Building Trust in Virtual Project Teams During the Covid-19 Pandemic – The Viewpoint of Project Managers from Poland, France and Germany

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Abstract:

Purpose: The aim of the research was to determine the factors conducive to building trust in virtual project teams during the COVID-19 pandemic.

Project/Methodology/Approach: The theoretical-cognitive goal was a substantive review of the subject literature and scientific studies in the field of broadly understood trust-building in virtual project teams. The analysis of the presented problem made it possible to notice the key problems that occur when building trust between the team members and the project manager. The key problem was building trust in a team that carried out its activities virtually.

Conclusions: The conclusions drawn will enable an in-depth analysis of key problems in managing a virtual project team during a crisis and will permit the adaptation of appropriate methods and techniques of project management to the project stakeholders' expectations.

Practical implications: Creating a code of good practice for managing a virtual project team during the time of a crisis, including the COVID-19 pandemic

Originality/Value: The authors present trust-building in the team as one of the most significant elements affecting the team's results, which is why it is becoming necessary to implement good practices in the practice of managing a virtual team, especially during and after the COVID-19 pandemic.

Keywords: Project teams, trust, results, team, project manager, COVID 19 pandemic.

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Paper type: Research article.

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1. Introduction

The process by which an organisation gains trust (builds its own credibility) and the process of evaluating the credibility of other entities is referred to as *trust management* (Ryciuk, 2013). The growing importance of trust in the business world is related to its impact on many aspects of the organisational activities of companies around the world. This arises from the conscious building of a working environment in organisations based on trust and trust in external relations. A high level of trust is a valuable organisational resource (Krot and Lewicka, 2016).

The COVID-19 pandemic introduced improvements in many organisations, which enabled setting new priorities and goals so that each employee knew what they were responsible for. This resulted in greater involvement of teams and cooperation in international projects. Many managers met those requirements: the atmosphere of mutual trust enables proper planning of the team's work and quick responses to emerging problems. Good care of good relations with employees should be taken and the accounting for assigned tasks approached responsibly and flexibly.

Above all, it is important to maintain bonds among team members as well as their mutual trust and responsibility. The advantages of virtual teams are indicated by Karunathilaka (2022) and others: attracting the best talents regardless of their geographical location, accelerating the introduction of innovative products, increasing knowledge, e-learning, etc.

The characteristics of an ideal virtual organisation are indicated by Grudzewski, Hejduk, Sankowka and Wańtuchowicz (2007). These include but are not limited to: focus on the participants' key competencies, networking, flat structures, fuzzy boundaries, temporality, low formalisation level, flexibility, common goal, risk/knowledge/resource sharing, trust, temporal and spatial dispersion, customer focus, change, modularity, one virtual identity, network reconfigurability or orientation for opportunity (Pobiedzińska, 2018).

The COVID-19 pandemic has highlighted numerous problems and imperfections in managing virtual project teams. Both project managers and team members had to face a new situation that required empathy, trust, creativity and responsibility from all project stakeholders. The lack of research in this area as well as the experience of project managers forced an in-depth analysis of the issue and the development of benchmarking in order to improve project management methods and techniques.

2. The Functioning of Virtual Project Teams during the COVID-19 Pandemic

The COVID-19 pandemic has resulted in both an increase in the number of organisations working virtually and an increase in the number of project teams working remotely. According toRutka and Wróbel (2012), "project teams are teams

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in which members cooperate with each other to implement a project, i.e., to prepare and implement a planned project within a fixed timeframe and a defined budget". A significant part of project teams during the COVID-19 pandemic was transferred into the virtual sphere and had to face new challenges of that environment.

Definitions of a virtual team emphasize that members of a virtual team work on achieving a common goal, are spatially dispersed, remain in mutual interdependence, know their roles and tasks in the team, build mutual relationships, act according to specific rules and are responsible for the effects of joint work; and communication takes place via modern information and communication technologies (Stefaniuk, 2014). Cooperation in this kind of team is based on trust (Sankowska, 2011; Miranda and Klement, 2009).

There appear many challenges related to the organisation of virtual work in project teams. These are primarily difficulties in developing appropriate practices to identify and resolve conflicts in a remote team, motivate and engage team members, monitor their performance or build mutual trust between team members and the project manager. The consequence of virtuality is also a sense of isolation, which reduces team cohesion and trust between its members. All these factors have a significant impact on the formation of employer branding, which renders them a priority for project managers (Kacprzak *et al.,* 2021).

The key soft competencies of project managers that facilitate the management of a virtual team are, leadership, communicativeness, assertiveness, negotiations, pursuit of goals, active listening, coping with stress, self-presentation, self-confidence (Kacprzak and Król, 2013).

According to Lespinger and DeRosa, there is a mismatch between traditional management principles and the functioning of virtual teams, due to the specific rules of their functioning (Lespinger, DeRosa, 2010). The authors provide examples of conditions that are necessary for effective cooperation of a virtual team in three areas: relations between team members, virtual team management, competencies of people that cooperate within a virtual team (Table 1).

Table 1. *Conditions necessary for effective cooperation of a virtual team*

Relationship between team members and project manager	Virtual team management	Competencies of people that cooperate within a virtual team
Strengthening mutual trust	Good coordination of the work of individual people	A well-selected team line-up
Enabling frequent contacts, including direct ones	A clearly defined work goal	Self-discipline
Mutual respect	Assignment of tasks and roles in the team	Self-control of team members
Compliance with	A good leader	High competencies

obligations, deadlines, rules		
Established rules for contacts between the people in the team	Motivating the team members	Professionalism

Source: *Authors' own study based on Lespinger and DeRosa, 2010.*

The above example list of conditions is open and should be further supplemented with consecutive elements that will help in team management. Working in virtual teams is becoming an everyday reality due to the benefits that the employer can achieve. These include: cost savings that result from the employees' absence from the company, reduction of employee turnover and short-term layoffs, independent work of team members, availability of work for people with disabilities, flexible working hours, etc.

In order to verify how these assumptions work in practice in the months between July and December of 2020, the authors conducted a questionnaire survey among Polish project managers. The aim was to diagnose problems in the functioning of virtual project teams during the COVID-19 pandemic. The research was nationwide and the main selection criterion for the target group was a minimum of two years of experience as a project manager.

The research was carried out among 100 project managers and covered key areas of virtual teams' functioning: virtual team management, relations between team members, competencies of people that cooperate in a team. The profiles of the respondents are given in Table 2.

Table 2. *Profiles of the respondents*

Criterion		Share (%)
Gender	Female	40
	Male	60
Age	20-30 years	30
	31-40 years	40
	41-50 years	20
	Over 50 years	10
Experience in project work as a project manager	1-5 project(s)	40
	6-10 projects	20
	Over 10 projects	40
Type of Business	Groceries	30
	IT	60
	Chemical	10

Source: *Authors' own research.*

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As a result of the empirical research conducted, certain key problems in the functioning of virtual project teams during the COVID-19 pandemic were diagnosed, namely:

- communication problems,
- lack of self-discipline in team members,
- lack of professionalism in team members,
- unreliability of the telecommunications tools used,
- difficulty coordinating project activities,
- limited or no possibility to build direct bonds between team members,
- limited or no possibilities of control,
- loss of trust for team members,
- inappropriate incentive systems for team members,
- no archiving of knowledge accumulated during the task execution and no access to it by individual members of the team,
- problems with reporting a completed task,
- lack of knowledge about conflicts in the team,
- no Internet connection,
- inability to use information and communication programmes.

As part of the virtual project team management area, the project managers pointed to key problems related to: communication, incentive systems, control, loss of trust, archiving and sharing knowledge, reporting, lack of knowledge about conflicts in the team (Figure 1).

Figure 1. *Key issues related to managing a virtual project team during the COVID-19 pandemic*
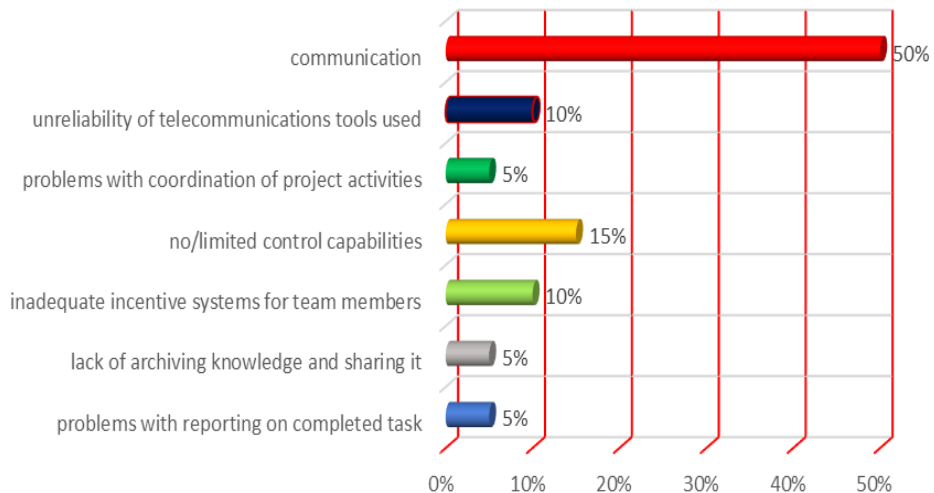
Source: *Authors' own research.*

Project managers admitted that their biggest problem in managing a virtual team during the COVID-19 pandemic was communication – as indicated by 50% of the respondents. According to the respondents, the most common errors were related to the lack of operationalisation of the key concepts relevant to the implementation of the project. This particularly concerned international teams and the lack of feedback from the team members in the event of uncertainty as to the execution of a given project task.

The lack of explanation of the abbreviations used in the project also brought about chaos in the interpretation of the tasks, which resulted in misunderstandings within the team. Another problem was little or no control of the team members – as indicated by 15% of the respondents. Performing tasks online and virtual meetings of the team with the stakeholders meant that the project managers often had limited information on the degree of the project task feasibility, project arrangements and current problems.

The use of advanced information and communication technologies in the performance of the tasks caused difficulty for the team members and project managers, especially when the Internet connection failed or when the team members were not able to use a communicator programme, which meant that there was little or no manager's control over the team. The project managers also pointed to the unreliability of various telecommunications systems, which caused numerous delays in the implementation of project tasks, as indicated by 10% of the respondents.

Remote work also caused problems with motivating the project team members, especially failure to adjust the incentive system to the expectations of the team members, as indicated by 10% of the respondents. The lack of direct relations with the team resulted in a reduction in their involvement in work, which affected the task schedule adversely. The problems faced by the project managers were also related to: archiving knowledge and sharing it with other project stakeholders (5% of responses), reporting on the completed task (5% of responses) and difficulties in coordinating project activities with limited information, human and financial resources (5% of responses).

Shaping positive relations between the team members and the project manager is a key element in project management. The lack of direct relations and the dependence on electronic communication, which limits the flow of non-verbal signals between the team members and the project manager, results in an increased risk of misunderstandings and conflicts within the team, and the decision-making process is sometimes difficult.

The main problems in this area include, the lack of knowledge about conflicts in the team, the loss of trust in the project team members, few or no opportunities to build direct links between the team members and the project manager (Figure 2).

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Figure 2. *Key problems in shaping positive relations between the team members and the project manager*
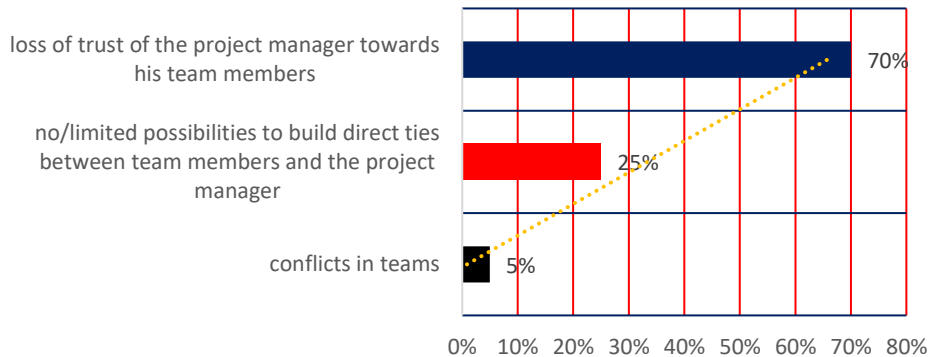
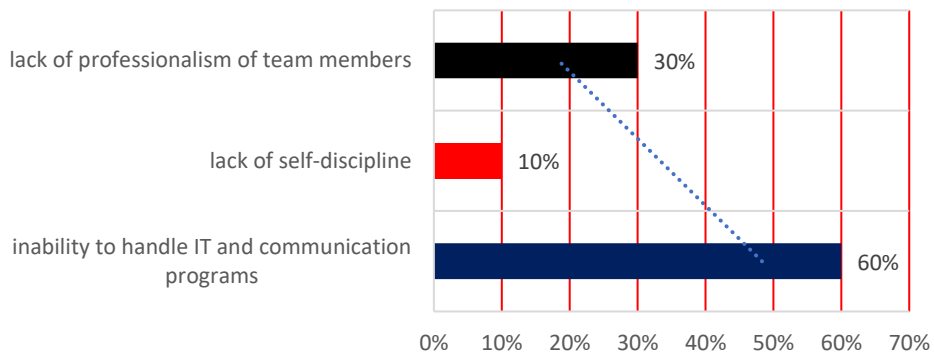*Source: Authors' own research.*

The dominant issue in this area was the project manager's loss of trust in their team members, as indicated by 70% of the respondents. The respondents emphasized that limited or (sometimes) no control as well as irregular reporting of the tasks and difficulties in communication, especially in international teams, contributed to a considerable decrease in trust.

The limited opportunities (or lack thereof) to build direct ties between the team members and the project manage is the second significant problem when working remotely, as indicated by 25% of the respondents.

The consequence of virtuality was the feeling of isolation of the team members, which reduced team cohesion and trust among its members. Conflicts within teams pose a common problem that project managers must face, as indicated by 5% of the respondents. The virtuality of work means that the project manager is often unable to detect conflicts arising in the team, which is certainly not conducive to building a culture of trust and cooperation. Unresolved conflicts often turn into destructive activities that negatively affect project implementation.

Another area analysed in the research are competencies of individuals that carry out project tasks. Within this area, the following are analysed: professionalism of team members, self-discipline and the ability to use IT and communication programmes (Figure 3).

The key problem in this area is the inability to use IT and communication programmes by the team members, as indicated by 60% of the respondents. The project managers emphasized in their questionnaires that, despite numerous courses and trainings, the team members still had difficulty acquiring the knowledge of computers.

Figure 3. *Competencies of individuals that cooperate in a virtual team*

This resulted in numerous delays in the implementation of project tasks and stymied online contacts with project stakeholders, especially customers. The next problem was the lack of professionalism in the team members, as indicated by 30% of the respondents. The inability to use IT and communication programmes as well as numerous errors made in project tasks caused the project managers to conclude that the team members were not professionals. The last element examined was the self-discipline of the team members. The managers emphasized in their questionnaires that the team members lacked self-discipline and commitment to work, as indicated by 10% of the respondents.

Managing a virtual team during the COVID-19 pandemic was a challenge for the project managers, who had to face numerous problems. The respondents emphasized in their statements that they started to create codes of good practice to capture those behaviours, actions, attitudes and management methods that worked well during the crisis and could be permanently implemented in management practice.
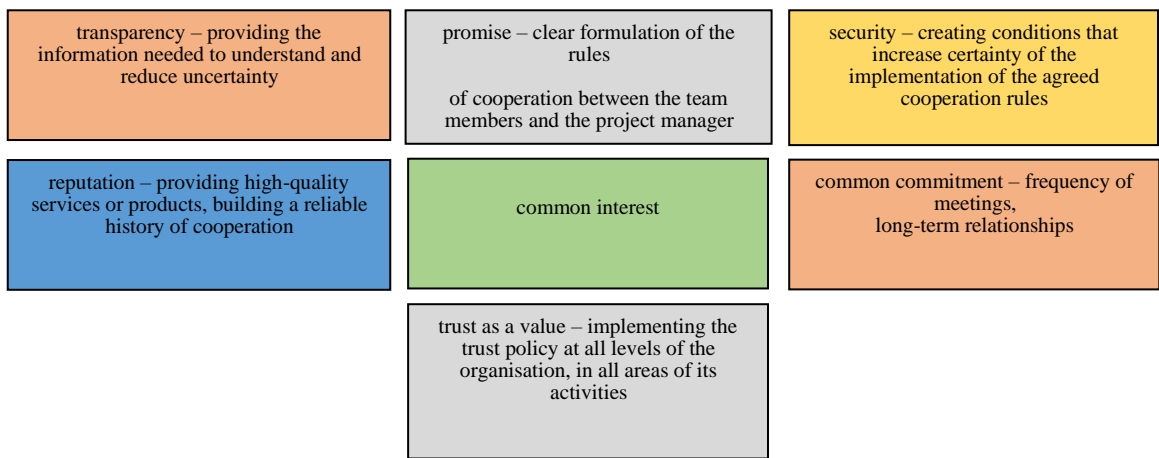
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Trust is the foundation of relationships and mutual expectations between various stakeholders involved in a project (Handy, 1995). There is no clear definition of trust in scientific publications, which is primarily due to the multidimensionality, complexity and multi-faceted nature of this concept. The term *trust* is an object of interest for representatives of such disciplines as: philosophy, sociology, economics, management sciences, psychology, political sciences and – more and more frequently – technical sciences.

According to Hajduk, Sankowska, Grudzewski and Wańtuchowicz, "trust is a directed two-way relationship between the person trusting and the trustee"

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(Grudzewski, Hejduk, Sankowska, and Wańtuchowicz, 2009). St. Covey interprets trust as a belief in the abilities and competencies of the other party (Covey, 2009). *The Great Dictionary of the Polish Language*, on the other hand, broadly describes the meaning of the term *trust*, defining it as "a conviction that someone or something can be trusted". According to Koźmiński (2004), trust is the basic condition of competitive advantage that reduces the costs of control and entails tolerance which is a condition for innovativeness and independent action. Miranda and Klement (2009) express the view that building trust is a process that is based on seven main elements, as presented in Figure 4.

Figure 4. *Components of trust*

transparency – providing the information needed to understand and reduce uncertainty	promise – clear formulation of the rules of cooperation between the team members and the project manager	security – creating conditions that increase certainty of the implementation of the agreed cooperation rules
reputation – providing high-quality services or products, building a reliable history of cooperation	common interest	common commitment – frequency of meetings, long-term relationships
	trust as a value – implementing the trust policy at all levels of the organisation, in all areas of its activities	

Source: Authors' own study based on Krawczyk-Bryłka, B. 2016.

The above factors apply to all types of business relationships and can also be considered as criteria for building trust in project teams and organisations. It is the project managers who are responsible for building and implementing a culture of trust (Bugdol, 2010). According to Paliszkiewicz (2012), the features of trust are: it is voluntary, applies to someone or something, has a specific area and level, is dynamic and temporary, develops over time, increases or is interrupted, is based on experience and has a positive character. An important issue in managing an international virtual team is building trust based on cooperation and mutual understanding (Wachowiak *et al.,* 2010).

This approach to working in a virtual team prompted the authors of this paper to conduct a second study between July and September 2021. The survey was conducted among 300 project managers to diagnose how they build trust in a virtual team during the COVID-19 pandemic. The research was international in its scope, and the main selection criterion for the target group was a minimum of five years of experience as a project manager and performing this function during the COVID-19 pandemic. The detailed characteristics of the respondents are presented in Table 3.

Table 3. *Detailed characteristics of the respondents*

Criterion		Share (%)		
		Poland	**France**	**Germany**
Gender	Female	40	30	55
	Male	60	70	45
Age	20-30 years	30	20	40
	31-40 years	40	40	20
	41-50 years	30	30	20
	Over 50 years	-	10	20
Experience in project realisation as a project manager	1-5 project(s)	5	40	30
	6-10 projects	20	40	40
	Over 10 projects	75	20	30
Type of Business	Clothing	60	70	10
	IT	30	10	30
	Chemical	10	20	60

Source: Authors' own research.

The situation caused by the COVID-19 pandemic forced project managers to change methods, techniques, project management tools and work modes. The virtuality of work lowered the level of trust of project managers in their teams (Figure 5).

Figure 5. *Trust of project managers in members of their own teams*
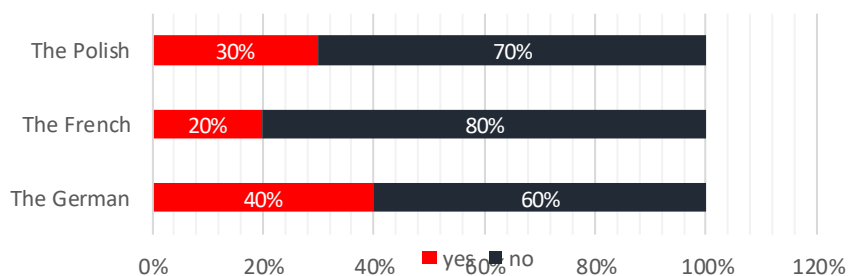
Source: Authors' own research.

The project managers from Poland, Germany and France do not trust their team members, as indicated by 70% of the managers from Poland, 80% from France and 60% from Germany. In their statements, the project managers emphasized that their lack of trust resulted from the tardy performance of tasks by team members and their lack of competence when using information and communication technologies.

Building trust is one of the key elements of project team management. According to the project managers, the key behaviours that foster trust are: showing respect, admitting mistakes, keeping promise, taking responsibility for the task completion, creating transparent procedures, treating team members fairly and empathy (Figure 6).

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Figure 6. *Behaviours of the project managers that are conducive to building trust in the team*
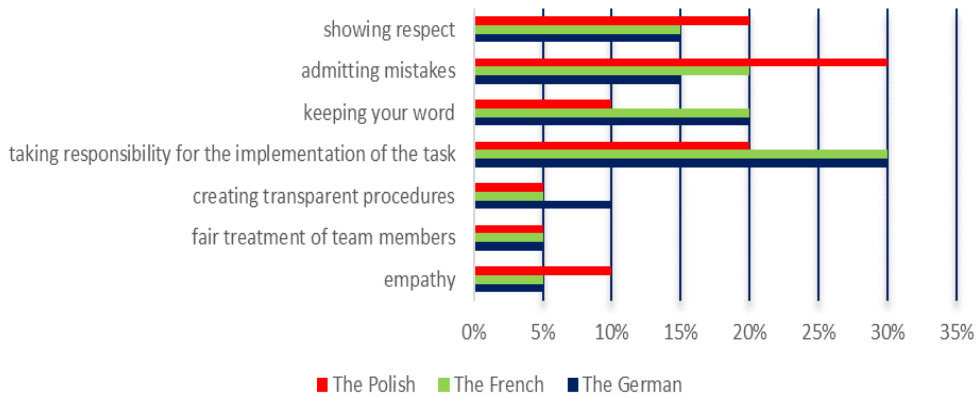
According to the Polish respondents, the key behaviour of project managers that is conducive to building trust is admitting mistakes – as indicated by 30% of the respondents. Showing respect and taking responsibility for the task completion are other important behaviours, as indicated by 20% of the respondents, in both cases. Empathy and keeping promises each received 10% of the responses, and fair treatment of the team members and creating transparent procedures – 5% each.

According to the French respondents, an important behaviour of managers is taking responsibility for the implementation of the task, as indicated by 30% of the respondents. 20% of the responses went for keeping promises and the same amount for admitting mistakes, and 15% for showing respect. The fewest responses concerned creating transparent procedures (5%), empathy (5%), fair treatment of the team members (5%).

According to both the German and French respondents, an important behaviour of managers is taking responsibility for the task completion, as indicated by 30% of the respondents. Keeping promises is the second important behaviour, as indicated by 20% of respondents. 15% of the responses went to showing respect and admitting mistakes, respectively, and 10% to creating transparent procedures. Empathy and fair treatment of team members were mentioned the least, 5% each.

Summing up, the three dominant behaviours among the respondents that are conducive to team building are: taking responsibility for the implementation of the project task, admitting mistakes and keeping promises. The behaviour that received the fewest indications was fair treatment of the team members – this was the usual answer of the respondents from Poland, France and Germany.

Working in the "home office" mode forced the team members to change their organisation of work. The project managers had a difficult task of controlling their teams, which resulted in the installation of computer programmes that monitored their activity during working hours. How this action influenced building trust in the team is presented below (Figure 7).

Figure 7. *Installed computer programmes that monitor the activity of the team members and contribute to building trust in the team*
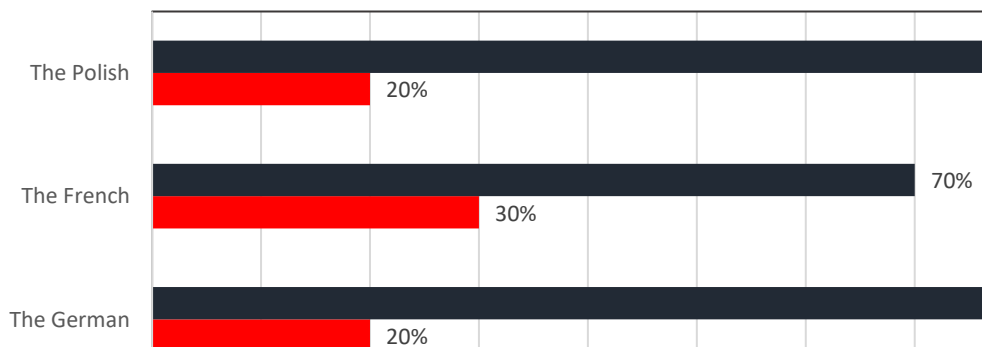
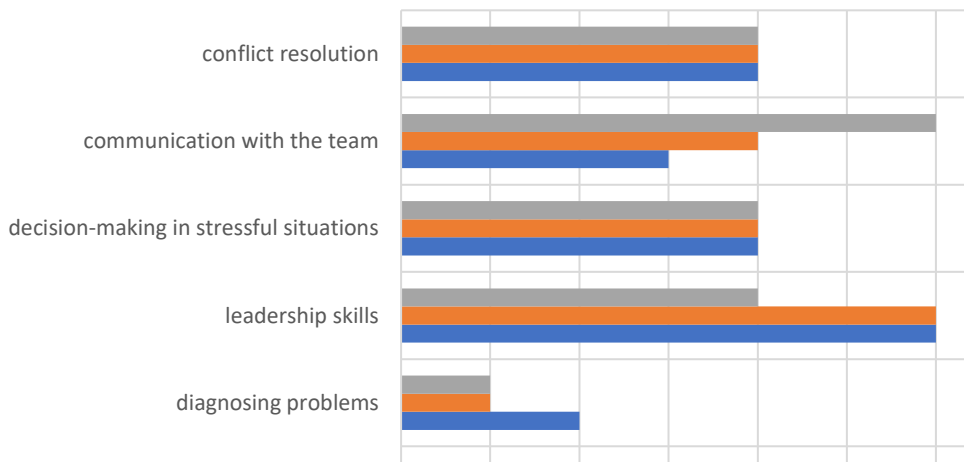
Source: Authors' own research.

All respondents agreed that installing computer programmes that would monitor the activity of team members is not conducive to building trust in the team, as indicated by 80% of the managers from Poland, 80% from Germany and 70% from France. In their statements, the project managers emphasized that their task was difficult because the control process during remote work was tightened, and this was not conducive to building trust.

However, they were not sure whether the employees were carrying out the tasks entrusted to them during working hours, so they installed programmes that monitored their activity. They were aware, however, that these actions did not positively affect the employees' morale.

The skills of the project managers are conducive to building trust in the team. The skills that are particularly valued by the project managers include: monitoring the progress of work, diagnosing problems, leadership skills, decision-making in crisis situations, communication with the team, conflict resolution (Figure 8).

Leadership skills are the most valued skill in managers that are also conducive to building trust in the team, as indicated by 20% of the respondents from Poland, 30% from France and 30% from Germany. The second key skill is communication with the team, as indicated by 30% of the respondents from Poland, 20% from France and 15% from Germany. Making decisions in stressful, crisis situations and resolving conflicts are other important skills, as indicated by 20% of the respondents from all the three countries.

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Figure 8. *Skills of project managers conducive to building trust in the team*

Source: *Authors' own research.*

Monitoring the progress of work and diagnosing problems are the skills that received the fewest indications, namely: monitoring the progress of work – 5% from all the respondents, and diagnosing problems – 5% from the respondents from Poland and France, and 10% from Germany.

Virtual teams in organisations represent how different levels of collaboration and communication are perceived (Kramer *et al.,* 2017). They provide organisations with a competitive advantage, thus enabling employment of talented employees around the world (Davidavičienė, 2020).

4. Conclusions

The COVID-19 pandemic caused a change in the functioning of project teams which were forced to carry out their project activities virtually. Project managers had to relearn how to manage their teams. The challenge for them was to adapt their skills, behaviours, attitudes, techniques and management methods to a wholly new team. The key problem was building trust in the team which carried out its activities virtually. The project managers often faced the dilemma of how to control their team members so as not to lose their trust and thereby worsen the relationship.

The results of the research conducted indicate specific actions that a project manager should perform in order to properly build trust in their teams and what skills, behaviours and attitudes they should implement to maintain the team's trust. Challenges in companies are and will likely remain related to the organisation of virtual work in project teams. These primarily include: difficulties in developing appropriate practices to identify and resolve conflicts in a remote team, motivating

and engaging the team members, monitoring their performance or building mutual trust between the team members and the project manager.

The issues discussed in this paper are complex and require further research in order to be able to improve good management practices in virtual project teams.

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