

Conflict in Agile Teams:
An Exploratory Study of Verbal Behaviour's Influence within Virtual and In-Person
(In)Effective Meetings

Lara Carminati¹, Judith Hamhuis¹ & Pauline Weritz¹

¹ University of Twente, Faculty of Behavioural, Management and Social Sciences

Corresponding author:

Lara Carminati: l.carminati@utwente.nl

Abstract: In today's fast-paced business environment, the Agile way of working grounded in self-managing teams is increasingly implemented by organisations to adapt to the competitive landscape. At the same time, remote working practices, including online meetings, have become more common. Just like any other team, members of self-managing teams can experience different types of conflicts. However, little is still known about how these conflicts may then differ between virtual and in-person Agile teams, how they *manifest* through team members' verbal behaviours, and how the combination of multiple data sources can offer a more holistic and objective understanding of the conflict phenomenon. Hence, using a mixed-method design with innovative and objective measures, like video observations, eight Agile teams from a large Dutch financial organisation were analysed. Findings reveal fresh insights on how situations of conflict may vary between (in)effective online and face-to-face team meetings in terms of team members' triggering behaviours, nature of the conflict, conflict resolution, and team members' roles. This study thus contributes to the literature on conflict management and team dynamics by offering a novel starting point, grounded in video observations and triangulation of multiple data sources, to investigate conflict. Ultimately, we derive practical implications for how organisations and leaders should adapt their conflict management strategies to these different contexts.

Keywords: Agile teams, job performance, task and relationship conflict, verbal behaviour, video observations, virtual meetings

1. Introduction

In today's fast-paced business environment, organisations are increasingly required to be adaptable and flexible to stay competitive and survive in an ever-changing and demanding market (Weritz et al., 2024). One of the methods to fulfil these goals is through the implementation of the Agile way of working. Originally developed in the software industry, the Agile way of working has then been adopted into different service industries thanks to its versatility, easiness of implementation, and positive impact on various team and organisational outcomes, such as effectiveness, performance, and productivity (Berez & Jarayam, 2022; Serrador & Pinto, 2015; Smite et al., 2019). The Agile way of working is focused on customer collaboration and interactions (Beck et al., 2019), flexibility and responsiveness (Dybå & Dingsyør, 2008), as well as improvement of communication (Bjarnason et al., 2011). In the Agile way of working, teams are the basic unit and are self-managed, cross-disciplinary, and -functional without an official leader (Moe et al., 2009). This also explains why Agile teams are characterised by shared leadership (Magpili & Pazos, 2018).

Given their intrinsic characteristics, Agile teams can encounter various challenges, one of which is conflict management (Gren, 2017). Even though conflict is not per se a negative phenomenon (Gren & Lenberg, 2018; Kozlowski & Ilgen, 2006), its positive or negative impact can depend on the type of conflict: task-related or relationship-related (Kozlowski & Ilgen, 2006). Task conflict occurs when there are disagreements about the content of the task, for example, in determining the right strategy or allocating resources (Jehn, 1995). Task conflict can increase diversity of ideas and impose different perspectives to enhance team innovation and decision quality (Kozlowski & Ilgen, 2006; Mannix & Neale, 2005). On the contrary, relationship conflict is a result of interpersonal incompatibilities (Jehn, 1995) and might negatively impact team information processing, team satisfaction and performance (Kozlowski & Ilgen, 2006). Overall, effective conflict management is crucial for successful Agile teams, especially in the current shift towards remote or hybrid working (Gren, 2017).

Organisations have increasingly adopted remote working practices, making virtual or online meetings a fundamental aspect of team collaboration (Ozkan et al., 2022; Weinert et al., 2024). Although research has shown that online meetings are practical and convenient (Kane et al., 2021), their virtual communication might not be as effective as in face-to-face meetings, since non-verbal cues (e.g., facial expressions, gestures, etc.) can more easily get lost (Ivetic, 2017), interactions are less frequent and trust-building processes may take longer (Ozkan et al., 2022). This may affect the team member's ability to express themselves, understand others, and resolve conflicts (Korkala & Maurer, 2014). Indeed, the missing social cues in online meetings might influence the interpretation of conflicts, the way these conflicts are managed, and ultimately, their consequences.

While the current literature has, to a certain extent, researched conflict management related to task and relationship conflicts in (Agile) teams, some challenges in the field remain open and need to be addressed to advance theory and practice. Firstly, only a handful of studies have partially investigated how such conflicts can differ between (effective) virtual and in-person meetings (e.g., Monsalves et al., 2023; Ozkan et al., 2022) and consequently influence individual and team outcomes. Hence, a comparative analysis in these settings is due to fully capture how different contexts can impact team dynamics. Secondly, current research has

predominantly studied team conflicts and their impact on individual and team outcomes only through survey-based data (Zhao et al., 2019), hence through *perceived* conflict. Yet, not only can surveys lead to self-report bias (Bauhoff, 2014), but also little is known of how these conflicts *manifest* through team members' verbal behaviours, i.e., *observed* conflicts. Thus, triangulating multiple data sources of different natures is necessary to move forward research on team dynamics. Therefore, in this research, we combined innovative and objective methods, such as video observations, with transcripts and survey results to have a more holistic view of the phenomenon (Zhao et al., 2019). In particular, the use of video observations to investigate conflict can be extremely useful since it can capture on the spot both verbal and non-verbal behaviours, thus reducing the reliance on team members' retrospective self-assessments (Lucas & Baird, 2006).

Considering the above, this exploratory paper aims to investigate how conflict dynamics may vary between virtual and in-person (in)effective meetings in Agile teams through the combination of different data sources. Therefore, the research question guiding this work is: *How do the verbal behaviours associated with (task and relationship) conflict of Agile team members differ between virtual and in-person meetings and relate to team meeting effectiveness?*

Through an innovative combination of video observations, transcripts, and survey data, this paper contributes to the literature on conflict management in several ways. Firstly, combining multiple modalities, we offer fresh insights on how conflict can differ in (in)effective Agile teams operating in different settings, i.e., virtual and in-person meetings. Secondly, we move forward with research on conflict by employing novel video observations that, triangulated with other data sources, allowed us to focus on *observed* conflict and minutely highlight the verbal behavioural differences of team members when facing conflicts and the repercussions on team effectiveness. Lastly, we derive practical implications with lessons learned for managers that offer a foundation for future research in the field.

2. Theoretical Background

2.1 The Agile way of working

Emerged as a reaction to the rigid and inflexible plan-based methods (Nerur et al., 2005), the Agile way of working was originally developed in the software industry (Ågerfalk & Fitzgerald, 2006) and centred around four core principles, namely individuals and interactions over processes and tools; working software over comprehensive documentation; customer collaboration over contract negotiation; and responding to change over following a plan (Beck et al., 2001; Conboy, 2009). Thanks to these values, the Agile way of working has been adopted in other sectors beyond software development (Dybå & Dingsyør, 2008), offering significant benefits in terms of stakeholder satisfaction, efficiency, and overall project performance (Serrador & Pinto, 2015). In the Agile way, teams, referred to as squads, are cross-disciplinary and self-managed units (Zia et al., 2018) in which “a group of individuals with diverse skills and knowledge with the collective autonomy and responsibility to plan, manage and execute tasks interdependently to attain a common goal” (Magpili & Pazos, 2018, p. 3). Due to these characteristics shared leadership is an essential feature of these teams (Magpili & Pazos, 2018). In Agile teams, the product owner, who is not a leader, represents the needs and demands of the customer and is responsible for the communication between the customer and the team (Bass, 2015). Agile teams typically follow short development cycles,

the sprints, consisting of three main meetings (Bass, 2015): the planning meeting, in which the goal and the plan of the sprint are decided (Paasivaara & Lassenius, 2009); the refinement meeting, where the team members assess how the sprint is progressing and whether some changes are needed (Stray et al., 2016); and lastly the retrospective meeting, in which the team members evaluate how the sprint went and what could be improved (Paasivaara & Lassenius, 2009). Hence, the Agile way of working allows for continuous incremental improvements to adapt quickly to even unexpected changes and emphasises communication and collaboration among team members (Paasivaara & Lassenius, 2009).

2.2 Team Conflict

Given the shared leadership features of Agile teams, communication and collaboration between team members become of strategic relevance in the Agile way of working, especially when situations of conflicts arise. Conflict is an inevitable aspect of team dynamics (Gren, 2017). If conflicts are not sufficiently managed, they can negatively impact team satisfaction and performance (Kozlowski & Ilgen, 2006), which can ultimately affect the team and organisational deliverables and goals (Serrador & Pinto, 2015). Conflicts can arise due to various reasons, such as differences in opinions, perspectives (Jehn, 1997), and diversity (Pelled et al., 1999), especially given the absence of a leader (Rzepka & Bojar, 2020). In the literature, conflicts can be split into three different types: task conflicts, relationship conflicts and process conflicts (Jehn, 1997). In this paper, we focus only on the first two types of conflict since research on process conflict is inconsistent in its conceptualisation and definition, and consequently conclusions on its effects are unclear (Jehn, 1997; O'Neil et al., 2013).

2.2.1 Task Conflict

According to Jehn (1995), task conflict exists “when there are disagreements among group members about the content of the tasks being performed, including differences in viewpoints, ideas and opinions” (p. 258). Research on task conflict has shown that a moderate task conflict can increase individual and group performance (Jehn, 1995), foster critical evaluation by ameliorating the negative effects of group thinking (Putnam, 1994), and boost creativity (Baron, 1991; Mannix & Neale, 2005). Furthermore, the routine or non-routine nature of the task is also crucial: task conflict has been negatively related to performance in routine-task teams but positively related in the case of nonroutine-task teams up until a certain point, beyond which individual and group performance declines due to a lack of focus (Jehn, 1995). Lastly, research also pointed out that task conflict was detrimental to team performance, team formation, and team cohesion when it spilled over into relationship or emotional conflict (De Dreu & Weingart, 2003; Tekleab et al., 2009), thus becoming personal (Pelled et al., 1999). In short, high-performing groups should have moderate task conflict, regard them as important, have open norms towards task conflict, believe that conflict is resolvable and have little associated emotionality.

2.2.2 Relationship Conflict

Relationship conflict arises “when there are interpersonal incompatibilities among group members, which typically includes tension, animosity, and annoyance among members within a group.” (Jehn, 1995, p. 258). Compared to task conflict, there is a general consensus on the negative link between relationship conflict and individual and team performance (e.g., De

Dreu & Weingart, 2003; Jehn, 1995, 1997; Kozlowski & Ilgen, 2006; O'Neill et al., 2013; Rispens et al., 2011; Tekleab et al., 2009). Possible negative consequences of relationship conflict include a negative impact on team information processing, team satisfaction (Kozlowski & Ilgen, 2006), team effectiveness (De Dreu & Weingart, 2003), and interference with task performance (Jehn, 1997). On the contrary, when a group experiences low relationship conflict, the group members are more inclined to exchange information and offer support to each other (Tremblay, 2022), as well as engage in knowledge sharing (Semerci, 2019). Given the negative effects of relationship conflict on team dynamics, it is therefore crucial for teams to keep it to a minimum to increase their effectiveness and performance.

2.3 Conflict Duration

In addition to task and relationship conflicts, conflicts can be classified based on their duration (i.e., the length of a conflict within a team) and thus clustered into macro, meso, and micro conflicts (Paletz et al., 2011). Whilst micro-conflicts are “fleeting, minute-by-minute disagreements” (Paletz et al., 2011, p. 315), meso-conflicts tend to take place “over hours or several times over the course of a day” (Paletz et al., 2011, p. 315). Lastly, macro-conflicts are “long-standing disagreements, lasting (and ebbing and flowing) over at least a couple of days” (Paletz et al., 2011, p. 315). The majority of previous research mostly focused on meso and macro conflicts since these conflicts are easier to recollect and thus more suitable for self-reported retrospective data. Consequently, micro-conflicts tended to be neglected given the difficulty of recalling such minute events (Paletz et al., 2011). This strengthens the need for our study to focus only on micro conflicts and implement different research methods, such as video observations, which are particularly able to capture them in virtual and in-person meetings.

2.4 Challenges in Virtual Meetings

Virtual meetings have become increasingly prevalent in organisations (Ozkan et al., 2022). The two most important aspects of virtual teams that set them apart from in-person teams are their spatial distance and the type of communication (Bell & Kozlowski, 2002). Whilst virtual teams are geographically distributed and use technology as a medium to communicate, whilst in-person teams are co-located and their communication happens face-to-face (Bell & Kozlowski, 2002). Virtual teams allow individual team members to have greater flexibility and reduce their commuting time (Ozkan et al., 2022), as well as organisations to have easier access to skilled individuals regardless of their location (Bell & Kozlowski, 2002). Virtual meetings can thus increase the efficiency and productivity of teams by minimizing the number of interruptions, starting on time, and being more goal-oriented and factual (Ozkan et al., 2022).

However, virtual meetings also present several drawbacks. The absence of face-to-face and social interactions can trigger feelings of depression and loneliness thus lowering motivation and team morale (Ozkan et al., 2022). The lack of spontaneous informal communication can lead to less trust and more misunderstandings and conflicts, ultimately impacting individual team members' productivity (Ozkan et al., 2022). Misunderstandings can be caused by the lack of non-verbal cues (Ivetic, 2017), which may affect the individual team member's ability to express themselves (Ozkan et al., 2022), understand others, and resolve conflict (Kahlow et al., 2020; Korkala & Maurer, 2014). Hence, the lack of non-verbal behaviour and social cues

emphasises the importance of verbal behaviour in team dynamics (Ozkan et al., 2022; Turesky et al., 2020).

2.5 Verbal Behaviour

As virtual meetings strongly rely on verbal behaviour, *what* is being said and *how* this is said becomes increasingly important, especially when managing conflicts (Ozkan et al., 2022). Since Agile teams work with a shared leadership model, all team members ultimately display leadership behaviours (Magpili & Pazos, 2018). Leadership behaviour has the potential to minimise the number of conflicts and their intensity (Ballesteros-Rodríguez et al., 2019), thereby ameliorating their detrimental effects (Kozlowski & Ilgen, 2006). Since the way leaders behave when managing conflict has a significant impact on several group outcomes, understanding the different types of leadership behaviours becomes pivotal.

Yukl (2012) summarised previous research on leadership behaviour in one hierarchical taxonomy consisting of four meta-categories and fifteen specific components. These four meta-categories are task-oriented, relations-oriented, change-oriented, and external-oriented leadership behaviours (Behrendt et al., 2017; Yukl, 2012). Even though all these four types of leadership behaviour are important, task- and relations-oriented behaviour have more influence on team effectiveness, team productivity, job performance, and other performance-related outcomes (e.g., Behrendt et al., 2017; Borgmann et al., 2016; Brown et al., 2021; Burke et al., 2006; Mayer et al., 2023; Yukl, 2012). Moreover, since effective verbal task- and relations-oriented leadership behaviours can reduce the negative consequences of task- and relationship conflicts (Ballesteros-Rodríguez et al., 2019; Bjarnason et al., 2011), these are the main behaviours this paper accounts for.

Firstly, the main objective of task-oriented behaviour is task efficiency (Anzengruber et al., 2017), and it encompasses behaviours such as planning, scheduling, clarifying, coordinating and monitoring the progress of these tasks (Yukl, 2012). Since task conflict can arise from disagreements regarding these tasks, (Jehn, 1995), by minimising task and role ambiguity, task conflict can be prevented (Ballesteros-Rodríguez et al. 2019). Secondly, relations-oriented behaviour is mainly focused on human capital, i.e., “increasing the quality of human resources and relations” (Yukl, 2012, p. 68). This includes supporting, developing, recognising, and empowering the employees and their capabilities (Ballesteros-Rodríguez et al. 2019; Yukl, 2012). By respecting all team members and showing effective relations-oriented behaviour, relationship conflict may be less likely to occur (Rispen et al., 2011).

However, conflict research so far has mostly studied team conflicts and their impact on individual and team outcomes as *perceived* conflicts, hence through survey data (Zhao et al., 2019). Yet, surveys can lead to self-report bias, in which the respondent (un)intentionally may change their answers due to cognitive processes, social desirability, and survey conditions, resulting in random or systematic misreporting (Bauhoff, 2014). Furthermore, understanding how these conflicts *manifest* through team members’ verbal behaviours, i.e., *observed* conflicts, would help pinpoint objective and observable behaviours upon which concrete actions could be undertaken to either avoid or prevent situations of tension in the team. Nonetheless, since this is still under-investigated and research has called for implementing innovative methodologies to study conflict (Zhao et al., 2019), in this paper we specifically opted for video observations, in conjunction with other data sources, to investigate how

observed situations of conflict may differ in in-person and online Agile teams and influence their team meetings effectiveness.

2.6 Team Meeting Effectiveness

Poorly managed conflicts can have detrimental effects on several outcomes, such as team meeting effectiveness (Ozkan et al., 2022). Team meeting effectiveness is defined as “the extent to which meetings help achieve the goals of the meeting attendees (i.e., employees) and the organization” (Allen et al., 2014, p. 1065). Specific practices (e.g., setting an agenda, meeting minutes and asking for input) (Rogelberg et al., 2006), physical and procedural characteristics (Leach et al., 2009), as well as team members’ attitudes and behaviours occurring within meetings can allow meetings to run more smoothly and effectively (Cohen et al., 2011). Therefore, since it is essential for Agile teams to address any conflicts that may undermine the team meeting effectiveness and, ultimately, the accomplishment of organisational purposes (Allen et al., 2014; Geimer et al., 2015), in this exploratory study we investigate how team members’ verbal behaviours –and their potentially related moments of conflict– may influence the perception of meeting effectiveness in virtual and in-person settings.

3. Methodology

3.1 Research Design

We employed a concurrent mixed-method research design (Fetters et al., 2013) by using both quantitative and qualitative methods (Östlund et al., 2011) since their triangulation would allow us to get a more comprehensive understanding of the dynamics under consideration (Heale & Forbes, 2013) by answering confirmatory questions and providing us with in-depth and novel insights into the researched phenomenon (Lund, 2012). The research design is displayed in Figure 1.

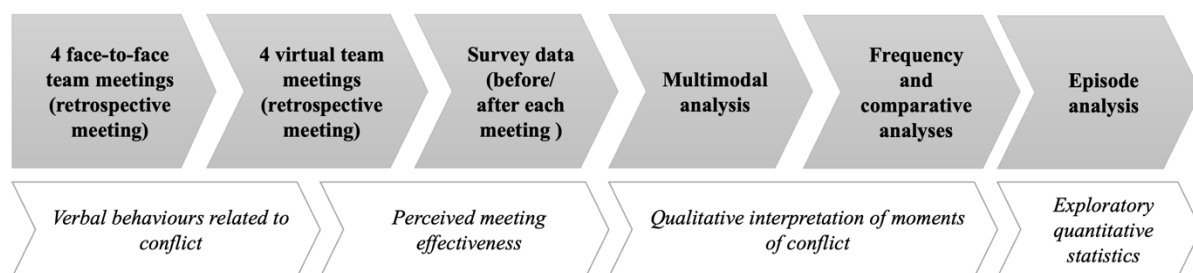


Figure 1. Visualisation of research design and data analysis

3.2 Data Collection & Sampling

The data used in this paper are part of a larger dataset that was collected at a large Dutch financial service company working Agile for more than seven years over a period of four years (2019-2023), two years of which during the COVID-19 pandemic. The whole dataset includes a total of 14 teams –five virtual and nine face-to-face– that we followed over one sprint period, meaning that for each team, we gathered video recordings and transcriptions of planning, refinement, and retrospective meetings (i.e., 3 meetings per sprint). The survey data was gathered before or after each meeting.

For this paper, the final sample included eight Agile teams, four operating in a face-to-face setting and four operating fully in a virtual setting. These eight teams were chosen since four of them (two virtual and two in-person) were the least effective and four of them (two virtual and two in-person) the most effective according to the survey results (see section 3.4.3), which made them comparable (see Table 1). For each one of these eight teams, only the retrospective meeting was observed since in this meeting, the team members reflect on and discuss the whole sprint, its successes, and improvements (Paasivaara & Lassenius, 2009), making the retrospectives the meetings with the highest possibility of observing moments of conflict.

Table 1. Perceived meeting effectiveness scores for each selected team

In-person Team	Meeting Effectiveness	SD	Virtual Team	Meeting Effectiveness	SD
<i>Effective in-person</i>			<i>Effective virtual</i>		
A	5.8	1.2	I	6.1	0.9
B	5.8	0.8	II	5.8	1.1
<i>Ineffective in-person</i>			<i>Ineffective virtual</i>		
C	4.4	1.2	III	4.9	1.0
D	4.8	1.2	IV	5.5	1.1

In total, 61 individuals were observed, of which 39 (64%) were male, 13 (21%) were female, and nine did not disclose gender information. The number of members per team ranged from five to eleven, with an average of 7.6 individuals per Agile team. Out of the 61 individuals, 31 were observed in a face-to-face setting and 30 in a virtual setting. The average age was 38.2 (SD = 9.11), and every individual has at least worked within their team for over two months.

3.4 Measures

Verbal Behaviours related to Conflict. Among all the verbal behaviours depicted in the verbal behaviour codebook (see, Hoozeboom et al., 2021), to specifically capture moments of conflict, we selected four verbal behaviours that were more likely to trigger conflicts according to previous research (see Table 2).

Table 2. Selected behaviours for moments of conflict

Verbal behaviour	Definition	Examples of Supporting Research
1. Defending one's own position	Every verbal behaviour in which a person is defending one's own self-interest or putting someone else at fault.	Herscovis et al. (2007); Hoozeboom et al. (2021).
2. Giving negative feedback (in a deconstructive/hostile way)	Every verbal behaviour that is told in an unpleasant way, which leads to a negative experience/evaluation in relation to a person, the team, an action, or a project.	Hoozeboom et al. (2021); Peterson & Behfar (2003).

3. Disagreeing	Every verbal behaviour through which a person disagrees with one or more team members.	Hoogeboom et al. (2021); Paletz et al. (2011).
4. Governing/Correcting	Every verbal behaviour through which another team member has to do exactly as they were said, given existing norms or arrangements, etc.	Hoogeboom et al. (2021); Paletz et al. (2011).

Type of Conflict. To classify the type of conflict (task- and relationship conflict), the definitions by Jehn (1995, see p. 258) were used. All conflicts were micro conflicts, following the definition by Paletz and colleagues (2011, p. 315).

Perceived Meeting Effectiveness. Perceived meeting effectiveness was measured during the survey at the end of each retrospective meeting through the 4-item, 7-point Likert scale developed by Rogelberg et al. (2006). Sample items are: (1) *This past squad meeting was productive*; and (2) *This past squad meeting was efficient*. ($\alpha = .904$). Based on this data, the in-person and virtual teams were selected (see Table 1).

3.5 Data Analysis

3.5.1 Multimodal Analysis

To analyse the qualitative data related to the video observations, we used an innovative inductive approach common in linguistics and discourse analysis (van Leeuwen, 2020) by combining multiple modalities (i.e., verbal and non-verbal behaviour) (Dicks, 2019). Thereby, we obtained a comprehensive understanding of the patterns in the meetings by integrating *what* was said with *how* it was said (Dicks, 2019).

Verbal Behaviours for Conflicts. Firstly, all video recordings of the retrospective meetings were coded using a verbal behaviour codebook that consists of multiple mutually exclusive verbal behaviour categories (see, Hoogeboom et al., 2021). To avoid possible observer bias in coding, two researchers trained in the use of the codebook and in the *Observer* software, minutely coded each meeting independently. This intense process of deductive coding entailed assigning to each team member in the meeting a verbal behaviour from the codebook. This process led to two event logs which were then compared, resulting in an overall excellent intercoder reliability ($\kappa=0.78$) (McHugh, 2012). Upon discussion to create a final event log, potential disagreements were further solved, resulting in one final event log with a 100% agreement.

Interpretation of Moments of Conflict. Secondly, since not all conflict behaviours may actually result in moments of conflict (i.e., they may not be *perceived* as conflict) (Hsieh & Shannon, 2005), we reviewed the video recordings of the retrospectives and their corresponding transcripts to identify situations of conflict, focusing on the identified triggering conflict behaviours. All video observations started one minute prior to and ended one minute after the potential conflict situation to have a better overview of the conflict context. As for the coding of the verbal behaviours, two independent researchers interpreted these moments of conflict following Paletz and colleagues' (2011) definitions. Even though some initial disagreements made the intercoder reliability low ($\kappa=0.6$) (McHugh, 2012), they were then discussed and partially solved.

3.5.2 Frequency and Comparative Analyses

After all moments of conflict were marked, a frequency analysis was performed to determine the number of conflicts in each sub-category. This was then used to identify differences between both settings (i.e., virtual and non-virtual) and effective and ineffective meetings. Upon checking due assumptions, inferential statistics in the form of a two-sample *t*-test were performed to compare the means and differences of the four categories (Rasch et al., 2009).

3.5.3 Episode Analysis

Lastly, episode analysis on the transcripts of the selected video observations was conducted on a selection of conflict situations to gain deeper insights into conflict dynamics between effective and ineffective virtual and in-person teams. An episode is defined as “a significant moment in the team’s ongoing activity [...] as occasions of heavy engagement, salient interaction dynamics and strategically important decisions” (Jarrett & Liu, 2016, p. 370).

4. Results

4.1 Qualitative Interpretation of Moments of Conflict

Through inductive multimodal analysis, the actual moments of conflict were identified based on the predefined trigger behaviours. We observed 451 potential triggering behaviours throughout all teams’ retrospective meetings (see Table 3). After reviewing all possible situations of conflict, 38 triggering behaviours were classified as actual moments of conflict (see Table 4a, b, c).

Table 3. Observed trigger behaviours in virtual and in-person teams

Team	Defending one’s own position		Giving negative feedback		Disagreeing		Governing/Correcting		Total behaviours
	N	%	N	%	N	%	N	%	N
In-person	108	58.1%	30	16.1%	37	19.9%	11	5.9%	186
Virtual	47	17.7%	96	36.2%	87	32.8%	35	13.2%	265
Total	155	34.4%	126	27.9%	124	27.5%	46	10.2%	451

Note: N= absolute frequency; %: relative frequency.

In-person teams showed a higher prevalence of *Defending one’s own position* (58.1%), while virtual teams had a lower percentage (17.7%). Interestingly, this was also the only behaviour that was also associated with the very few moments of relationship conflict, both in virtual and in-person settings (see Table 4a). Virtual teams, on the contrary, exhibited higher percentages for *Giving negative feedback* (36.2%) and *Disagreeing* (32.8%) compared to in-person teams. *Governing/Correcting* was also more prominent in virtual teams (13.2%) than in in-person teams (5.9%). Overall, the total frequencies indicate that virtual teams had higher occurrences in three out of the four observed trigger behaviours.

4.2 Types of Conflict

As shown in Tables 4a-c, overall, task conflicts were more prevalent in all meetings than relationship conflicts, with task conflicts accounting for 84.2% of all conflict situations, while relationship conflicts only occurred in 15.8% of all conflict situations. However, whilst both effective and ineffective meetings experienced the same overall number of task conflicts (total of 16 each), relationship conflicts were only present in ineffective meetings, both virtual and in-person (3 each). Similarly, when comparing in-person and virtual teams, both teams experienced the exact same number of conflicts (total of 16 each), distributed equally among both types of teams. Lastly, when comparing the total number of conflicts, it is noteworthy that effective teams experienced fewer conflicts than ineffective teams (respectively 16 and 22).

Table 4a. Number and type of conflicts per quadrant

Team	Task Conflict		Relationship Conflict		Total	
	N	%	N	%	N	%
Effective in-person	10	100.0%	0	0.0%	10	100%
Ineffective in-person	6	66.7%	3	33.3%	9	100%
Effective virtual	6	100.0%	0	0.0%	6	100%
Ineffective virtual	10	76.9%	3	23.1%	13	100%
Total	32	84.2%	6	15.8%	38	100%

Note: N= absolute frequency; %: relative frequency.

Table 4b. Number and type of conflicts in effective and ineffective meetings

Meeting	Task Conflict		Relationship Conflict		Total	
	N	%	N	%	N	%
Effective meetings	16	100.0%	0	0.0%	16	100%
Ineffective meetings	16	72.7%	6	27.3%	22	100%
Total	32	84.2%	6	15.8%	38	100%

Note: N= absolute frequency; %: relative frequency.

Table 4c. Number and type of conflicts in in-person and virtual meetings

Meeting	Task Conflict		Relationship Conflict		Total	
	N	%	N	%	N	%
In-person meetings	16	84.2%	3	15.8%	19	100%
Virtual meetings	16	84.2%	3	15.8%	19	100%
Total	32	84.2%	6	15.8%	38	100%

Note: N= absolute frequency; %: relative frequency.

4.3 Resolution of Conflict

Furthermore, upon observing the videos, given the 1-minute buffering time we considered prior to and after each moment of conflict, we also noted that there was a difference in *how* the moments of conflict were concluded. Therefore, we decided to code conflicts in terms of whether they were *Resolved* –for conflicts in which a mutual agreement is reached and is verbally expressed by all participants–; *Resolved with no clear conclusion* –for conflicts that are resolved but no clear agreement is verbally expressed by the parties involved–; and *Unresolved* –for conflicts in which no mutual agreement is verbally reached and team members change the subject or decide to postpone the discussion to a later moment in time.

In light of this, the majority of conflicts were resolved (see Tables 5a-c). However, in virtual teams, a larger proportion of all conflicts remained unresolved (42.1% > 10.5%), whereas in in-person teams resolving conflicts with no clear conclusion was more common (31.6% > 15.8%). A similar pattern emerged in effective and ineffective meetings, with teams with effective meetings more frequently resolving conflicts with no clear conclusion (31.3% > 18.2%), while in ineffective meetings more conflicts remained unresolved (31.8% > 18.8%). Moreover, even though all conflicts were of micro-duration, the absolute length of the conflicts differed. Ineffective in-person teams experienced the longest conflicts, lasting an average of 3.04 minutes, whereas the average conflict in effective virtual teams only lasted for 1.18 minutes. These longer conflicts were also associated with a higher number of trigger behaviours, with ineffective in-person teams exhibiting an average of 4.25 trigger behaviours per conflict, while effective virtual teams, on the other hand, had an average of 1.4 trigger behaviours per conflict.

Table 5a. Status of conflict resolution per quadrant

Team	Resolved		Resolved with no clear conclusion		Unresolved		Total	
	N	%	N	%	N	%	N	%
Effective in-person	6	60.0%	4	40.0%	0	0.0%	10	100%
Ineffective in-person	5	55.6%	2	22.2%	2	22.2%	9	100%
Effective virtual	2	33.3%	1	16.7%	3	50.0%	6	100%
Ineffective virtual	6	46.2%	2	15.4%	5	38.5%	13	100%
Total	19	50.0%	9	23.7%	10	26.3%	38	100%

Note: N= absolute frequency; %: relative frequency.

Table 5b. Status of conflict resolution in effective and ineffective meetings

Team	Resolved		Resolved with no clear conclusion		Unresolved		Total	
	N	%	N	%	N	%	N	%
Effective meetings	8	50.0%	5	31.3%	3	18.8%	16	100.0%
Ineffective meetings	11	50.0%	4	18.2%	7	31.8%	22	100.0%
Total	19	50.0%	9	23.7%	10	26.3%	38	100.0%

Note: N= absolute frequency; %: relative frequency.

Table 5c. Status of conflict resolution in in-person and virtual meetings

Team	Resolved		Resolved with no clear conclusion		Unresolved		Total	
	N	%	N	%	N	%	N	%
In-person meetings	11	57.9%	6	31.6%	2	10.5%	19	100.0%
Virtual meetings	8	42.1%	3	15.8%	8	42.1%	19	100.0%
Total	19	50.0%	9	23.7%	10	26.3%	38	100.0%

Note: N= absolute frequency; %: relative frequency.

4.3 Exploratory Quantitative Statistics

When comparing the face-to-face and virtual teams, the *t*-test indicated no differences ($p = 1$), which is consistent with the observation that both team types have an equal number of conflicts. In both effective and ineffective meetings, there was an observed difference in the total number of conflicts (respectively 16 and 22), however, according to the performed *t*-test, this was not significant ($p = 0.288$).

4.4 Conflict Episodes

To highlight the differences between effective and ineffective in-person and virtual teams, two conflict episodes were selected and analysed.

4.4.1 Conflict Team D

The first episode involves an eight-minute-long conflict in ineffective, in-person Team D. This conflict stood out because of its prolonged duration, its reoccurrence throughout the meeting, and its highly emotional nature (e.g., in a few moments, team members raised their tone of voice). The conflict initially revolves around a specific task and the communication issues surrounding it but eventually transforms into a relationship conflict (see Appendix A).

The conflict primarily focuses on two participants, Team Member 1 (TM1, the product owner) and Team Member 5 (TM5). TM1 expresses the need for clearer communication by *Giving negative feedback* while referring to past problems that occurred due to insufficient communication. TM1 and TM5 then start a discussion about whether TM5 had spoken with another person. This part (see Excerpt 1) is focused on past issues and fails to contribute to finding a solution. The conflict then shifts back to team communication and dealing with impediments before focusing on the attendance of certain team members at previous stand-up meetings. The conflict escalates with the tone of voice becoming increasingly loud and negative, shifting the focus from task-related to personal-related matters (see Excerpt 2). Eventually, TM7 intervenes and tries to steer the discussion towards a solution. Ultimately the conflict is resolved as a team member decides to postpone the discussion to another meeting. This conflict sheds light on how ineffective teams often tend to dwell on the past instead of focusing on the present and on a solution. Furthermore, 21 trigger behaviours were observed during this conflict, of which nine were displayed by the product owner, who continuously reinforced the conflict. Out of these 21 trigger behaviours, 71.4% of the time, the behaviour of *Defending one's own position* was observed, which can signal a relationship conflict (Hoozeboom et al., 2021), which was especially prominent in the later stages of the conflict.

4.4.2 Conflict Team I

The second episode focuses on a task conflict within effective virtual Team I (see Appendix B). The conflict mostly revolves around TM1 (the product owner), TM3, and TM7 as they discuss which meeting should be used for team updates. The conflict in the effective virtual meeting of Team I only consists of a few instances of a single trigger behaviour, namely *Disagreeing*, all expressed in a friendly and almost passive manner. Although the product owner still plays a substantial role in the conflict, conflicts here do not escalate. The product owner in Team I summarised the different opinions of other team members, guided the team towards a solution, and demonstrated higher levels of positive task- and relations-oriented leadership behaviours by providing positive feedback and enabling collaboration. Notably, the conflict ends with a clear expressed conclusion by all team members. The product owner, TM1, ensured that all team members could voice their opinions, partially overcoming the restrictions of the online environment. This conflict is a good representation of the typical development of conflicts in effective teams in contrast to ineffective teams by showcasing how the team members focus on the future rather than the past and express their opinions in a professional and less emotional manner. Lastly, it demonstrates how conflict resolutions can typically work for virtual teams.

5. Discussion

5.1 Theoretical Implications

The goal of this paper was to contribute to the literature on conflict management by offering fresh insights into how conflict unfolds in Agile teams through a pioneering triangulation of video observations, transcripts, and survey data. Indeed, by answering recent calls to implement more objective ways to assess conflict (see Zhao et al., 2019), we extended our knowledge of conflict dynamics by accurately highlighting the verbal behavioural differences between virtual and in-person (in)effective team meetings. In so doing, our meticulous analyses were able to bring forward novel aspects vis-à-vis *observed* conflict that could

significantly advance research on how to better manage conflict, and even prevent it, in both virtual and in-person settings.

Firstly, we showed how conflicts can differ between virtual and in-person meetings. Our findings indicate that whilst the number of potential conflict behaviours was higher in virtual teams, the *actual* situations of conflict were the same between virtual and in-person meetings. Hence, the virtual setting did not entail a more frequent number of conflicts as previous research pointed out (Kahlow et al., 2020; Ozkan et al., 2022). This finding might be explained by the fact that team members, perhaps more aware or conscious of the higher chances of misunderstandings in virtual settings (Ivetic, 2017), were more cautious in the way they interacted with one another, i.e., in the way they delivered negative feedback or disagreements, to minimise situations conflict (e.g., by using a non-threatening tone of voice or avoiding interrupting each other). These results provide behavioural evidence that in virtual teams, although more subject to miscommunication (Kahlow et al., 2020; Ozkan et al., 2022) likely due to a lack of non-verbal cues (Ivetic, 2017) and the difficulty of carefully listening to each other (Fauville et al., 2023), team members seem to be able to keep potential conflict under control by being mindful of the restrictions imposed by the online setting.

Secondly, our findings shed more nuanced insights into how the mere presence of a conflict is not enough to determine the effectiveness of team meetings. Acknowledging that conflict has always been considered an intrinsic part of establishing team dynamics (Gren & Lenberg, 2018) and a fundamental step to team effectiveness (Tuckman, 1965), in contrast with previous studies (e.g., Karn & Cowling, 2008), we pointed out that the *type* of conflict (i.e., task-oriented vs relationship-oriented) does perhaps play a more crucial role in influencing team meeting effectiveness. More specifically, we offered observation-based evidence that relationship conflicts, albeit far less frequent than task conflicts, were substantially more deleterious to team outcomes than task conflicts, since all the teams, regardless of their in-person vs virtual setting, perceived the meeting as less effective. In this regard, our findings also showed that Yukl's (2012) verbal leadership behaviours of *Giving negative feedback*, *Governing/Correcting*, and *Disagreeing* on (task-related) matters were often observed to trigger task conflicts. On the contrary, the behaviour of *Defending one's own position* was the only one that was related to relationship conflicts. Even though, on a few occasions, the situation of conflict started, and was triggered by, another verbal behaviour (e.g., *Disagreeing*), this initial task conflict turned into a relationship conflict when *Defending one's own position* became the more dominant behaviour. This aligns with previous literature on the deleterious effects of negative relations-oriented leadership behaviour (Hoogeboom et al., 2021). Therefore, our work, on the one hand, corroborates previous studies (De Dreu & Weingart, 2003; Jehn, 1995, 1997; Kozlowski & Ilgen, 2006; O'Neill et al., 2013; Rispens et al., 2011) by reporting relationship conflict as being counterproductive to the team; on the other hand, it extends current knowledge by adding verbal behavioural details on how task conflict can spill over into relationship conflict, as our episode analysis results showed twice exclusively in ineffective teams. Hence, these findings seem to indicate that the conflict type and how teams manage and leverage the positive effects of conflicts might be more influential indicators of team meeting effectiveness rather than solely the actual number of conflicts.

Thirdly, by triangulating video observations, transcripts, and survey data, our results enriched current knowledge of the differences in conflict resolution strategies previously identified between effective and ineffective teams (Behfar et al., 2008; Gren, 2017). Our research

showed that ineffective teams tended to resolve their conflicts less often compared to effective teams. Indeed, whilst low-performing teams seemed to dwell on the past and what went wrong, sometimes even blaming others for it, high-performing teams prioritised conflict resolution and employed future-oriented strategies to prevent similar issues from arising again, and therefore only shortly introduce the problem and its history and then quickly move on to their proposed solution. Furthermore, although our results reported that virtual teams had a lower percentage of conflict resolution than face-to-face teams, when resolving conflicts, they demonstrated a higher tendency to express explicit agreement, while in in-person teams, no clear conflict conclusion was commonly provided. This might be attributed to the effort of virtual teams to overcome the identified communication barriers in the online environment (Ivetic, 2017; Ozkan et al., 2022), by asking for individual agreement from each participant and ensuring everyone could express their perspective. On the contrary, due to the absence of communication barriers in the face-to-face setting, teams seemed to assume that if a team member disagreed, they would voice their opinion immediately. This possibly explains why virtual teams more often expressed a clear conclusion in conflict resolution, which might add a further explanation to the higher productivity of online meetings reported in existing studies (Ozkan et al., 2022; Turesky et al., 2020).

Lastly, prior research suggested that verbal task- and relationship-oriented leadership behaviours could play an important role in minimising the number of conflicts and their potential negative impact on the team and individual job performance (Ballesteros-Rodríguez et al., 2019; Rzepka & Bojar, 2020). While product owners, based on the shared leadership principle in Agile teams, cannot be explicitly considered as leaders, they still exhibit verbal leadership behaviours and have their own leadership styles (Magpili & Pazos, 2018). Notably, across all teams, the product owner was consistently involved in the highest number of conflicts and often exhibited more verbal behaviours compared to other team members, suggesting that the product owner has an impact on conflict occurrence (Ballesteros-Rodríguez et al., 2019). Still, the product owner often did not display the most trigger behaviours in situations of conflict, possibly implying that their role may be more of a moderator role, playing a prominent part in the development of conflicts.

In conclusion, the findings suggested that while the different verbal behaviours have a role in the occurrence and progression of conflicts, the presence of conflicts alone does not necessarily negatively impact team meeting effectiveness and job performance. Instead, it is mostly its nature (i.e., task- or relationship-oriented), its resolution (i.e., clearly concluded or not), and the role of the people involved in the conflicts (i.e., product owner or team members) that seem to influence the most the potential positive or negative impact on the team. Hence, conflicts should not automatically be viewed as indicators of ineffective team meetings, as they are a natural part of establishing team relations (Gren & Lenberg, 2018; Jovanovic et al., 2016). Yet, how the team handles conflicts is crucial in determining their impact, especially considering the unique challenges and opportunities of the face-to-face and virtual settings.

5.2 Practical Implications

We also derive lessons learned from this innovative research. Agile and HR managers, as well as training personnel, could benefit from informing and training their employees on how to perceive, approach, and solve conflicts. By teaching team members how to identify and

effectively address conflicts with a strong focus on conflict resolution, organisations and their leaders can leverage the potential benefits of conflicts, while minimising their negative impacts on team outcomes. Furthermore, since the root cause of virtual and in-person conflicts differed, Agile and HR managers could tailor conflict management approaches specifically to the virtual setting, by providing training and workshops, emphasising effective communication of team members' own opinions as well as truly listening to the opinions of others, regardless of communication style. These workshops should also emphasise the potential role of the product owner in conflict dynamics and how various verbal behaviours can either enhance or minimise the conflict situation. Hence, by proactively addressing conflicts through conflict resolution and communication training, and fostering a safe and creative workplace, both in the virtual and face-to-face setting, Agile organisations can improve the management of conflicts and potentially enhance collaboration, effectiveness and performance within their teams.

6. Limitations & Future Research

As with all research, this research is not without limitations. First of all, data was collected exclusively from a single financial service organisation in the Netherlands, which may limit the generalisability of our findings due to possible biases related to firm-specific factors and dynamics. Therefore, future research could include several teams from multiple companies in different sectors and countries to mitigate such biases. Furthermore, because of the COVID-19 pandemic, data collection became increasingly difficult, resulting in a relatively small sample at the individual level but especially at the team level. Hence, caution should be exercised when interpreting the results of the quantitative analysis. Future studies could conduct similar research with a larger sample size. Additionally, since the teams involved in this study participated on a voluntary basis, only relatively highly effective teams might have participated, ultimately skewing the results of some variables. Thus, future research should also include low-performing teams in their data set to ensure a more representative sample. Moreover, whilst this research focused specifically on conflicts in retrospective meetings, future research could look into additional meetings within the sprint to investigate possible variations in conflicts across these meetings. Lastly, even though cross-validation of moments of conflict was conducted between two independent coders, certain discrepancies could not be solved. Therefore, future research could include a third coder to increase the reliability of the interpretations. As one last suggestion for future research, another area worth exploring is the role of the product owner in conflict situations.

7. Conclusions

This exploratory paper is a starting point for research on conflict management that aims to implement innovative ways, such as video observations, to study team dynamics. Based on the triangulation of qualitative interpretation of *observed* moments of conflict, transcripts, and quantitative statistics, we investigated the differences in verbal behaviours associated with task and relationship conflict between in-person and virtual settings (in)effective Agile teams. Our results show that effective and ineffective, and online and in-person teams handle their conflicts differently, generating different impacts on perceived meeting effectiveness. Indeed, regardless of their virtual or in-person nature, task conflicts were more common than relationship conflicts, and all relationship conflicts were exclusively experienced in ineffective teams. Furthermore, virtual and in-person teams experienced the same number and

type of conflicts, but virtual teams were less likely to resolve their conflicts in comparison to in-person teams. Yet, when resolved, virtual teams more often expressed a clear conclusion. Hence, organisations and their leaders should adapt their conflict management strategies to these different settings, emphasising communication and encouraging teams to focus on finding solutions in order to leverage the benefits of conflicts on the team's performance.

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Appendix A

Episode Conflict D-2

The following two excerpts from the transcript of ineffective in-person Team D illustrate the qualitative description of the conflict as described in section 4.4 of the results. Excerpt 1 highlights the team's tendency to focus on the past instead of on a solution, while Excerpt 2 shows how the task conflict escalated into a relationship conflict. It should be noted that the tone of voice and the accompanying non-verbal cues became increasingly negative throughout this conflict.

Excerpt 1

F5: I think we start <should be defined>, if we don't know what to do <>.

F1: No, but I ask you to go to [name] to get an understanding of what needed to be done. So, you could have refined it.

F5: We need to do that now.

F1: But I asked-

F5: -to do that.

F1: -to have that done before this sprint.

F5: So, you create this story, you should <get it done>.

F1: No, not always, because you agreed that you would go to [name] to see what needed to be done.

F5: <>

F1: But that was already done before I took it in the sprint.

F5: <> Because I don't really have the <>

F1: But that is a different problem, right?

F5: No, this is like <> this sprint <>. So, I tried to help him for <>. So now I have that, so which system <> I don't know, I don't have the <>-

F1: Ok, I get that, but then this approach and this story, eh, that it should've-. Actually, what we should have done there is, when you noticed, when you said: "Actually I don't have access to the system", then basically we should've created a different story. Put this one on this backlog. Say like, what do we need to do to get access to that system so that you can actually look at it. Then you could've created another story for like, let's – let's define it, and we will see what the issue is, and so that's done.

F5: But what-

F1: That's not always what I mean.

Excerpt 2

F5: I talked about this in the stand-up, but you missed it. That was stand-up <>, and you were not there, and we did another one when I was not there, and when I came back into <> the stand-up, the second stand-up. But would be the third because of the <>.

F1: Pff ok.

F5: So, if you don't know about this <> was blocked. You are not in this <>

F1: Ok, so now we are going to also be very nitty gritty.

F5: No.

F1: If certain people are not in the stand-up, but I don't – I don't...

F5: <>

F1: ...know what is going on, and why you are being so frustrated to <>

F5: <> ...Just work with him, I just did this.

F1: I know.

Furthermore, Table 6 presents the frequency of the trigger behaviours during conflict D-2 as highlighted in the episode analysis.

Table 6. Observed trigger behaviours in conflict D-2

Follower	Defending one's own position		Giving negative feedback		Disagreeing		Governing/Correcting		Total
	N	%	N	%	N	%	N	%	
F1	7	77.8%	1	11.1%	0	0.0%	1	11.1%	9
F5	8	80.0%	0	0.0%	2	20.0%	0	0.0%	2
F7	0	0.0%	0	0.0%	0	0.0%	2	100.0%	10
Total	15	71.4%	1	4.8%	2	9.5%	3	14.3%	21

Appendix B

Episode Conflict I-4

The transcript of the retrospective meeting of effective virtual Team I during conflict situation I-4 is shown in excerpt 1 below.

Excerpt 1

F1: Yeah, so with the idea than to plan maybe, eh, fifteen minutes longer standup in one day of the week? To do that?

F3: Yeah that's-

F7: Or – yeah, that's also fine, or we can make use of the demo time, eh, instead of really giving the demo or apart – maybe with [name] and [name], I don't mind, but if – if they leave after that before retro. We take, eh, eh, a small gap of fifteen minutes, twenty minutes what's happening, where we are, what's the direction, and this is what we are doing. Not a story by story, but as a whole, where we are and where we are heading to, and of course, the stories are all part of it.

F3: Yeah.

F1: Yeah, that is—

F3: But if we, yeah, sorry. Go ahead.

F1: I wanted to say, um, in the scrum methodology typically that is also addressed in the sprint planning. And but – yeah, also in the sprint planning we are separated.

F3: Hmm.

F1: So, then, indeed, we should reserve fifteen minutes per sprint to indeed provide updates to each other. Also, with – about the direction on the various areas. That's a good idea, I like it.

F3: Yeah, but, eh, maybe not towards the end of the sprint? So [Follower 7] not maybe, as part of the demo but maybe in the middle or beginning so that the ideas can also be shared, and it can be done differently than we do it.

F7: Yeah. I don't mind if it is weekly, once, or per sprint, but this is something, yeah, that will help everyone.

F3: Soon after the planning, I mean maybe, um, one day after the planning or?

F1: Yeah, I would – I would do it at the start of the planning.

F3: Okay.

F1: So maybe, because then we are going to plan for the next sprint, it's also the most logical moment to give a heads up to everybody, okay, this is where we stand, and this is what is ahead of us. And then we can plan separate, eh, the stories for the – the various subjects. Yeah in smaller groups, but then at least we have a joined view on all the subjects and where we stand.

F3: Hmm.

F1: That would be my proposal, er, happy to also listen from [Follower 8], [Follower 6], [Follower 2], what's your opinion, [Follower 5]?

F5: No, I agree. I like – I like it, do it at the beginning, yep.

F6: Yeah, I agree too.

F8: Me too.