

SATISFACTION AND PERFORMANCE OF GENERATION Z IN VIRTUAL AND FACE-TO-FACE TEAMS

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Purpose: There are several factors that affect the satisfaction and performance of virtual and face-to-face teams. Literature shows however, that there is a research gap as to the influence regarding the analysis of those factors in regards to different generations. The purpose of the paper is the youngest generation – Gen Z functions in virtual and face-to-face teams and how the type of team influences the performance and satisfaction of team members.

Design/methodology/approach: Adopting a generational approach, a research design, including an experiment and a survey, was developed in order to analyze if the type of teamwork affects performance and satisfaction of Generation Z representatives.

Findings: Findings suggest that the youngest, tech-savvy generation functions easier and more naturally in virtual teams, showing no significant differences in performance in virtual and face-to-face teams, and even indicate that working in virtual teams is more satisfying than working in traditional teams.

Practical implications: The results of the research can provide a basis for managerial decisions when selecting members of real and virtual teams.

Originality/value: The paper contributes to the ongoing scientific debate by presenting the perspective of Generation Z on virtual work, which, to a certain extent, contradicts current beliefs about performance and satisfaction in traditional and virtual teams. It shows that the generational approach should be included in team design in order improve team and organizational competitiveness.

Keywords: Virtual teams; Generation Z; virtual work; face-to-face teams; satisfaction; performance.

1. Introduction

Virtual or distributed workplaces where employees and managers work separately from each other are a reality and will become even more popular over time (Cascio, 2000). Already over a decade ago, more than 60 per cent of managers worked regularly in virtual teams (Hertel et al., 2005). However, individuals face additional challenges when working in virtual teams

(Furumo, 2009). Collaboration within virtual teams differs from traditional face-to-face teams due to the degree of physical interaction, the level of virtuality and team member distance (Foster et al., 2015; Hertel et al., 2005). Although over the last two decades a great deal has been written about such teams, there is still a lack of clarity as to what virtual teams are as well as what influences their effectiveness and performance (Lin et al., 2008). As the conducted literature review demonstrated, there are several internal factors that may affect teamwork, including personality (Brown et al., 2004; Luse et al., 2013), norms, beliefs and values (Stewart & Gosain, 2006), trust (Crisp & Jarvenpaa, 2013; De Jong et al., 2016) or even the perception of trust or commitment (Joshi et al., 2009). Currently, there are four generations of employees active on the labor market - baby boomers, Generation X, Generation Y and Generation Z – which differ from each other in regards to values, work ethic but also strengths, weaknesses and preferences (Balan & Vreja, 2018). As determined by Ferrara et al. (2017), baby boomers and millennials (defined as born after 1981) have different views in regards to time, technology and workplace. The youngest generation – Generation Z – differs from the previous ones, especially in regards to their approach to the virtual world and social media (Bejtkovsky, 2016). In addition, their attitudes towards using new technologies differs from those of previous generations (Morris & Venkatesh, 2000). As indicated by researchers (Burton et al., 2019; Furst et al., 1999) the increase in using virtual teams has not been accompanied by parallel and sufficient research in the socio-psychological determinants of their efficiency. As pointed out by Gilson et al. (2015), one of the research gaps in regards to virtual teams is the generational impact, as the issue whether different generations perceive virtual teams differently has not received much attention. Research on the functioning of the Generation Z in virtual teams has not yet been conducted. This study explores the relation between the type of teamwork and performance and satisfaction of Generation Z. Furthermore, it attempts to answer the question of whether the type of teamwork (virtual or face-to-face) influences the performance and satisfaction of Generation Z. Therefore, an experiment on representatives of Generation Z has been conducted.

Establishing the results of virtual work for Generation Z is important for several reasons. First of all, although they only recently entered the labor market, they will dominate it for the next decades (Maurer, 2016). Thus, it is essential to analyze the determinants of their performance and satisfaction. Secondly, working in virtual teams may align with other values and expectations of this generation, described in more detail in the third section of the paper, resulting in the fact that virtual work may be perceived as the norm and face-to-face contacts as an exception (Gilson et al., 2015). Finally, as mentioned, little research has been done wherein age or familiarity with technology were the main variables. Considering diversity dimensions, researchers have investigated primarily the influence of cultural (Daim et al., 2012; Hardin et al., 2007; Staples & Zhao, 2006) or national background (Curseu & Schruijer, 2010), gender (Curseu & Schruijer, 2010), and functional diversity (Peters & Karren, 2009). Age as a variable has been included in a few studies focusing, however, not on Generation Z but millennials, who entered the labor market in 2004 (Orta et al., 2019; Orta-Castanon et al., 2018)

and baby boomers (Ferrara et al., 2017). Due to the different characteristics of Generation Z, they may bring some advantages to virtual work or help to eliminate some of the barriers of virtual work identified in the literature (Gilson et al., 2015). In addition, the issue of satisfaction and performance of virtual teams becomes even more crucial in light of unforeseen events like the COVID-19 pandemic, which has forced organisations into virtual work and created challenges for managers, human resources departments (Carnevale & Hatak, 2020), and employees alike (Gao & Sai 2020).

The paper has been organized as follows. First, the theoretical dimension in regards to virtual and face-to-face teams are laid out with a focus on performance, satisfaction and cohesion of virtual teams. Secondly, the characteristics of the Generation Z, their value system, strengths, weaknesses and attitudes towards the workplace are presented. Then the research design is presented followed by the research results. The paper ends with the discussion and conclusion section, including theoretical and practical implications based on the findings.

2. Theoretical background

2.1. Virtual and face-to-face teams

Although researchers have studied virtual work for decades now, they have yet to grasp the full diversity within virtual teams, especially because the changes experienced by organizations due to the development of new communication media and scope of virtuality are unprecedented (Bailey et al., 2012). Furthermore, the growing complexity and dynamic nature of work itself have led to an increase in the importance of virtual work (Bell & Kozlowski, 2002).

However, it has to be noted that there is a great variety of working arrangements which may fall into the concept of virtual teams. Bell and Kozlowski (2002) have distinguished virtual teams from conventional face-to-face teams and emphasized that virtual teams may differ due to temporal distribution (distributed vs. real time), member roles (multiple vs. singular), lifecycle (discrete vs. continuous) and boundaries (single vs. multiple). Bailey et al. (2012) also added a typology of virtual work distinguishing between virtual teams, remote control and simulations. Other researchers have proposed scales and indexes to measure the level of virtuality, as they believe that there is no simple opposition to face-to-face teams but rather a continuum of virtuality (Chudoba et al., 2005). In order to measure the level of virtuality, Chudoba et al. (2005) used 18 items grouped into 6 categories: geography, temporal, culture, work practices, organization and technology. Therefore, the level of virtuality has to be considered as there are several factors which may influence the team's performance and may be responsible for significant differences between various virtual teams. In this paper, virtual

teams have been defined as an interdependent group working on a task across space and relying on communication technologies (Lin et al., 2008; Lipnack & Stamps, 2000).

Researchers have conducted several studies comparing virtual and face-to-face teams (Alge et al., 2003; Breuer et al., 2016; Hardin et al., 2007; Majchrzak et al., 2004). Comparative analyses and also analyses focusing on virtual teams identified the many advantages but also challenges for virtual teams. For example, Lipnack and Stamps (2000) determined that virtual teams, especially in their early stages, tend to focus on the task due to the restraints of computer-mediated communication (CMC). Thus, it has been stressed that CMC is not optimal when it comes to problem-solving tasks (Straus, 1996). O'Neill et al. (2016) suggest that virtual teams do worse with tasks that have one solution. In addition, real teams have done better in terms of decision behavior: amount of information exchanged and discussed, discussion length, performance and unique information. Shwartz-Asher et al. (2009), however, showed that while virtual teams have comparable successes to face-to-face teams, they have a lower level of satisfaction and need more time to complete a task. On the whole, virtual teams may experience difficulties in sharing norms, behaviors and attitudes (Oshri et al., 2007). They also show greater difficulties in the communication process, such as in understanding and interpreting salience of information (Cramton, 2001), differences in speed of access to information (Cramton, 2001) and lack of feedback (Geister et al., 2006). This may result in insufficient mutual understanding between team members (Alavi & Tiwana, 2002) and lower communication quality (Lowry et al., 2006) and may lead to failure in sharing and retaining contextual knowledge (Alavi & Tiwana, 2002). However, as noted by Rhoads (2010), face-to-face communication is not necessarily superior to CMC in many processes requiring collaboration. Members of virtual teams also face some psychological challenges like the risk of isolation and difficulties building team identity (Kirkman et al., 2002), and lower trust and openness (Alge et al., 2003). On the other hand, several strengths of virtual teams have been identified, including quicker decision making (Majchrzak et al., 2004), better availability of knowledge resources (Paul, 2006) and greater effectiveness of decision making (Schmidt et al., 2001). Additionally, when virtual teams included a diverse group of members, they were found to perform better (Staples & Zhao, 2006). Therefore, virtuality and diversity may lead to better competitive advantage (Majchrzak et al., 2004).

Researchers have conducted studies in order to identify the determinants of virtual team success. The main areas under investigation are performance, satisfaction and conflict, trust, cohesion, communication, and knowledge sharing. For the purpose of this study, it was decided to narrow down the focus to performance, satisfaction, conflict and cohesion, as trust was identified as moderator between communication and performance (Jarvenpaa et al., 2004) and also between ideology and performance (Stewart & Gosain, 2006). It has also been identified as mediator between communication media and satisfaction and performance (Geister et al., 2006). What is more, trust as well as communication were identified as determinants of

performance (De Jong et al., 2016; Marlow et al., 2018) and satisfaction (Edwards, 2005; Lin et al., 2008). Thus, the concepts are related to one another.

Among various other determinants of virtual team performance, researchers identified, *inter alia*, group characteristics (Chidambaram & Tung, 2005; Gao et al., 2016), team empowerment (Kirkman, Rosen, Tesluk, & Gibson, 2004), leadership styles (Kashive, Khanna, & Powale 2022; Zhang, Zhao, & Yu, 2022) team goals (Brahm & Kunze, 2012), task complexity and interdependence (Handke et al., 2020), coordination and cooperation (Breuer et al., 2016), and personality types (Brown et al., 2004). Among determinants of conflict, cohesion and satisfaction determinants like the above-mentioned trust and communication, but also team goals (Edwards, 2005), group roles (Furumo, 2009) or social dimensions like relationship building (Lin et al., 2008) were identified.

Research shows that performance and satisfaction are the two major measures for virtual team effectiveness (Lin et al., 2008). Performance can be defined as the extent to which a group output meets the requirements (Lurey & Raisinghani, 2001). Satisfaction can be defined as the extent to which the individuals' perception of the decision-making process and the group's outcome fits the final agreements (Chidambaram, 1996). Cohesion, on the other hand, has been identified as one of the most important variables for small groups (Lott & Lott, 1965) and can be defined as the degree to which team members identify with the group and the particular team members (Chidambaram, 1996), as well as the level of integration (Lin et al., 2008) within the group. As research shows, it positively influences both satisfaction (Lurey & Raisinghani, 2001; Maznevski & Chudoba, 2000) and team performance (Chang & Bordia, 2001).

2.2. Generational perspective – Generation Z

A generation can be defined as a group of individuals of similar age, experiencing “significant life events at critical developmental stages (times)” (Kupperschmidt, 2000, p. 66). Generations are distinguished based on the timeframe they were born, however, also common experiences when growing up form a generation (Kupperschmidt, 2000). Researchers generally agree as to the first generations, with small differences as to the timeframes of particular groups. The first generation are the traditional employees (also called the silent generation), born before 1940-45, the second one is the baby boomers, born between (1940/45-1960/64), followed by Generation X, born between (1960/65-1980) (Ferrara et al., 2017; Kupperschmidt, 2000). However, after that, some differences start to emerge. As indicated in section 1, some researchers stated that after Generation X come the millennials. Ferrara et al. (2017, p. 135) defined them as born between 1980 and 2001. However, there are researchers, who, although acknowledging some similarities, divide millennials into two generations: Generation Y and Generation Z (with some differences also as to the naming of the last generation) (Maloni et al., 2019). The conducted literature review also revealed discrepancies as to the age range of Generation Z, which have been presented in Table 1.

Table 1.
Generation Z – age range

Age range	Author
born after 1990	(Dolot, 2018)
born between 1991 and 2000	(Herrando et al., 2019)
born between 1995-2010	(Balan & Vreja, 2018; Dabija et al., 2017; Hradiska, 2013)
born between 1995-2012	(Maloni et al., 2019)
born after 1995	(Bencsik et al., 2016; Cilliers, 2017; Gupta & Gulati, 2014)
born between 1996 and 2003	(Zhitomirsky-Geffet & Blau, 2016)
born after 1997	(Chang & Wang, 2018; Duffett, 2017; Ng et al., 2019; Vo, 2019)
born after 2000	(Bejtkovsky, 2016)

Generation Z, also called the post-millennials (Maloni et al., 2019), iGen (Mladkova, 2017) or digitally natives (Gupta & Gulati, 2014). The differences in conceptualising generations may result from different political, socioeconomic and cultural differences shaping societies (Schwartz et al., 2010). Also, as pointed out by Scholtz (2019), differences within Generation Z in different societies need to be acknowledged.

As indicated by Maloni et. al. (2019) and confirmed by the conducted literature review, Generation Z has so far received little attention. Nonetheless, due to the fact that Generation Z grew up when the Internet was widely accessible and knows the world only with constant access to the Internet and social media (Duffett, 2017), they should have ideal competencies for working in virtual teams. They are tech-savvy and socially connected through social media (Wiedmer, 2015). They grew up in an era of instant messaging (WhatsApp, Facebook Messenger), mobile, smart devices (smartphones, tablets, iPads, iPhones, smartwatches), picture and video-sharing (Instagram, YouTube, Snapchat, TikTok), micro-blogs (Twitter), and many other Internet platforms that enable them to communicate and socialise online (Duffett, 2017; Parry & Battista, 2019; Stokes, 2011). They perceive this technology as a natural element of their life since they grew up using it (Zhitomirsky-Geffet & Blau, 2016) and prefer it to traditional media (Scholz & Vyugina, 2019). Thus, they have a high level of “intuitive technology literacy” (Scholz & Vyugina, 2019, p. 278). Generation Z is able to multitask, and they are creative, expressive and individualistic. They are able quickly filter out boring and irrelevant information (Duffett, 2017). They communicate globally without boundaries (Scholz & Vyugina, 2019), and virtual communication can be as comfortable or even more so compared to face-to-face communication (Velez-Calle et al., 2020).

However, they are also impatient. They seek instant gratification and are not used to waiting (Duffett, 2017). They are less concerned with accuracy and more with interaction (Gentilviso & Aikat, 2019), and do not necessarily understand how technology is embedded into society (Scholz & Vyugina, 2019). They are characterised as lazy, having problems concentrating and dependent on online sources (Wiktorowicz & Warwas, 2016).

Among the values of Generation Z, researchers point towards the ability to see the results of their work (Maloni et al., 2019), making an impact and reflecting their interest in meaningful work (Maloni et al., 2019; Parry & Battista, 2019). As the most important extrinsic values, researchers point towards promotion and salary (Maloni et al., 2019). Generation Z values security as well (Maloni et al., 2019). Maloni et al. (2019) also identified a shift towards greater importance of making friends and contact with people than was the case for Generation Y. However, Bencsik et al. (2016) described their relationships as superficial and established that they have no sense of commitment. They are more open to a flexible labor market and have a higher need for achievement than Generation Y (Frunzaru & Cismaru, 2018). Furthermore, they are perceived as disloyal (Scholz & Vyugina, 2019).

As noted by Velez-Calle et al. (2020), cultural differences between team members are not experienced as the primary challenge in making way for task-based and interpersonal issues. Rather, it is age of the virtual team members that will determine the efficiency of such teams, as the shift away from cultural issues is visible in the youngest generations (Velez-Calle et al., 2020). With the task-based issues in the centre, the theory of cooperation and competition can be the foundation for explaining the research problem (Johnson & Johnson, 1989). According to this theory, the perception of goals as competitively or cooperatively linked influences the team members' motivation, trust level and, most importantly, it influences the outcome. A common task which team members must achieve together fosters better problem-solving, better performance and higher efficiency.

Due to their high tech-savviness, constant connection and Internet presence, but also due to the cooperative nature of the chosen task and the fact that it has one expert solution the author believes that, the mentioned lower performance of virtual teams (O'Neill et al., 2016) will not apply in this case, thus the following hypotheses were developed:

H1: Virtual teams composed of Generation Z representatives will perform better than face-to-face teams composed of Generation Z representatives.

Also, due to Generation Z's constant Internet use, their high ICT communication skills, and, in general, because of their value system the author believes that in opposition to previous research (Shwartz-Asher et al., 2009; Warkentin et al., 1997) virtual teams composed of representatives of Generation Z will have a higher satisfaction level than face-to-face teams, thus a second hypothesis was developed:

H2: Virtual teams composed of Generation Z representatives will have a higher level of satisfaction than face-to-face teams composed of Generation Z representatives.

3. Research objective, methodology and data

The research adopted a pluralistic approach using a literature review, an experiment and a follow-up survey. The use of multiple methods increases the reliability of the study (Lin et al., 2008) and was also dictated by the research goal. The first stage – the literature review was conducted to develop the primary framework for team performance and satisfaction and to develop the hypothesis. The second stage was the experiment, which tested the effectiveness of virtual and face-to-face teams, followed by the third stage – a survey aimed at testing the satisfaction of the participants. In order to avoid influencing the perception of the experiment, the solution of the task was explained by the researcher after completing the survey.

For the experiment, a decision-making task was chosen, which required communication and had an expert solution (to test the team's performance). It was decided to choose the Desert Survival Task (Johnson & Johnson, 2006). This exercise was chosen due to the low probability that the participants had had experience that could help them solve this task (Staples & Zhao, 2006). It has also been previously used in small group research (Staples & Zhao, 2006; Straus, 1996). Furthermore, this task has several similarities to problems which employees face in real life. It requires a task to be solved with one correct solution, and has elements of a decision-making and negotiation process. The task tests the performance of each group by comparing their results to the key – the expert's answer (Thompson & Coover, 2003). The participants of the face-to-face groups worked together in a room. The researcher left the room for the time of the discussion to minimize the possibility that the presence of the researcher would influence the outcome. The participants of the virtual teams were led to different rooms and given computers and headsets. They interacted through a web-based teleconference application with a built-in synchronous chat function. The cameras were disabled so that the participants could not see each other. This was aimed at creating additional barriers to communication, e.g. reducing the visibility of communication styles, negative/positive reactions and body language (Staples & Zhao, 2006). After completing the experiment, the participants were asked to fill out a questionnaire to test their satisfaction. The questionnaire measured the participants satisfaction using Green and Taber's (1980) and Lind's (1999) scales. The Polish adoption of the scales was made using a back-translation procedure (Paolillo et al., 2017). The scales included 7 indexes. Lind's (1999) scale measured group cohesion (Index 1 – Cronbach's alpha = 0.77), group conflict (Index 2 – Cronbach's alpha = 0.73) and group quality (Index 3 – Cronbach's alpha = 0.62). Green and Taber's (1980) scale measured personal task participation (Index 4 – Cronbach's alpha = 0.76), negative socio-emotional behaviour (Index 5 – Cronbach's alpha = 0.73), solution satisfaction (Index 6 – Cronbach's alpha = 0.70) and decision scheme satisfaction (Index 7 – Cronbach's alpha = 0.94).

Forty-one teams participated in the study, bringing the total number of participants in the experiment to 145 (Table 2). Team size was designed to be 3 or 4 people. For adequate power, a minimum of 15 teams per setting (Thompson & Coovert, 2003) was required and exceeded.

Table 2.
Sample information

Communication mode	Number of teams and participants	
Face-to-face	19 teams	11 teams*4 members + 8 teams*3 members (n=68)
Virtual	22 teams	11 teams*4 members+ 11 teams*3 members (n=77)

The participants were university students born from 1995 to 1999, so they were all members of Generation Z. Among the participants, 55.86% were women and 44.14% were men. The groups were designed to include both men and women but there were also only female and only male groups (both virtual and face-to-face). The teams were homogeneous in terms of cultural and ethnic background. Participation in the study was voluntary and was not linked to any course credit by the researcher. Subjects were invited across multiple study majors to minimize the previous history of the team members. Students registered online for the experiment by choosing a suitable date, and they did not see other registrations or even the number of participants already registered. The participants were then randomly assigned to virtual or face-to-face teams.

4. Results and Discussion

As the independent variable was nominal (communication mode) in order to analyze if differences between the performance and satisfaction of face-to-face and virtual teams are statistically significant, the Mann–Whitney U was conducted. The group results were developed from means of the group members responses. The results are presented in Table 3

Table 3.
Research results

	Communication mode									Mann-Whitney U test	
	Virtual teams (n = 77)			Face-to-face teams (n = 68)			Total (n=145)				
	M	SD	ME	M	SD	ME	M	SD	ME	Z	p
Index1	1,77	0,48	1,80	1,63	0,47	1,60	1,71	0,48	1,60	-2,169	0,030*
Index2	4,06	0,55	4,00	4,27	0,58	4,40	4,16	0,58	4,20	-2,672	0,008**

Cont. table 3.

Index3	1,99	0,54	2,00	1,79	0,55	1,67	1,90	0,55	2,00	-2,442	0,015*
Index4	2,45	0,54	2,40	2,20	0,54	2,18	2,34	0,55	2,25	-2,960	0,003**
Index5	4,48	0,56	4,64	4,46	0,64	4,60	4,47	0,60	4,64	-0,391	0,696
Index6	2,20	0,49	2,20	2,00	0,57	2,00	2,10	0,54	2,00	-2,712	0,007**
Index7	1,96	1,04	1,60	1,72	0,90	1,40	1,85	0,98	1,60	-1,673	0,094
Performance	48,25	7,33	50,00	48,50	9,67	52,00	48,37	8,48	52,00	-1,157	0,247

* $p < 0,05$.

** $p < 0,01$.

The results show statistically significant differences for five indexes. The virtual teams achieved higher results than face-to-face teams when it comes to group cohesion (1.77+/-0.48 vs. 1.63+/-0.48.), group quality (1.99+/-0.54 vs. 1.79+/-0.55), personal task participation (2.45+/-0.54 vs. 2.2+/- 0.55) and solution satisfaction (2.2+/-0.49 vs. 2+/- 0.54). Face-to-face teams demonstrated a higher level of conflict (4.27+/-0.58) than virtual teams (4.06+/-0.55). The analysis showed no statistically significant differences between negative socio-economic behaviour, decision-scheme satisfaction or performance. Therefore, the first hypothesis could not be confirmed, and the second hypothesis was confirmed partially.

The conducted research makes a key contribution to the existing literature on virtual teams by supplementing it with knowledge about the functioning of Generation Z in virtual and face-to-face teams, but also by challenging some of the previous studies and beliefs.

Warketin et al. (1997) found that virtual teams report lower levels of satisfaction than face-to-face teams. Staples and Zhao (2006) found no differences within any of the analyzed team attitudes or conflict levels in regards to their culturally homogenous teams of Generation Y representatives. The research presented in this paper shows, however, that Generation Z is more internally diverse, as there were differences between virtual and face-to-face teams, and, in regards to some satisfaction indicators, the virtual teams reported higher results. This may be a consequence of their mentioned tech-savviness and a natural approach towards internet mediated communication (Zhitomirsky-Geffet & Blau, 2016). Consequently, these findings support the necessity to consider the generational approach in studying team work processes, behaviors and attitudes.

Research has suggested that virtual teams face challenges when developing relationships and cohesion (Ocker & Morand, 2002). Such teams were also believed to have higher levels of conflict (Valacich et al., 2002). The conducted research, however, showed that, in actuality, virtual teams and face-to-face teams with higher levels of conflict achieved higher cohesion than face-to-face teams without conflict. Thus, the CMC seems to benefit teams consisting of representatives of Generation Z.

Furthermore, the conducted research found no statistically significant differences in team performance. This is of importance especially since it challenges the current views that virtual teams do worse with tasks that have one solution (O'Neill et al., 2016) or findings suggesting

that virtual teams need additional time upon formation to become as effective as traditional teams. In this case, the characteristics of Generation Z may help to overcome potential barriers, which, for other groups, could significantly impact performance when working in virtual teams (Tan et al., 2000). Nevertheless, this would require further analysis to compare virtual and face-to-face teams across other generations.

Several studies indicated time as an important variable, whereby the moment the team was established influences behaviors within the team (Massey et al., 2003) like trust (Jarvenpaa et al., 2004; Kanawattanachai & Yoo, 2002; Wilson et al., 2006), communication (Alge et al., 2003) or effects of diversity on team outcome (Carte & Chidambaram, 2004; Staples & Zhao, 2006). Thus, the author is of the opinion that the chosen time frame was too short to allow for the development of a team identity. Therefore, it would be beneficial to conduct longitudinal studies measuring changes in team identity, team processes and the performance and satisfaction of the teams. Additionally, an analysis using more complex CMC tools or social collaboration platforms, which are designed to enable social interaction and with whom millennials and Generation Z are well-acquainted (Orta-Castanon et al., 2018), could be beneficial, as it would provide more insight into the importance of team identity and social interaction for performance and satisfaction.

5. Conclusions

The objective of the study was to explore the relation between the type of teamwork and performance and satisfaction of Generation Z. The conducted research, including an experiment and a survey, indicated that the attitudes of virtual and face-to-face teams consisting of representatives of Generation Z differ from previously analyzed teams. The characteristics of the youngest generation on the labor market and especially their tech-savviness and literacy make it easier for them to function in virtual teams. Consequently, this invalidates earlier restrictions and barriers. In general, the performance level of virtual and face-to-face teams is similar, and the satisfaction of the virtual team members is even higher. This has significant consequences not only for the ongoing scientific debate but also for practitioners, as it seems that, with Generation Z, they can enjoy all the benefits of virtual work without bearing the costs that are normally associated with it.

The research study fills a gap in the literature, as, for the first time, it analyses how representatives of Generation Z work in both virtual and face-to-face teams. This knowledge is significant as differences between generations affect recruitment and development of teams (Bejtkovsky, 2016). Therefore, the presented research also has managerial implications, as it shows that, in contrast to other groups, representatives of Generations Z may work in virtual teams, allowing them to make use of all the benefits of this form of work without the loss of

performance. Overall, virtual Generation Z teams demonstrate greater cohesion, group quality, personal task participation and solution satisfaction. Thus, it seems that managers can gain from this kind of work arrangement without the fear of performance loss. Particularly in light of the increase in the amount of virtual and remote work as a consequence of the COVID-19 pandemic (Deloitte, 2020), it is perhaps a positive sign that the youngest generation may not be affected in a way similar to the older generations by loss of performance or lower satisfaction.

In conclusion, the conducted research is not free of limitations. The experiment teams were homogenous in regards to cultural background and age. Therefore, this research could be expanded by including culturally heterogeneous teams in order to verify if the cultural aspect is, in fact, no longer the primary challenge for virtual teams (Velez-Calle et al., 2020). Furthermore, expanding the experiment to include other generations but with the same settings would provide additional arguments in the debate on the influence of the type of work on performance and satisfaction.

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