in the company | 3.21 | 0.846 |
| (IRG5) Speed in performing tasks requiring cooperation with employees of other teams and departments of the company | 2.99 | 0.824 |
| (IRG6) The quality of performing tasks in cooperation with employees of other teams and departments of the company | 3.15 | 0.807 |
| Total | 3.08 | 0.839 |

Rating scale: 1 – *very low*, 2 – *low*, 3 – *on average*, 4 – *high*, 5 – *very high*

Source: Author's own study.

Trust influences group processes, attitudes, perceptions, and behaviors in an organization (Dirks & Ferrin, 2001). In search of an answer to the research question – To what extent does horizontal trust influence group processes? – the relationship between horizontal trust (HT) attributes and intra- (IAG) and inter-group (IRG) processes was analyzed (Tables 3 and 4). Spearman's rank correlation coefficient analysis was used to diagnose these relationships. In the case of intra-group processes, the trust attributes HT7, HT8, and HT9 were correlated with all intra-group processes, and the strength of the correlations varied.

The greatest influence had HT7 on IAG 9 ($r_s = 0.574, p = 0.000$), HT8 on IAG 8 ($r_s = 0.561, p = 0.000$) and HT9 on IAG 3 ($r_s = 0.528, p = 0.000$). A slightly smaller number of correlations, i.e. eight, took place in the case of the HT14 and HT15 attributes. The HT14 attribute was most strongly correlated with IAG8 8 ($r_s = 0.516, p = 0.000$) and the HT14 attribute was also correlated with IAG8 ($r_s = 0.467, p = 0.000$). In turn, the HT2 attribute significantly influenced six intra-group processes. Including the strongest on IAG2 ($r_s = 0.649, p = 0.000$) and IAG8 ($r_s = 0.501, p = 0.000$). In the case of the remaining trust attributes, i.e. HT1, HT10, HT11 and HT13, correlations with intra-group processes were sporadic. However, no significant relationships were found between the attributes HT4, HT5, HT6, and HT12 and intra-group processes.

To sum up, trust between employees has a significant impact on intra-group processes, in particular on the increase in innovation in the team, the quality of tasks performed requiring team cooperation, competition between team members and the sharing of knowledge with other colleagues.

Table 3. Spearman's rank correlation coefficient between horizontal trust (HT) and intra-group processes (IAG)

| | IAG1 | IAG2 | IAG3 | IAG4 | IAG5 | IAG6 | IAG7 | IAG8 | IAG9 |
|------|---------|--------|--------|----------|---------|---------|---------|---------|---------|
| HT1 | 0.112** | 0.024 | 0.019 | -0.005 | -0.004 | 0.004 | 0.098** | 0.060 | 0.059 |
| HT2 | 0.089** | 0.649* | 0.515* | 0.112** | 0.064 | 0.037 | 0.414* | 0.501* | 0.382* |
| HT3 | 0.063 | 0.483* | 0.435* | 0.087** | 0.067 | 0.052 | 0.448* | 0.525* | 0.455* |
| HT4 | 0.016 | 0.042 | 0.016 | 0.032 | 0.040 | 0.051 | 0.015 | 0.005 | 0.014 |
| HT5 | 0.063 | 0.058 | 0.004 | 0.021 | 0.040 | 0.059 | 0.022 | 0.019 | 0.021 |
| HT6 | 0.075 | 0.063 | 0.040 | -0.012 | 0.001 | 0.008 | 0.049 | 0.052 | 0.001 |
| HT7 | 0.120** | 0.379* | 0.369* | 0.154** | 0.130** | 0.091** | 0.443* | 0.548* | 0.574* |
| HT8 | 0.159* | 0.498* | 0.498* | 0.135** | 0.103** | 0.111** | 0.436* | 0.561* | 0.462* |
| HT9 | 0.131** | 0.491* | 0.528* | 0.117** | 0.104** | 0.096** | 0.458* | 0.468* | 0.445* |
| HT10 | 0.132** | 0.052 | 0.047 | -0.002 | -0.005 | 0.026 | 0.079 | 0.101** | 0.088** |
| HT11 | 0.099* | 0.065 | 0.070 | -0.008 | 0.004 | 0.015 | 0.055 | 0.072 | 0.077 |
| HT12 | 0.071 | 0.010 | 0.065 | -0.002 | 0.031 | 0.035 | -0.004 | 0.067 | 0.046 |
| HT13 | 0.017 | 0.039 | 0.055 | 0.019 | 0.045 | 0.040 | 0.001 | 0.082** | 0.022 |
| HT14 | 0.111** | 0.488* | 0.363* | 0.094*** | 0.099** | 0.062 | 0.338* | 0.516* | 0.400* |
| HT15 | 0.074 | 0.432* | 0.373* | 0.112** | 0.095** | 0.083** | 0.290** | 0.467* | 0.400* |

* $p < 0.01$, ** $p < 0.05$

Source: Author's own study.

Slightly different results were acquired in the case of the analysis of the impact of horizontal trust (HT) on the inter-group processes (IRG) (Table 4). A lower number of ties were observed between the attributes of horizontal trust and the inter-group processes than in the case of horizontal and intra-group processes. The greatest impact on the inter-group processes occurred in the case of the attribute of horizontal trust HT9, namely IRG1 ($r_s = 0.094, p < 0.005$), IRG4 ($r_s = -0.095, p < 0.005$), IRG5 ($r_s = -0.089, p < 0.005$) and IRG6 ($r_s = -0.096, p < 0.005$). A relatively lower num-

ber of correlations occurred between the horizontal trust HT2 and the intra-group processes, namely IRG1 ($r_s = 0.087, p < 0.005$), and IRG5 ($r_s = -0.109, p < 0.005$) and between the attribute HT8 and the inter-group processes: IRG4 ($r_s = -0.092, p < 0.005$) and IRG5 ($r_s = -0.153, p < 0.005$). Apart from this fact, the relation between the attributes of horizontal trust HT3 and IRG4 ($r_s = 0.085, p < 0.005$) and between HT7 and IRG5 ($r_s = -0.128, p < 0.005$) also took place.

In summary, horizontal trust attributes have less influence on inter-group processes than on intra-group processes. If there are relationships, most of them have a negative value. Among the studied processes, the greatest impact of trust attributes occurred in the case of cooperation between employee teams and departments in the company; the speed of performing tasks requiring cooperation with employees of other teams, company departments and the flow of information between employee teams and departments.

Table 4. Spearman's rank correlation coefficient between horizontal trust (HT) and inter-group processes (IRG)

| | IRG1 | IRG2 | IRG3 | IRG4 | IRG5 | IRG6 |
|------|---------|----------|--------|----------|----------|----------|
| HT1 | 0.068 | -0.043 | -0.031 | 0.022 | 0.032 | -0.002 |
| HT2 | 0.087** | -0.066 | 0.006 | 0.032 | -0.109** | -0.001 |
| HT3 | 0.043 | -0.087** | 0.027 | 0.085** | 0.012 | -0.015 |
| HT4 | -0.049 | 0.004 | -0.042 | -0.029 | 0.001 | -0.003 |
| HT5 | -0.005 | 0.013 | -0.014 | 0.009 | 0.005 | -0.005 |
| HT6 | -0.004 | 0.025 | -0.055 | 0.040 | 0.030 | 0.002 |
| HT7 | 0.034 | -0.034 | -0.013 | -0.020 | -0.128** | -0.010 |
| HT8 | -0.044 | -0.027 | -0.067 | -0.092** | -0.153** | -0.139** |
| HT9 | 0.094** | -0.015 | -0.041 | -0.095** | -0.089** | -0.096** |
| HT10 | -0.002 | -0.062 | -0.040 | -0.001 | 0.079 | 0.028 |
| HT11 | 0.055 | -0.063 | -0.019 | -0.023 | 0.077 | 0.026 |
| HT12 | 0.007 | -0.069 | -0.030 | -0.002 | -0.001 | 0.001 |
| HT13 | 0.020 | 0.004 | -0.011 | 0.001 | 0.011 | 0.032 |
| HT14 | 0.284* | 0.013 | 0.038 | 0.088** | 0.037 | 0.096 |
| HT15 | 0.232* | 0.001 | 0.008 | 0.106** | 0.019 | -0.019 |

* $p < 0.01$, ** $p < 0.05$

Source: Author's own study.

In innovation-oriented enterprises, cooperation between employees within the work group and with employees of other work groups plays a very important role. Arguments in favor of cooperation in creating innovations include team effectiveness, collective experience acquisition, risk sharing, interpenetration of various knowledge resources, the possibility of knowledge exchange, coupling of competences and transactional benefits (Caban-Piaskowa & Gwarda-Gruszczyńska, 2013). Collaboration in carrying out complex projects involves relying on the results of the work of others and requires greater trust between them (Lewicka, 2012). Collaboration tends to be positively correlated with trust in coworkers. The results revealed a strong positive correlation between perceived coworkers and trust in all three sub-dimen-

sions (individual trustworthiness and competence). As the perceived cooperation with a colleague increases, trust in them increases (Ömüriş et al., 2020). For co-operation in employee teams to be effective, it is important that employees engage in its development. The author’s own research shows that the level of employees’ involvement in cooperation is at an average level (3.03, with $SD = 0.896$) (Table 5). According to respondents, the factors that most strongly determine cooperation in work groups are interest in co-workers’ problems at work and voluntarily providing co-workers with useful information needed to perform the assigned task. It is also important to take the time to listen to other employees’ problems. However, the barriers to the development of cooperation include the low level of voluntary assistance to employees when they had a heavy workload and voluntary assistance to employees in performing some of their tasks during their absence. The analysis of these results leads to the conclusion that an important factor influencing the increase in cooperation is the provision of information to other employees, while the barrier is the limitation of providing selfless help to other team members.

Table 5. Degree of involvement in cooperation (IC) with team members

| Specification | Average | SD |
|--|---------|-------|
| IC1 They voluntarily helped employees in their work | 3.00 | 0.826 |
| IC2 They voluntarily helped employees when they had a heavy workload | 2.45 | 0.776 |
| IC3 They voluntarily assisted employees in carrying out some of their tasks during their absence | 2.70 | 0.849 |
| IC4 They took the time to listen to employees’ concerns | 3.16 | 0.714 |
| IC5 They took the time to help employees learn | 3.07 | 0.764 |
| IC6 They took a personal interest in employees’ problems at work | 3.42 | 1.09 |
| IC7 They voluntarily provided employees with useful information | 3.44 | 1.11 |
| Total | 3.03 | 0.896 |

Rating scale: 5 – *very high*, 4 – *high*, 3 – *moderate*, 2 – *small*, 1 – *they didn’t get involved*
Source: Author’s own study.

In creating innovations, cooperation with other employees or work teams is of great importance, which carries risk because employees are dependent on each other. This dependency is constant or related to the implementation of a given project, but it always involves uncertainty and risk. Therefore, involvement in cooperation is preceded by an analysis of benefits and losses. The factor that minimizes potential loss is trust. Trust in this case is a manifestation of the belief that the other party will be committed, honest and will not take advantage of its position and advantage (Vidotto et al., 2008). Tyler (2003) suggests that trust is important because it represents a strong desire to understand how to create effective collaboration in organizations and how trust enables collaboration.

The research shows that the greatest correlation between trust and indicators of employee involvement in cooperation (IC) occurred in the case of the following attributes: HT7 for 4 indicators of involvement, HT2 and HT9 for 3 indicators, HT3, HT8, HT14 and HT15 for 2 indicators. The strongest negative relationship was ob-

served in the case of HT2, HT3, HT7, HT8, HT9, HT14, HT15 and IC2. There was also a negative relationship in the case of HT2, HT3, HT7, HT8, HT14 and IC3. A weaker correlation occurred in the case of attributes HT2, HT7, HT9 and IC5.

Table 6. Spearman's rank correlation coefficient between horizontal trust (HT) and employees' involvement (IC) in cooperation with team members

| | IC1 | IC2 | IC3 | IC4 | IC5 | IC6 | IC7 |
|------|-------|----------|----------|---------|---------|--------|----------|
| HT1 | 0.045 | -0.042 | 0.001 | -0.005 | -0.067 | -0.003 | -0.067 |
| HT2 | 0.064 | -0.652* | -0.287* | 0.028 | 0.108** | -0.017 | -0.035 |
| HT3 | 0.002 | -0.581* | -0.266* | -0.021 | 0.059 | 0.062 | -0.047 |
| HT4 | 0.016 | -0.076 | -0.060 | 0.028 | 0.051 | 0.022 | 0.010 |
| HT5 | 0.038 | -0.083** | -0.026 | 0.047 | 0.046 | 0.073 | 0.012 |
| HT6 | 0.027 | -0.052 | -0.033 | 0.034 | 0.042 | -0.014 | -0.05 |
| HT7 | 0.045 | -0.451* | -0.198** | 0.091** | 0.147** | 0.034 | -0.076 |
| HT8 | 0.035 | -0.438* | -0.304* | 0.027 | 0.080 | 0.021 | -0.094** |
| HT9 | 0.012 | -0.504* | -0.205* | 0.060 | 0.117** | -0.003 | -0.072 |
| HT10 | 0.048 | -0.094** | -0.065 | 0.052 | 0.068 | -0.002 | 0.009 |
| HT11 | 0.008 | 0.005 | -0.045 | 0.025 | 0.060 | -0.017 | 0.055 |
| HT12 | 0.016 | -0.016 | -0.055 | 0.020 | 0.029 | 0.008 | 0.023 |
| HT13 | 0.021 | -0.024 | -0.049 | 0.023 | 0.010 | -0.027 | 0.025 |
| HT14 | 0.019 | -0.331* | -0.219* | 0.022 | 0.026 | -0.021 | -0.074 |
| HT15 | 0.007 | -0.337* | -0.126** | 0.008 | 0.010 | -0.033 | -0.018 |

* $p < 0.01$, ** $p < 0.05$

Source: Author's own study.

Discussion and conclusions

The aim of the study was to examine the relationship between trust between employees and group processes supporting the creation of innovation. The results of the conducted research allowed to obtain answers to the formulated research questions. The research results regarding the degree of occurrence of organizational trust attributes in enterprises from innovative industries indicate their high level. Among the components of trust, the following were rated the highest: certainty that an employee who needs a replacement will find another employee who will help him; sharing ideas and information with other colleagues; the belief that constructive advice will be obtained when an employee shares his or her professional problems with other employees; keeping promises by employees and help from my colleagues. They create favorable conditions for cooperation in employee teams, which is necessary in the implementation of tasks.

In innovative industries, group processes related to creating innovations are important. Research shows that in enterprises in innovative industries, employee groups focus primarily on sharing knowledge with other co-workers, reducing opportunism in the team and the level of employee satisfaction from cooperation with other employees. In turn, among the inter-group processes supporting the creation of innovations, the most important are the flow of information between employee teams,

cooperation between employee teams in the company and the flow and quality of task performance in cooperation with employees of other teams and departments of the company. Therefore, in the process of creating innovations, cooperation between employees and between members of different teams is crucial, enabling the flow of knowledge when creating new solutions and improving existing ones.

Horizontal trust influences group processes to varying degrees. Research shows that the components of trust have a greater positive impact on intra-group processes than inter-group processes. In the case of intra-group processes, the following attributes had the greatest impact: a sense of responsibility for the tasks performed and the lack of the need to monitor them, trying to be helpful towards others and not only concerned about one's own interests, certainty of receiving help from colleagues, belief in the importance of establishing positive relationships with other employees and the belief that most employees can be trusted to increase innovation in the team, the quality of tasks performed requiring team cooperation, competition between team members and sharing knowledge with other colleagues.

However, in the case of inter-group processes, trust attributes: belief in the importance of establishing positive relationships with other employees and the belief that most employees can be trusted had the strongest impact on the flow of information between employee teams and departments.

In the process of creating innovations, cooperation between employees of work groups and between groups is important. Involvement in cooperation improves the flow of knowledge and promotes the creation of innovation. The relationship between horizontal trust and involvement in cooperation is bilateral, i.e. trust is a condition determining the quality of cooperation, while cooperation may contribute to the growth of trust (Lewicka, 2012). Research shows that in many cases trust attributes had a negative impact on employees' involvement in cooperation. This applies in particular to the attributes: the ability to safely talk about one's concerns with colleagues and obtain help, and the confidence to obtain constructive advice when sharing professional problems with other colleagues, which were negatively correlated with the willingness to help employees when they had a heavy workload and time commitment to listen to employees' problems.

To conclude, the results of the conducted research quite clearly indicate the importance of horizontal trust in group processes aimed at creating innovativeness among employees of enterprises in innovative industries. However, they are not sufficient to clearly state the strength of the influence of trust between employees on employee innovation. Naber et al. (2018) note that research is still needed to reveal the role of trust in maintaining and developing effective working relationships among colleagues and teams that foster innovation.

A practical contribution to research on horizontal trust in enterprises of the innovative sectors is to indicate its significance during the course of the group processes, such as cooperation, communication, or sharing knowledge. Another practical implication of research is the indication of the significance of horizontal trust in terms of

creating innovativeness and creativity in enterprises of the innovative sector. Apart from this fact, the research facilitated the acquisition of knowledge on the subject of the evaluation and interpretation of trust on the part of the employees in their groups and the identification of the factors that have an impact on this perception. Managers that have knowledge relating to the significance of the impact of trust on the processes of sharing trust and creating innovativeness, while also on the level of involvement of employees in the creation of new ideas and solutions that favour effectiveness, as well as the inter-group relations based on trust, may work out the practical strategies of building and maintaining trust in the organization.

The author of the article would like to point out the limitations of using research results. The study used a survey method, which is not without limitations. Caution should be exercised when generalizing the results to other sectors of the economy. All data were collected in a short period of time, therefore causality cannot be clearly concluded. To make such an attempt, it would be useful to examine horizontal trust in the context of organizational and developmental change.

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