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HIGH-PERFORMANCE TEAMS IN TRADITIONAL AND DIGITAL CONTEXTS: A LITERATURE REVIEW

Research Paper

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Abstract

High-performance teams (HPTs) have been seen as one of the key parts of organizational success for decades. However, there is still no agreement on what an HPT is and how an ordinary team can become an HPT. In the contemporary world with the growing digitalization of almost every aspect of our life, new types of work start to appear, and digital teams, or teams working with or within a digital context, now exist. But are digital teams similar to traditional teams in terms of factors affecting their high-performance? This paper aims at summarizing prior knowledge on HPTs in order to find out key aspects affecting the success of HPTs and differences in these aspects between digital and non-digital teams. This paper presents an analysis of 41 papers on the topic of HPTs in different contexts. The results present 32 factors divided into 6 big categories. Each factor is shown to be associated with either traditional teams, or digital teams, or both. The results suggest that differences exist between digital and traditional teams in terms of HPTs both in specific and shared factors.

Keywords: high-performance team (HPT), digital team, team performance

1 Introduction

The existing literature emphasizes the importance of high-performance teams (HPTs), or teams, which outstand other similar teams, for different types of organizations (Hyman, 1993, Katzenbach and Smith, 2015, Rickards and Moger, 2017). Since the ultimate goal of any organization is to achieve success in a chosen sense, teams, which can work effectively and achieve better results in a shorter period of time can help organizations to achieve this goal (Beech and Crane, 1999). But researchers still work on identifying what exactly shapes high-performance teams.

Many authors already studied high-performance teams and analyzed factors, which may affect the performance of teams. There is a wide variety of approaches to the understanding of the success of high-performance teams. However, this knowledge is scattered across disciplines and there is no unified view on this matter. Thus, in this paper, I seek to bring structure to this question by listing and classifying factors affecting the success of HPTs, identified by other authors. Though, the existence of only HPTs may sound unrealistic, understanding the variety of HPTs factors might be useful for teams and organizations working in different contexts to improve their results and achieve long-standing goals.

Recently, the whole world experienced a drastic rise in number of virtual teams and in the amount of digital work. While digitalization creates new professions, that deal with the virtual environments in their work, the COVID pandemic moved the majority of office workers all over the world to working from home, creating geographically distant virtual teams. In the sense of these changes, this paper focuses on digitalization as the main characteristic differentiating teams. Teams that are working within the traditional environment, differ from those, who are constantly contacting with a variety of technologies and digital tools, due to the different nature of their work (Bailey et al., 2012). It means that digital teams might require a different approach while moving towards high-performance.

This literature review aims at answering two research questions:

RQ1 What factors contribute to the success of HPTs in traditional and digital contexts?

RQ2 What specifics brings digital context of work to these factors?

While the importance of high-performance teams for organizational success is widely acknowledged in the literature, this work focuses on the team itself, rather than on its role in the organization. In the following sections, I will start by briefly introducing the concept of “teams” and clarifying what teams we can call “high-performance”. Next, I will explain the difference between traditional and digital teams with the reference to this literature review. At the core of this paper, I will discuss all capabilities and circumstances which were found in the analysed set of literature and based on this discussion, present the framework of capabilities and circumstances affecting the success of a high-performance team.

2 Definitions of team, high-performance team and digital team

The concept of “**team**” has been used a lot in the business literature and there are many definitions from different authors. However, by looking at all these approaches to understand “teams”, I can emphasize several key characteristics, which are mentioned in a vast majority of definitions.

To start with, team is always about *a group of people, meaning that at least 2 persons are working together* (Francis and Young, 1982, Katzenbach and Smith, 2015, Salas et al., 2004). But being a group does not mean being a team. Thus, *the need for common goals or objectives within the team is an integral part of the “team”* (Francis and Young, 1982, Kur, 1996). To achieve the goals of the team, *the members are required to have a specific set of skills, applicable to the group objectives* (Katzenbach and Smith, 2015). It is also important to use those skills properly, and this means a need for a defined team structure with assigned roles and functions for each of the team members. In addition to that, Salas et al. (2004) make an important note, that the *members of a team “have a limited lifespan of membership”*.

Summarizing this discussion, in this paper I will use a term **team** to refer to a group of 2 or more people with a limited lifespan, which was organized to achieve certain goals, and members of this group both possess required for the stated goal skills and use these skills efficiently, according to the team’s structure and role functions.

So next, how can one distinguish a **team** from a **high-performance team**? What should be on top of the mentioned characteristics, so that the team can be called HPT?

Rickards and Moger (2017) introduce the concept of “dream teams” and define it as “teams with great team spirit that demonstrated sustained outstanding performance”, making the emphasis on the performance parameter. But what means high-performance in terms of teams? Wheelan (1999) understands this as an ability to make a real difference on the bottom line. So, the focus on high-performance is shifted towards making a difference. Similarly, other works mention how high-performance is closely connected to being different: “be more productive and/or lower cost” (Beech and Crane, 1999), combine the capabilities of team members in a unique way (Ross, 2008), exceed other’s results and outperform others (Chinowsky et al., 2010, Klenke, 1997). In addition to that, HPT should also outperform expectations about its results and the existing standards in the field (Katzenbach and Smith, 2015, Tayko, 2015). Overall, *HPTs not only achieve the goals but outperform expectations /traditional goals /or other teams in the same context*. HPTs can achieve this by using innovational social and technical tools (Nadler et al., 1992), having exceptional personal commitment of team members (Katzenbach and Smith, 2015), unique or innovative approaches, or a specific combination of individuals’ skills and knowledge (Chinowsky et al., 2008). Those authors, generally, agree on *the need for HPTs to use an exceptional set of characteristics/skills/competencies or non-traditional approach to achieve their goals and outperform others*. Moreover, you can also find ideas about *meeting the expectations of the stakeholders* in various definitions of HPT, like satisfying customers, employees, investors (Kur, 1996), or moving towards the team’s stakeholders’ shared purpose (Sharp et al., 2000).

Further in the paper I will use the term **high-performance team (HPT)** to refer to a team who outperform other teams in the same industry, meaning they outperform industry expectation, traditional goals, or performance results of other teams, by the means of exceptional set of characteristics/skills/competencies or a non-traditional approach they possess and use to achieve their goals.

Since this work aims at looking at both **traditional and digital teams**, it is important to clarify what I will call a digital team within this paper. In this paper, I recall the work of Bailey et al. (2012), who divides all virtual work into 3 major types:

1. *Virtual team*. In this case, a team uses technology and virtual tools mostly to communicate and interact with each other due to the large physical distances between the team members. This idea is largely discussed in the literature as a concept of Global Virtual Teams (GVTs) (Jarvenpaa et al., 1998, Jarvenpaa and Leidner, 1999, Maznevski and Chudoba, 2000) or just virtual teams (Aubert and Kelsey, 2003). It is important to mention, that team can be fully virtual or a hybrid virtual, and the level of “virtualness” can differ among them (Martins et al., 2004).

2. *Remote control*. This is any type of work where a worker communicates with physical objects by the means of technical or virtual tools, for example, sensors. This type of work is rarely performed in teams, and thus, less presented in the current paper.

3. *Simulations*. This is about virtual work that might require a simulation or a dive into virtual reality of any type. Here you can count simulation training for fireguards or doctors, as well as some of the new professions of the 21st century, such as programming, eSports, game development, etc. Though, this type of work does not necessarily mean that members are divided in physical space, they still use various technologies in their teamwork due to the nature of their profession and goals.

Further in the text, if most of the work, not necessarily 100%, performed by a team, can be categorized as virtual remote control or simulations (Bailey et al., 2012) then I call this team a **digital team**.

3 Research method

Since this paper is a concept-centric review on the already established topic of HPTs, its goals are to 1. synthesize the prior knowledge on HPTs and arrange a list of factors affecting high-performance in traditional and digital teams 2. analyze it through the prism of digitalization of teams and point out differences between traditional and digital teams within this list. (Webster and Watson, 2002). By a **factor** here I mean a parameter that influences the result of something, particularly team’s performance in the context of this study. A factor here could be both a qualitatively explained concept or a quantitatively measured parameter, depending on the method of the original paper. In this paper, I have adopted the recommendations of (Fink, 2010) on the 7-steps process of working on the literature review.

1. Firstly, I selected the research questions, which were discussed earlier in the Introduction part. There are 2 research questions to cover all goals of the review: synthesize the general knowledge and analyze it in terms of the “digital team” concept.

2. On the second step, when choosing the sources of data, I decided to focus on the Scopus database. The knowledge on HPTs is highly dispersed around different disciplines and types of publications. The choice was made towards Scopus, because it has a proven reputation of a high-quality database, that covers a wide range of disciplines and various publication formats.

3. Next, I formulated the search criteria to find relevant literature on HPT. In the Scopus database, I searched for all articles which mention “High-performance teams OR High-performance team OR High performance team OR High performance teams” in Abstract, title, or keywords. This gave me a list of articles from both general organizational literature, other close disciplines, which were about traditional teams, as well as a few articles mentioning digital teams. The search resulted in 270 papers. When limiting the search by papers in English language only, the number decreased to 259. After the preliminary analysis of the resulted set of articles, it was clear, that this search resulted in the prevailing part of works referencing traditional teams, and only a few focused on digital teams. Thus, I decided to perform another search with the following criteria: “(Global Virtual Teams OR Global Virtual Team OR GVT) AND performance in Abstract, title, or keywords”. This search line resulted in 104 papers, and it helped me to add more literature related to digital teams to the pool.

4. Referring to practical screening criteria (Fink, 2010), I was considering only (1) papers written in English, (2) I excluded book chapters and more populist papers to ensure that selected papers provide data-driven results with a sufficient evidence base, (3) I selected only papers that describe the results of empirical study (all types, either qualitative, quantitative or mixed) for the same reason.

5. After getting the list of articles from both searches, I have applied methodological screening criteria to get the final list of papers. I read through each article and selected those works that (1) reported the results of an empirical study, (2) discussed one or more capability or circumstance affecting the performance of HPTs, (3) discussed the nature of the relationship between the capability/circumstance and performance, (4) proved the validity of claims by data and research results, and (5) had an appropriate for the scientific paper length, structure and theoretical contribution related to the topic of HPTs. This process resulted in **41 articles** that I included in this study. Those can be found in Table 1 in Appendix 1.

6. When working on the data analysis, I coded each article in terms of two dimensions: (1) whether the context of the study was a digital or traditional team and (2) the list of factors, which authors discussed as important for the HPT's success. At the first stage, I was collecting the list of factors as authors called them in their work. Since the wording was quite different, while authors were speaking about similar concepts, I merged some of the categories and gave them a common group name. Factors have been merged into one group if the explanation of factors with different names was similar in 2 or more papers (e.g. "time pressure" and "task urgency"), or if parameters were describing different aspects of the same concept (e.g. "communication" factor includes all that reference different aspects of communication). In addition to that, I categorized all factors and grouped them into broader groups to achieve better visualization and systematization of the results. High-level categorization is based on the nature of the factors and their place in the process of the team formation and development. The full list of factors together with the grouping is available in Table 1. Most of papers, categorized as being about digital teams, study either virtual teams or teams working with simulations.

7. The results of the analysis are synthesized into the narrative, and you can find it in the next chapter. The following section discusses each factor in terms of its relevance for traditional and digital teams. The section then ends with the full list of factors categorized by their relevance to traditional or digital teams based on the analyzed set of literature.

4 Findings

In the following sections I will discuss in more details numerous factors, that are important for a team to achieve high performance. The following text is structured according to the classification of capabilities developed in this paper.

Teams have been studied in earlier literature on different stages of its lifespan. In this paper, I will attribute to the simplistic version of classification based on the point of time when the team starts to perform. Before this point in time, the team is formed, the members are identified, the structure and the roles inside the team are discussed. In this pre-action stage, the team does not act yet, but some of the factors affecting performance already exist, such as the structure of the team and its diversity (Higgs et al., 2005) or initial qualifications of team members (Castka et al., 2001, Creed et al., 2008, Daniel and Davis, 2009). This will be called a formation stage or, simply, "forming". Once the team starts performing, other parameters come to play. Those may exist only when the team is acting, e.g., the factor of collaborative decision making appears only when the team starts to discuss its implementation steps. Similarly, emotional climate forms within the team after some time (Beech and Crane, 1999). This stage will be called the performance stage or "performing".

Within factors mentioned in the literature there are individual and group level characteristics. Since the team is a group of people working together, there could be factors concerning a specific member (e.g., member's qualification), or factors emerging within the group (e.g., how the team is using skills of its member in action). When talking about internal factors, most of them will refer to capabilities of a single member or of the whole team together. The capability here means the ability or a possession of a skill to perform a particular action or affect a team's environment. For example, conflicts would be more of a parameter of an internal team's environment, but conflict management system is a group or team level capability, showing how well the team can manage conflicts.

Mentioned factors are all about the team itself, but what is happening within the team does not fully form the end product of the team performance (Castka et al., 2001). There could be also some external circumstances, for example, the effect of external parties on the team and the interaction of the team with those, which can play a role in the team performance. All capabilities and circumstances are

presented in Appendices, Table 1, where they are categorized by the groups discussed. In addition to that, the Figure 1 includes all discussed factors, and shows whether they have been associated with traditional, digital teams or both according to the analyzed literature. The size of each parameter corresponds to the frequency of it been mentioned in the analyzed papers. The bigger the size of the font, the greater number of papers, out of the analyzed pool, mentioned this capability or circumstance.



Figure 4 Factors found to affect performance of traditional and digital HPTs

4.1 HPT factors on a team formation stage

Even before the team comes to action, it owns characteristics that may affect the final results. This group of factors is called in this work as factors of a team as a static object. These are factors that can exist outside of the working process. They are considered as internal, as they are specific to the team itself, however, they could be divided into individual and group factors.

4.1.1 Individual-level factors

The first group of factors are individual ones and are attributed to each of the team members.

Knight et al. (2001) claim that *strategic risk*, which can be understood as an attitude to risk-taking or making risky decisions, overall affects positively the performance of the teams. Though the relationship is not that straightforward, meaning that risk-taking attitude mediated the goal difficulty's effect on the performance. This is an interesting observation, though, in this particular study, it was tested only for the digital team, as the experiment was held with the help of virtual task simulation.

Another factor that might be important for the success of high-performance teams, is the attention to individuals' needs and differences. Castka et al. (2001) mention that within a high-performance team it is important to look for, identify and listen to *the needs of the individual team members*. This statement was made out of the literature analysis and tested only for the traditional teams, so there is still a question of how this factor may affect the digital teams.

Kamolsiri et al. (2018) point out that *adaptability* as a skill is one of the important factors necessary to build a high-performance team, referring to the traditional teams. Moreover, high-performance teams should have an ability to assess the level of stress and adapt correctly to stressful situations (Entin and Serfaty, 1999). Interestingly, teams, that received an adaptability training, performed better not only in stressful conditions, but in normal conditions as well (Entin and Serfaty, 1999). Among the studied

literature, there is no direct evidence for adaptability factor to be relevant for high-performance digital teams.

Cross-cultural communication competence was noted for both traditional and digital teams. Matveev and Nelson (2004) argue that the ability of team members to effectively communicate with other team members of a different nationality is a crucial factor for those traditional teams, which are cross-cultural. Lippert and Dulewicz (2018) provide similar results, showing that cross-cultural communication competence is one of the most important factors for building a high-performance global virtual team. Both articles agree on the effect of this factor on the performance, though, Lippert and Dulewicz (2018) emphasize the fact that Global Virtual Teams are highly likely to be cross-cultural due to the long-distance location and virtual communication, and thus, cross-cultural communication is especially important for such teams.

Team efficacy has been found to be a factor that affects the performance of digital. Generally, efficacy is understood as the extent to which an individual or a team is sure about the success of their future work. The findings of Knight et al. (2001) show that efficacy is not directly associated with the team performance, but it is inevitably interconnected with the model of other factors affecting the performance and, thus, has an indirect effect on the high-performance. Fuller et al. (2006) suggest that virtual team efficacy is a complex variable that consists of group potency (“the belief in the general effectiveness of the group across multiple situations”) and computer collective efficacy (“the belief in the group’s general computer competences”). So, the digital context adds the importance of confidence in the computer and other digital skills of the team members. Fuller et al. (2006) suggest that virtual team efficacy influences team performance through some mediators, such as communication levels.

Individual knowledge and competencies of the team members have been widely acknowledged as an important factor of performance for traditional teams. In this sense, it is not only important for team members to have professional or technical skills, but interpersonal skills as well (Jenewein and Morhart, 2008, Castka et al., 2001). The balance of these types of skills is what is most important for team performance (Creed et al., 2008). High-performance study teams showed their ability to stay curious for new learning and to keep learning focus (Bøgelund and Nørgaard, 2020). At the same time, the success of digital teams depends on how well the team can transform individual knowledge into the collective one (Olaisen and Revang, 2018). This can be achieved by active knowledge sharing within the process of role changing (Olaisen and Revang, 2018). Similar to traditional teams, the lack of individual competencies in digital teams might be a factor that hinders performance (Moura et al., 2021).

4.1.2 Group-level factors

A team is not only a group of individuals, but also about the structure, as mentioned in the earlier sections of this paper. Several factors are affecting the performance of teams on the group level.

Fernandez et al. (2016) showed that *team composition and team turnover* are important factors for sports teams. According to their study, it is not only important to choose the right people for the team but managing the composition over time and changing team members from time to time is essential for the success of high-performance teams in the sports.

Both works by Daniel and Davis (2009) and Creed et al. (2008) mention the importance of *shared expectations* of what is called high quality and what are the standards of the work for the traditional high-performance teams. “Clear targets and efficiency standards” (Creed et al., 2008) mean that all members of the team understand what they are trying to achieve. Simply saying that team is going to achieve high performance is not enough, the team should come to the shared vision of what this means for all its members. No articles attributed to the digital teams were not found to mention this parameter specifically, though it does not indicate the irrelevance of this factor for digital teams.

Kamolsiri et al. (2018) claim that for a high-performance team in a traditional context it is necessary to have a *clear distribution of roles and responsibilities*. Complex teams often need a clear structure and different roles for each team member so the team can achieve its goals. No similar factors were found in any articles from the analyzed list with regards to the digital teams. In the modern digital teams, the line between roles of team members might not be that strict, thus, more studies might be conducted to prove if this factor is as relevant for the digital teams as for the traditional ones.

Referring to the team structure, Higgs et al. (2005) found that *heterogeneity of the team members* positively affects the performance of the team when complex tasks are involved. The paper on study teams reported that teams, who are able to get value and nourishment from their internal differences, are likely to become high-performance teams (Bøgelund and Nørgaard, 2020). Paul et al. (2004b) similarly mention that the diversity of the team members in the digital teams has its impact on the performance, though no direct relationship was found. Rather the team diversity homogeneity/heterogeneity has its effect on the team through the topic of conflicts and conflicts management. These two studies make it clear that the diversity of the team is a factor that may affect the performance of both traditional and digital teams, but it is rather an uncertain factor that may occur in different manifestations and can have a different effect depending on other parameters for both types of teams.

Together with distributed roles and responsibilities, high-performance teams are expected to have a *clear work structure and established rules of work behavior* (Creed et al., 2008, Markette, 2012). This helps the team to organize its everyday activities. Though, Creed et al. (2008) mention, that it is still a question from which source those rules should come: should it be a collective decision or an influence of a leader? Again, more studies might help to understand not only this question but also if this factor is as important for the digital teams as for the traditional ones. Some of the modern digital teams, might not need such a strict work structure to perform efficiently.

A lot of authors agree that *clearly formulated common goals* for the team is crucial for the high-performance team. For example, Creed et al. (2008) claim that clear objectives may help a team to establish teamwork and collaboration, which in turn positively affects its performance. Hyman (1993) mentions goal alignment as one of the factors which could help to control and use for the best organizational chaos within the team. Though the goals and expectations should not be overextending and have to be reasonable, otherwise, the team members might feel extreme discouragement and experience loss of motivation when the greater part of the objectives are not achieved (Beech and Crane, 1999). Overall, all mentioned authors agree that the clearly stated and commonly agreed on directions/goals/objectives are essential for the success of HPTs in both traditional and digital contexts.

Several authors noted *leadership* as a huge factor for the HPT's success. When talking about more traditional teams, all authors tend to speak about a more gentle and soft way of leading the HPT. Thus, He et al. (2019) claims that servant leadership is expected to boost the performance of the temporary teams, whereas servant leadership is understood as the one which "focuses on the growth and development of the followers". Like this, Markette (2012) emphasizes the role of coaching for the leader of the team, and Marsh (2010) claims that coaching leadership and mentoring positively affect the performance of the team. Creed et al. (2008) write that "healthy leadership" is the one that is shared and leaves the space for team members to disagree. Jenewein and Morhart (2008) suggest that the leadership style in HPT should include providing team members with enough freedom on one side and responsibilities for this freedom on another one; productive internal competition; problem-solving attitude; and leading by an example. Talking about digital teams, Klenke (1997) pushes, even more, the idea of shared leadership, which should be "dispersed through the team as a function of the task, level of performance, and developmental stage". Overall, the authors agree that focusing on the development of the team members and the lower level of power of the leader is crucial for the HPT's success in both traditional and digital contexts.

The idea of supportive and coaching leadership is developed further as the need for *supportive context and recognition of success* for team members inside the HPT (Castka et al., 2001, Creed et al., 2008, Markette, 2012). The same ideas were brought for the digital teams in the works of Moura et al. (2019) and Moura et al. (2021) who discuss the importance of a proper reward and recognition system inside the digital team to support those team members, who successfully deal with the tasks and challenges.

4.2 HPT factors on a team performance stage

Once the team is built and all factors related to the team structure and individual characteristics of team members are accounted for, it is time for the team to start performing. It is not enough to prepare the team in advance, it is also a big job to consider all performance factors which emerge once the team is

in the active stage of working on the project. The following paragraph is devoted to the dynamic factors of both group and individual levels.

4.2.1 Individual-level factors

A few dynamic characteristics which mostly refer to individuals were mentioned as key factors for the performance of HPTs. The term “dynamic” here means a need for each of these characteristics to be present for a long period of time throughout the whole process of team performance. Thus, Hyman (1993) claims that the critical part of the success of the analyzed HPTs was the *strong beliefs by the team members in the power of involvement* in the project. The study of Gibbs and Poisat (2019) on teams in educational context has shown strong correlation between the level of performance and *employee engagement*, or, in other words, the degree to which team members identify team work as their personal responsibility and if they do their best for the team outcomes. Lippert and Dulewicz (2018) in their study identified *commitment*, an “attachment or determination to attain any goal or to extend efforts over time and to be unwilling to abandon a goal”, as one of the 3 key factors affecting the performance of virtual teams.

Bøgelund and Nørgaard (2020) argue that motivation has an interpersonal nature and teams can influence motivation of individuals. Those teams, who successfully used motivation regulation strategies, have been shown to gradually climb towards the high-performance (Bøgelund and Nørgaard, 2020). When also talking about digital teams, Moura et al. (2019) mention that the *motivation of team members* to work for the team goals also affects the outcomes of the team performance. Though, none of these factors could be called digital or technology related, but rather general.

4.2.2 Group-level factors

Not only do individual feelings and actions matter during the process, but the group level factors which could exist only when several people are involved.

I talked before about the importance of setting clear goals, communicating them to team members, and what is even more important, making sure that the whole team agrees on these goals. But what comes next is the actual steps and activities that are performed by the team to achieve the goals. Knight et al. (2001) call this factor “tactical implementation”, which means that the team can choose one of several short-term tactics when choosing the directions on how to achieve the current goal. A similar HPT factor was also mentioned by Kamolsiri et al. (2018), called as “team process”. Among the examined articles, I found no more works that focused on this factor. None of the works related to the digital teams made their focus on the short-term tactics and the actual work process as well, which leaves the place for further research.

The results of Marsh (2010) suggest that collaborative decision-making process is essential for traditional teams with the mix of full- and part-time employment, if they want to achieve high-performance. To promote collaborative decision-making, teams can use particular decision making strategies, that involve all participants into the process, for instance, not approving a major decision without a team consensus or revising a decision if any concerns are raised from members of a team (Marsh, 2010). Stohler (1998) reports that high-performance nursing teams constantly use collective decision making, while mutual respect between team members allows them to successfully implement this strategy.

During the process of performing, HPT is also expected to act as a single unit, or, in other words, coordinate inside the team. Coordination reflects the extent to which team members interact and work together synergistically (Chong et al., 2010). Though, Chong et al. (2010) do not talk about coordination as a central factor, still its importance is emphasized as a mediator in a more complex model of team performance. At the same time, digital teams, that are globally distributed across different time zones, are prone to temporal boundaries, which leads to asynchronous work and problems in coordination (Cummings et al., 2009). However, electronic and technical solution cannot fully resolve the temporal separation problem, meaning that additional effort is required in terms of social and organizational context (Cummings et al., 2009, Sarker and Sahay, 2004).

Apparently, the time that team members spend together in team building, which could be inside or outside the working place, is a relevant factor for the performance of the traditional team (Creed et al., 2008, Jenewein and Morhart, 2008). Consistency in team-building meetings creates an opportunity to naturally develop trust, cohesion and loyalty within a team, as well as the feeling of “we” (Jenewein and Morhart, 2008). Unfortunately, for some types of digital teams, e.g., virtual teams or global virtual teams, the team-building task may become a difficult task, especially for the virtual teams, whose team members are physically far away from each other. It is, though, a question, if this factor is as important for different types of digital teams, as for the traditional ones.

One of the factors in this category that had a lot of attention in different works is communication. With regards to traditional teams, Creed et al. (2008) mention communication as one of the core processes of the HPT, emphasizing the importance of clear communication and open communication (the ability to talk freely without fear of being rejected), valuing the opinions of other team members and mutual respect. Marsh (2010) discusses the necessity of open communication, mentioning that a decentralized flow of communication may bring additional value to the team. The work of Losada (1999) adds the parameter of connectivity, understood “as the strength and number of cross-correlations among time series of the coded speech acts”, which, according to the study results, has a direct effect on the performance of the team. Beech and Crane (1999) mention that the communication function is important for the transparency inside the team among different topics, which, in turn, is essential for the success of HPT. Providing constructing feedback to others is also a part of the communication process. According to Jenewein and Morhart (2008), HPT cannot succeed unless it creates a feedback culture inside. Pöysä-Tarhonen et al. (2016) studied how the quality of communication affects performance of teams, but the results showed only a possibility of such a correlation to exist. There is an opportunity to further test the relationship between these 2 parameters. If I now switch focus to the works devoted to the digital teams, Lippert and Dulewicz (2018) found interpersonal communication as one of the three most important factors for the performance of virtual teams. Here, interpersonal communication is understood as “when message senders and receivers understand the message” (Lippert and Dulewicz, 2018). Moura et al. (2019) claim that effective communication, or the fact that team members communicate all problems with each other and the leader of the team, is an essential factor for the success of HPTs working within a digital environment. At the same time, Olaisen and Revang (2018) see different communication tools and communication acts in general, as a strong contribution to the process of knowledge transfer and, thus, to the increase in performance as well. Overall, all authors agree that communication is one of the core processes for the team and different parameters of the communication can be factors for the performance of both traditional and digital teams. Though the communication factor applies to any team, it might be especially important for digital teams and virtual teams in particular, because digital tools of communication may hinder to some extent the communication process and make it more difficult (Lippert and Dulewicz, 2018). However, the effect of communication on performance in virtual teams might have different direction, depending on the level of trust between team members (Sarker et al., 2011). Thus, for those members of the team, who are perceived by others as trustworthy, communication tend to increase their performance, while for those, who are perceived less trustworthy, communication might hinder the performance (Sarker et al., 2011).

For HPTs the process of working and performing does not end when the tasks are over. Instead, it is crucial to incorporate one more step when all things are done –measurement of what has been done and how. Beech and Crane (1999) refer to this idea by introducing the HPT factor called “checkability”, meaning that the HPT should be able to check the results of the team after the work is done. Though, this factor is important, Beech and Crane (1999) mention several difficulties connected to this process: the ability to set reasonable expectations, trying to find a balance between what is easy to measure and what, actually, needs to be measured, as well as a balance between qualitative quantifiable evaluations. Castka et al. (2001) refer to the performance measurement in a bit more traditional way, talking about key performance indicators for the traditional teams, which should be in line with the team goals and measured at the end of the process. Interestingly, no specific focus was made on the step which may follow the performance measurement, and it is an adjustment of team tactics or goals after the measures. As with many other factors, nothing special to the digital teams has been identified with regards to this factor.

4.2.3 Emotional factors

Going further, there is still one power inside the team that may heavily affect the performance of the team in the active stage. This power is the emotions and feelings of the team members.

Beech and Crane (1999) claim that *social climate* is one of the milestones of a high-performance team. Depending on its state, it could both facilitate and hinder the performance of the team. Though the social climate is a complex concept, which is built up from a variety of characteristics, such as leadership, communication, processes, conflicts, in general, it can be understood as feelings of the team towards the relationships and attitude to work (Beech and Crane, 1999). Negative affectivity, “e.g., anxiety, distress and antipathy, i.e., the negative emotional predispositions that team members bring with them to the team”, may heavily affect HPTs by hindering their performance (Moura et al., 2021). Generally, authors agree on the power of emotions to affect the performance of both traditional and digital teams. Several authors identify *team cohesion* as one of the factors affecting the performance of different types of teams (Anderson and Dixon, 2019, Castka et al., 2001, Hyman, 1993, Kamolsiri et al., 2018). Team cohesion is “a dynamic process that is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs” (Anderson and Dixon, 2019). Different cohesion activities, when they are “(1) directed by teammates (rather than coaches), (2) clearly task- and performance-related (rather than social or related to other life realms), and (3) perceived as voluntary (rather than mandatory)”, may help to strengthen the unitedness of the team members and positively affect the performance (Anderson and Dixon, 2019). However, cohesiveness may also bring difficulties to the team, as sometimes extremely talented team members may have trouble working in a close team environment (Hyman, 1993).

Many authors are united in the opinion that *trust* is an essential material for building HPTs. Hyman (1993) claims that trust is the basis for a cohesive team. The development of trust should start immediately when the team is formed and the support from management, as well as shared interests, may benefit the development of trust (Engebø et al., 2022). Some models show trust as a mediator for the effect of other parameters on the performance in more complex relationships. For instance, when talking mostly about temporary teams, He et al. (2019) say that trust serves as a mediator for the indirect effects of leadership on team performance. Moldjord and Iversen (2015) claim that it is the vulnerability trust, or the ability of team members to openly share their vulnerabilities, that is crucial for building an HPT. Luther (2000) suggests that it is not only about trusting each other, but also about actually being honest. *The integrity* of individuals may affect the performance of the team and teams may choose to test the integrity of potential team members. Mutual trust is also important for digital teams, as trust is a basis for any cooperation (Moura et al., 2019). Lippert and Dulewicz (2018) found trustworthiness as a predominant factor among others, affecting the performance of virtual teams. Moreover, trust has been found to be a mediator in the relationship between communication and performance (Sarker et al., 2011). Though, the low level of trust does not necessarily mean that the virtual team will show low performance, the development of trust is still valuable for the team and its results (Aubert and Kelsey, 2003). On top of that, the trust might be harder to build within the distributed virtual team due to “physical distribution, changing team members, cultural differences and lack of prior history” (Lippert and Dulewicz, 2018). For instance, Aubert and Kelsey (2003) report that virtual teams overall had lower levels of trust between the team members compared to the face-to-face local teams.

But even in most united and cohesive teams, there are sometimes conflicts, which could be for the better or the worse. *Conflicts and conflict management* have been mentioned several times in the literature concerning different types of teams. The study of Behfar et al. (2011) suggests that not only the presence of conflicts shapes the level of team performance, but also the type of the conflict: task, relationship or process. It means that identification of the type of the conflict plays crucial role in predicting performance (Behfar et al., 2011). In addition to that, the study on traditional teams showed that the choice of the conflict resolution strategy is equally important for the outcome performance (Behfar et al., 2008). Thus, by being proactive in conflict resolution process and using a pluralistic approach when choosing the conflict resolution strategy, teams can potentially increase expected outcome performance (Behfar et al., 2008). Referencing types of conflicts in the digital context, both task and relationship conflicts may occur in virtual teams, and it is important for those teams to identify such conflicts and make them known to the team members, expect some part of the conflicts to occur due to the team

diversity, be aware of communication technology effects on conflicts, such as large volume of electronic communication and lack of immediacy of feedback (Kankanhalli et al., 2006). What is even more interesting, compared to traditional teams, distributed teams tend to have more task and interpersonal conflicts (Hinds and Mortensen, 2005). Although, the effect of the task itself on team performance might not be different in distributed teams compared to traditional ones, the increased number of those creates additional burden on the team which might be seen in the decreased performance level (Hinds and Mortensen, 2005). The approach on how to resolve and deal with the conflict also has its effect on the relationship between the conflict and performance (Kankanhalli et al., 2006). For example, the study of (Paul et al., 2004a) shows that the collaborative conflict management style, which implies that it “pertains to integrate the views of all involved”, is positively related to the performance of the digital teams. Though conflicts may occur in both traditional and digital teams, the digital environment may bring additional sources of such conflicts, for instance, physical distance or complexity of the tasks, which HPTs should account for when operating in a digital environment. A special case of virtual teams, which is asynchronous teams, have been found to act differently in terms of conflicts, conflict resolution and the effects of the last two on team performance (Montoya-Weiss et al., 2001). However, the presence of a temporal coordination mechanism mitigated the negative effects associated with the specifics of conflict management in the asynchronous environment (Montoya-Weiss et al., 2001).

4.3 External or environmental factors

Although most of the factors affecting the performance of the team are located inside the team and can be controlled by team members, there are still a few external factors that may affect the team performance. In contrast to internal factors, it is much harder to control and affect the external ones, though teams may adapt to them depending on the situation. Thus, these factors are more like external circumstances, which a team cannot control much, but can prepare to.

Sometimes, a team’s objectives must be achieved in a short period of time due to external reasons. Some authors claim that the *urgency of the task* or *time pressure* may affect the performance of the team (Creed et al., 2008, Chong et al., 2010). Interestingly, the effect of time pressure may differ depending on the attitude of team members. Thus, according to the study on digital teams, when a team considers time pressure as a challenge rather than as a hindrance, it may positively affect the outcome performance (Chong et al., 2010). Similarly, traditional teams may also experience an increase in performance by adding the “sense of task urgency” to their processes (Creed et al., 2008).

Any team does not exist in a vacuum and there are always a variety of stakeholders who are interested in the results of the team, as well as other entities who are involved in the work process. For high-performance teams, it is essential to understand that those entities may affect the work processes and, thus, the performance of the team, meaning that the HPT should pay special attention to the alignment and interaction with those *external entities* (Castka et al., 2001).

Another factor that is classified here as external is *goal difficulty*. Though the team can set its objectives, the ultimate goal of the team is mostly dictated by the field and stakeholders. It feels natural, that if the goal is difficult, then it is harder to achieve it and, thus, the performance would be lower. Though, it is not that simple. According to the study by Knight et al. (2001) conducted on teams working with simulations, task difficulty might increase the outcome performance if it is combined with incentives.

In addition to that, Fruchter and Bosch-Sijtsema (2011) emphasize the importance of the *workspace design* for a team that may have to work with virtual artifacts and, thus is physical distributed. Those teams, who are working in their own workspaces may have more freedom on dealing with this aspect. But what if the whole team is working from home, as a lot of teams started to do after the COVID-19? How the management of the team or the team itself may take care of the workspace design in that case and, which is more important, how to control this process?

5 Discussion

The analysis of factors shows that, though there are a number of differences between digital and traditional teams in terms of HPTs factors, overall, both types of teams seem to lean towards the same HPT framework (see Figure 2). First, one needs to form a team and find suitable team members. At this

stage it is important to consider individual level factors, for instance, what soft and hard skills should members of the team have, should team members be oriented to risk-taking or not, and to what extent, etc. In addition, on group level, one should prepare a proper work structure, rules of behaviour, reward system, discuss leadership structure in the team and find a suitable leader. While all parameters can be changed later, it is still important to plan them ahead of time, when the team is only forming. Second, when the initial team structure is set, the team starts to act and perform. Here comes the actual work and not everything might go according to the plan. At this stage, some new factors arise, such as motivation or engagement of every single team member, as well as how well team coordinates, how it decides to approach low-level goals and what tactics it uses, how the communication between team members happens and evolves. Moreover, once people start to interact, emotions appear here and there, which could lead to conflict situations or changes in emotional climate. While mastering or trying to balance all mentioned individual and group capabilities, team should not forget about external circumstances, which may change quickly and heavily affect the results of the team. Those could be external stakeholders, the urgency of the task and others. Though, it should be impossible to control external changes, the team might become aware of them in time and adjust its approach throughout the process. One of the important parts of an HPT is the ability to assess the results and how actual performance corresponds with the goals. Based on this assessment, one can decide if the existing team is HPT or not for this case or goal, and then try to adjust some of the factors. For instance, the team can change its members and work on employee turnover, adjust its structure or develop a better conflict management system. Since the nature of the team is dynamic, as it is always having a limited lifespan, the adjusting stage is extremely important to either achieve or sustain high-performance of a team.

And a few more words about differences between traditional and digital teams. Several factors have not been found in studies concerning digital teams out of the analysed list (See Table 1 or Figure 1). The exact reasons for this are to be further explored, but some hypothesis could be made. For instance, doing things together might not be that relevant for digital teams, for instance, collaborative decision-making process (Marsh, 2010, Stohler, 1998) or shared expectations of quality and standards (Creed et al., 2008, Daniel and Davis, 2009), while the communication process plays an important role in building high-performance working processes, especially the synchronicity of it in geographically distributed teams (Cummings et al., 2009, Sarker and Sahay, 2004). Similarly, work structure and rules of work behaviour (Creed et al., 2008, Markette, 2012), as well as role distribution and responsibility (Kamolsiri et al., 2018) have not been mentioned by studies on digital teams, which could be explained by the fact, that most of digital teams have more modern and less restrictive approach to working environment. Similarly, the more relaxed and flexible the environment of digital teams, the more unpredictable and diverse it could be. This could possibly explain why such factors as risk taking attitude (Knight et al., 2001) or commitment (Lippert and Dulewicz, 2018) were mentioned only by studies on digital teams. Interestingly, while moving from constant on-site work, the conditions of surrounding physical workspace become important to digital teams (Fruchter and Bosch-Sijtsema, 2011).

Even for some shared factors the difference exists in detail. The unique characteristics of digital teams, make some of the factors more important, than others. For instance, one type of digital team is a virtual team, when team members are physically distributed for each other. In such a situation, several basic team fundamentals, such as trust, effective communication, cohesion, and collaboration, may become more difficult to build and develop, compared to the traditional teams (Lippert and Dulewicz, 2018, Moura et al., 2021). In this sense, digital teams must pay special attention to such factors. The same works, for example, for the conflict management part, as the use of digital tools triggers new types of conflicts and sometimes might hinder the resolution of those conflicts (Paul et al., 2004a, Paul et al., 2004b). Here it is important to mention, that time spent together on team building have been found to be important for traditional HPTs. While it should be difficult for distributed team to organize such activities, does it mean that this factor becomes irrelevant for those? Additional research projects could be carried out to clarify the importance of team building activities for digital HPTs, as well as how they could be arranged in virtual environment.

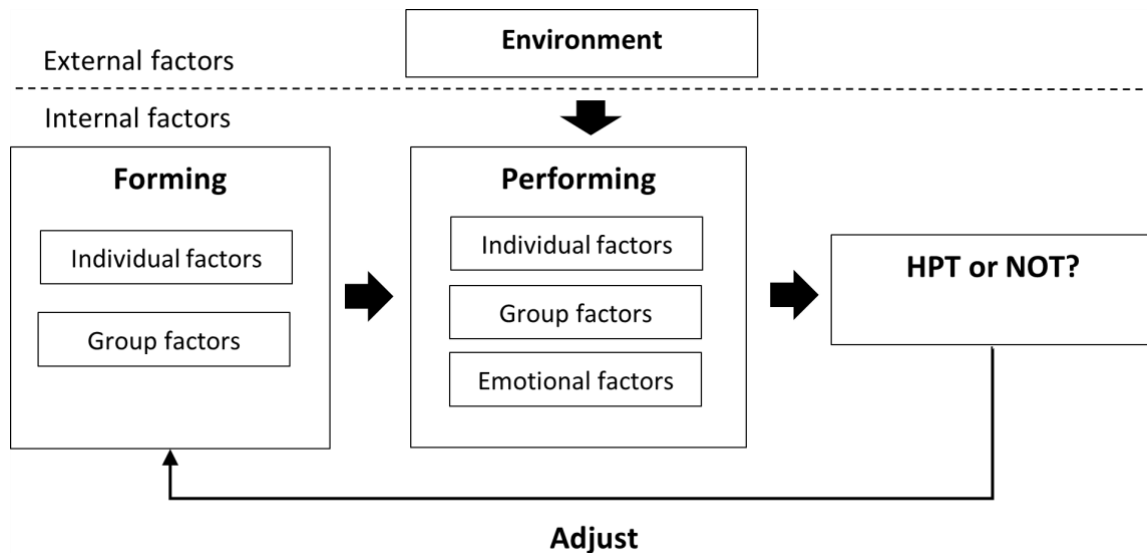


Figure 5 Framework of High-performance teams' factors

6 Conclusions, limitations, and future research

The first research question was addressed by listing capabilities and circumstances relevant for HPTs in different contexts and providing grouping and categorization for those factors. Thus, all capabilities were divided by (1) Relevant to traditional, digital teams or to both, (2) being group level or individual level, (3) Relevant for formation or performance stages. Moreover, capabilities are considered internal, while externally I talked about circumstances, because a team has little control over them. This categorization can be found in Table 1 in Appendix 1. In addition to that, Figure 2 summarizes the data from Table 1 and presents a framework of a High-performance team. The important implication of this paper is that all of the mentioned factors play a role in a process of a team becoming a High-performance team. Thus, those teams who seeks better performance, should consider analyzing their work according to the framework in Figure 2 and assess the development of capabilities from Table 2 and how they affect the performance of the team. Although, external circumstance differ from internal capabilities by the level of how much a team can have control over them, still environmental changes have been proved to play a role in the performance of teams. Thus, teams seeking high-performance should be aware of those and keep an eye on potential effect of those of the team processes and performance.

Referring to the RQ2, though most of factors apply to both traditional and digital teams, some of them have been found to be specific to only one group, as well as a part of shared factors acquire some distinctive features when talking about digital teams. This can be clearly seen in Figure 1. Talking in more details, such things as coordination, communication and trust are way more difficult to build and sustain in digital and remote environments. At the same time, some of the factors, such as strict role distribution, might become irrelevant in a more flexible working environment.

Based on the set of the literature analyzed in this paper, a few tracks for future research in this area can be pointed out:

First, though a lot of individual-level factors have been identified, still there is a tendency among researchers to study them from the perspective of a team and on a group level. More insights into the individuals' feelings and motives may bring a new understanding of HPTs.

Second, most of the papers analyzed in this review, that focused on digital teams, were referring specifically to virtual teams or GVTs it. It could be since it is still a hot topic in different disciplines. Consequently, there is a space for more research on other types of digital teams, such as teams working with simulations or more specific ones, like crowdsourcing and crowdfunding teams.

Third, some factors, that have a complex relationship with outcomes, might be of more interest for researchers. I would emphasize such factors as task difficulty, time pressure, emotional environment, conflicts and conflict management. The reason for this selection is that these factors play important but

sometimes hardly predictable role in the success of digital HPTs. According to the analyzed papers, these factors, generally, are associated with the complexity of their effect on team performance, as well as their multi-dimensional structure. Each of them might include several different components that could be analyzed from various angles. All of these make the listed factors more exciting and valuable to study.

Talking about limitations, this work has a fully conceptual nature, and the presented framework is based on existing literature on the topic of HPTs. In addition to that, the paper does not account for differences between the types of digital teams (remote work, virtual teams, and simulations) and puts all of them in the same pool. It is possible, that the difference between types of virtual work affects the importance of some factors. Furthermore, due to the structure of the paper and the qualitative analysis of the literature, it is impossible to judge the level of importance of the factors.

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Appendix 1.

Forming	Factors	Traditional teams *	Digital teams
Individual-level	Risk taking attitude (Knight et al., 2001)	-	+
	Attention to individuals' needs and differences (Castka et al., 2001)	+	-
	Adaptability (Kamolsiri et al., 2018, Entin and Serfaty, 1999)	+	-
	Efficacy (Fuller et al., 2006, Knight et al., 2001)	-	+
	Cross-cultural communication skills (Lippert and Dulewicz, 2018, Matveev and Nelson, 2004)	+	+
	Knowledge and knowledge sharing; competences and skills (Castka et al., 2001, Creed et al., 2008, Daniel and Davis, 2009, Moura et al., 2021, Olaisen and Revang, 2018, Bøgelund and Nørgaard, 2020, Jenewein and Morhart, 2008)	+	+
Group-level	Employee turnover (Fernandez et al., 2016)	+	-
	Shared expectations of quality and standards (Creed et al., 2008, Daniel and Davis, 2009)	+	-
	Work structure and rules of work behaviour (Creed et al., 2008, Markette, 2012)	+	-
	Role distribution and responsibility (Kamolsiri et al., 2018)	+	-
	Leadership (Creed et al., 2008, He et al., 2019, Klenke, 1997, Markette, 2012, Marsh, 2010, Jenewein and Morhart, 2008)	+	+
	Team diversity (Homogeneity/heterogeneity) (Higgs et al., 2005, Paul et al., 2004b, Bøgelund and Nørgaard, 2020)	+	+
	Clear common goals (Castka et al., 2001, Creed et al., 2008, Daniel and Davis, 2009, Hyman, 1993, Kamolsiri et al., 2018, Markette, 2012, Moura et al., 2019)	+	+
	Supportive context, reward and recognition systems (Castka et al., 2001, Creed et al., 2008, Markette, 2012, Moura et al., 2019, Moura et al., 2021)	+	+
Performing			
Group-level	Collaborative decision-making process (Marsh, 2010, Stohler, 1998)	+	-
	Measurement of the results (Beech and Crane, 1999, Castka et al., 2001)	+	-
	Team coordination/(team coherence) (Chong et al., 2010)	-	+
	Team building (Creed et al., 2008, Jenewein and Morhart, 2008)	+	-
	Tactical implementation/Team process (Kamolsiri et al., 2018, Knight et al., 2001)	+	+
	Communication: quality, clearness, frequency, openness, feedback (Creed et al., 2008, Lippert and Dulewicz, 2018, Losada, 1999, Marsh, 2010, Moura et al., 2019, Olaisen and Revang, 2018, Sarker et al., 2011, Pöysä-Tarhonen et al., 2016, Jenewein and Morhart, 2008, Beech and Crane, 1999)	+	+
Individual-level	Involvement (Hyman, 1993)	+	-
	Motivation (Moura et al., 2019, Bøgelund and Nørgaard, 2020)	+	+
	Commitment (Lippert and Dulewicz, 2018)	-	+
	Engagement (Gibbs and Poisat, 2019)	+	-
Emotional	Team cohesion/Team synergy (Anderson and Dixon, 2019, Castka et al., 2001, Hyman, 1993, Kamolsiri et al., 2018)	+	-
	Trust and integrity (Engebø et al., 2022, He et al., 2019, Hyman, 1993, Lippert and Dulewicz, 2018, Luther, 2000, Moldjord and Iversen, 2015, Moura et al., 2019, Sarker et al., 2011, Aubert and Kelsey, 2003)	+	+

* In columns "Traditional teams" and "Digital teams" minus sign (-) represents that this concept has not been identified in the analyzed literature, while plus sign (+) represents that the concept has been identified in some of the analyzed papers.

	Team climate and emotional environment (Moura et al., 2021, Beech and Crane, 1999)	+	+
	Conflicts and conflict management (Kankanhalli et al., 2006, Paul et al., 2004a, Paul et al., 2004b, Behfar et al., 2011, Behfar et al., 2008, Hinds and Mortensen, 2005, Montoya-Weiss et al., 2001)	+	+
Environment			
	Task urgency and time pressure (Chong et al., 2010, Creed et al., 2008)	+	+
	Alignment and interaction with external entities (Castka et al., 2001)	+	-
	Goal difficulty (Knight et al., 2001)	-	+
	Physical workplace (Fruchter and Bosch-Sijtsema, 2011)	-	+

Table 1 Table of factors affecting the success and performance of HPTs