

Collaborating as a growing hybrid team

*An exploratory case study of an expanding R&D team
navigating a hybrid work setting*

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Abstract

Hybrid work settings and hybrid teams are increasingly common and already a reality in many modern professional environments. The adoption of constant, professional hybrid teams has outpaced the knowledge on such teams which are more complex than purely virtual teams, more long-lived than project teams, and more professional than student groups. In addition, team member growth in hybrid teams is understudied. Taking departure in a horizontal psychological contract perspective, this project aimed to identify the challenges an expanding hybrid team faces and to research how such a team can collaborate effectively. 12 core members of an expanding R&D team operating in a hybrid setting were interviewed. Mapping the challenges faced by the growing hybrid team in collaborating effectively, a broad range of crucial elements are recognized and discussed. Essentially, team member growth and hybrid collaboration complicate building a strong psychological team contract. The study finds a perceived difficulty in building relations through virtual communication. It indicates the superiority of face-to-face interactions prevails when aiming to develop the psychological contract. This is found to spill over into making knowledge transfer and the integration of new members more challenging in a hybrid team. To increase team size successfully the integration of new team members must be a priority. Further, all team members should understand the bigger picture, it must be focused on a productive meeting culture, and appropriate tools for internal communication and knowledge sharing must be used. Additionally, an office environment made for hybrid collaboration has to be created. The results are important findings constituting recommendations for practitioners. The study adds to the literature on modern hybrid teams, to research on team member growth, and to the body of research addressing the horizontal psychological contract.

Keywords: hybrid teams, geographical dispersion, team expansion, collaboration, horizontal psychological contract

Preface

This master thesis is written as part of the Master of Science in Economics and Business Administration, major in Strategy and Management. The project was conducted as part of the RaCE research program.

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Bjarne Christoph Astor

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1. Introduction

1.1 Background

It is not a given nor an automatism that teamwork is effective. According to Allen and Hecht (2004) who have theorized on the ‘Romance on Teams’, this is nevertheless a common belief among the general public, leaders, and employees alike. Yet, it must be acknowledged that teamwork can be all from frustrating and ineffective with poor results, to fulfilling, effective, and highly successful. As the renowned professor Richard Hackman put it: *“I have no question that a team can generate magic. But don’t count on it”* (Coutu, 2009).

The continued rise of teamwork is a reality in today’s workplaces and teams are ever more common as the way businesses organize work. There has been a rise of geographically distributed, virtually collaborating teams alongside the emergence of technological possibilities over the years. Recently, hybrid work settings have seen a spike in their application in response to the Covid-19 pandemic, which has caught researchers’ interest (e.g. Ferguson et al., 2022). Now after the pandemic, this form of teamwork appears accepted as the ‘new normal’. As an increasingly common setting in the world of work, it is worth further investigation.

Two decades ago it was argued for geographical dispersion that *“the use of such teams has outpaced our understanding [...]”* (Cramton, 2001, p. 346). Today, it can be argued that academia’s understanding of modern hybrid teams is lacking behind their implementation in the workplace. Generally, it is noted that because of newly emerging tools for virtual collaboration research must regularly re-evaluate the possibilities and challenges faced by such teams (Marion & Fixson, 2021). There is a gap in the research on hybrid teams as still, the majority of the literature addresses teams that either operate in a traditional face-to-face setting, or are virtual (see Kahlow, Klecka, & Ruppel, 2020). This does not pay justice to an ever-increasing number of teams navigating a hybrid environment.

In particular, there is little research on hybrid teams in certain environments. Firstly, we know little about the growth in team members, especially in hybrid teams. The recent expansion of this research’s case team is therefore a unique opportunity to learn more about the implications of team member growth in a hybrid team. Secondly, Purvanova and Kenda (2022) point out that the research on virtual teams is biased towards non-organizational *“short-lived student teams”* and identify a gap in the literature on longer-lasting professional teams in organizational

settings. This thesis' case study researches an organizational, enduring work team. Thirdly, there is a gap in the literature on virtually collaborating teams of engineers whose work shall ultimately result in physical products (Ferguson et al., 2022), as is true for the case team. Finally, the majority of prior research in these fields has a management focus. In contrast, this thesis approaches the different challenges such a team faces primarily from the perspective of the team and its members.

1.2 Purpose

The 'effective teams' theme of the RaCE research program at NHH is devoted to inquiring about what makes teams thrive. This thesis shall add to the literature on hybrid teams and help unpack the challenges hybrid teams face in working collaboratively. With a point of departure in the literature gaps identified above, the purpose of this study is to contribute insights into the collaboration of growing hybrid teams in professional settings. Therefore, the overarching research question for this study is: *What are the main challenges of expanding hybrid teams and how can they collaborate effectively?*

The goal is to intertwine research on hybrid teams, the growth of teams, teams in complex environments, and the horizontal psychological contract. In particular, investigating a hybrid team in combination with team member growth and organizational complexity is new to the literature. The team's psychological contract is a fruitful perspective to include because it fathoms how the team members interact with each other and how they relate to each other. The relationships of the team members are crucial to understand with the goal of building an effective and successful hybrid team. Based on the research question of this thesis, I have chosen to qualitatively investigate a particular team and consider the psychological contract as a starting point in designing the study.

1.3 Structure

The thesis is divided into six chapters, including the introduction that described the background and purpose of the study. In the next chapter, I present theory deemed most relevant with regard to the research question. Then, in the third section, I explain the methodological choices for this project. Thereafter, in chapter 4 the findings of the gathered and analyzed data are presented. In the following the findings are discussed, including implications, limitations, and suggestions for future research. Finally, chapter 6 concludes the thesis. References and Appendices follow subsequently as sections 7 and 8.

2. Theory

In this chapter, I give an account of theoretical considerations and academic literature useful to this thesis. A number of topics are important to understand the case team. I start by defining teams, different types of teams, and team effectiveness. This is followed by presenting existing knowledge and challenges of hybrid teams. Here, the focus lies on communication, knowledge sharing, personal relations, trust, and effectiveness. Then, I introduce organizational complexity's influence on teams and present relevant literature on the growth of teams. Finally, horizontal psychological contract theory is introduced as the point of departure for the qualitative interviews of the thesis.

2.1 Team definition

A team can be defined in different ways. Building on the previous work of Alderfer (1977) and Hackman (1987), Cohen and Bailey (1997) define a team as a group of people that 1) work on tasks interdependently, 2) share responsibility for their outcomes, 3) self-identify as a team, and 4) manage their relationships across organizational boundaries. Elaborating on this with a focus on work teams, Kozlowski and Bell (2003) provide an advanced definition useful for this thesis, holding that teams are: *“collectives who exist to perform organizationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity”* (p. 334). L. L. Thompson (2015), specifying the dimensions of interdependence, defines a team as a group of individuals depending on each other with regard to information, resources, and abilities and aim at combining their efforts to reach a common goal.

2.2 Team type definitions

2.2.1 Geographically dispersed teams

The definition of geographically dispersed (or: distributed) teams focuses on the aspect of the team members not being co-located. Hinds and Bailey (2003) define geographically distributed teams by the characteristic that *“members reside in different cities, countries, or continents.”* This concept is closely related to that of virtual teams, considering how teams collaborate that are, among other things, geographically distributed.

2.2.2 Virtual teams

The attribute ‘virtual’ has been used to describe different kinds of teams and is not unambiguous. Emphasis was for example put on aspects such as the dependence on technology for communication, the geographical dispersion of team members, national diversity, or dynamic structures (Gibson & Gibbs, 2006). Similarly, virtual teams have been classified as “*a team with distributed expertise and that spans across boundaries of time, geography, nationality and culture*” (Prasad & Akhilesh, 2002, p. 103), characterized by little face-to-face interaction and high levels of digital communication. While the technology available for e.g. electronically-mediated collaboration has seen rapid advancement, the core indicators of a virtual team remain the same. According to L. L. Thompson (2015), a virtual team is “*A group of people working together across time and space using electronic information technology.*” The decisive characteristic is that the team collaborates and meets without being present physically (L. L. Thompson, 2015).

2.2.3 Hybrid teams

For some teams in today’s world of work (as well as other settings, i.e. student teams) the practiced realities of team collaboration settings are more complicated than described above. Many teams are composed of some co-located members while others are geographically distributed. Also, team members are often given freedom of choice whether and to which extent to work from home. This can lead to a unique mix of face-to-face and virtual teamwork.

Therefore, categorizing teams as being either virtual / geographically dispersed or face-to-face is insufficient. Hence, teams have varying degrees of virtuality, and hybrid teams must be understood as “*teams occupying the middle ranges of the virtuality spectrum*” (Purvanova & Kenda, 2022, p. 1112). Accordingly, these teams mix and combine aspects of virtual and face-to-face teams, they are somewhat both. This can also serve as an explanation for the use of the term ‘hybrid’ to refer to the phenomena. They are also known to the literature as ‘partially distributed virtual teams’, which have been described as “*teams with at least one co-located subgroup and at least two subgroups that are geographically dispersed but that collaborate virtually*” (Eubanks, Palanski, Olabisi, Joinson, & Dove, 2016, p. 556).

As mentioned, the majority of the literature addresses teams that either operate in a traditional face-to-face setting or are virtual (Kahlow et al., 2020). Therefore, the following sections will also include relevant insights on geographically dispersed teams and virtual teams as this too

informs our understanding of hybrid teams. However, additionally, theory suggests that the hybrid team setup does pose some new challenges tied to its characteristics which differ from teams that are exclusively physical or virtual: *“both face-to-face and pure virtual teams differ in nonlinear ways from hybrid teams that meet occasionally”* (Fiol & O'Connor, 2005, p. 20).

2.3 Team effectiveness & processes definition

Research has for decades been interested in the effectiveness of teams. Earlier, the team's output, to be measured quantitatively, was the main concern of the literature. Hackman and Wageman (2005) have criticized using solely performance output measures when conceptualizing the effectiveness of teams. They propose a more holistic framework including three dimensions. Besides the productive output of the team (1), they include the social processes in the team (2), and the group experience contribution to the individual's development (3). The second dimension entails *“enhance[ing] members' capability of working together interdependently in the future”*, while the third dimension focuses on the *“learning and personal well-being of individual team members”* in the light of the teamwork. In this comprehensive understanding, team processes play a central role for the effectiveness of teams (e.g. Mathieu, Maynard, Rapp, & Gilson, 2008). An original categorization was made into 'taskwork', i.e. the workings the individual must accomplish for the sake of the team, and 'teamwork', i.e. the interactions of the team members (McIntyre & Salas, 1995). Hence, team processes refer to *how* a team achieves its outcomes (Weingart, 1997; Martins, Gilson, & Maynard, 2004). The following theorizes on the 'how' and the challenges associated for hybrid teams.

2.4 Hybrid teams – Existing knowledge and challenges

Since hybrid teams are sharing important features with geographically distributed and virtual teams the literature on these is a natural point of departure. Research has produced mixed findings on the effects that geographical dispersion and virtualness have on teams. The virtuality of a team is adding to the complexity of the teamwork setting and needs to be navigated by team members. For example, the virtual condition is increasing the complexity of the mental model¹ of a team (Schmidtke & Cummings, 2017). According to Gibson and Gibbs (2006) *“Accessing, combining, and applying knowledge relevant for innovation may be*

¹ A team mental model refers to a team members' shared understanding of relevant knowledge (Klimoski & Mohammed, 1994).

inherently problematic in [virtual] teams” (p. 453). The following sub-sections present several team work elements that are identified as being especially relevant and potentially challenging to hybrid teams. Those are face-to-face interaction, communication, knowledge sharing, trust, conflict, and as a result, effectiveness.

2.4.1 Face-to-face interaction

Denton (2006) supposes that virtual teams experience almost all the challenges of physical teams and, in addition, face problems related to “*reduced face-to-face communication and lack of community among participants*” (p. 253). This finding is said true also with today’s advanced technology, and missing face-to-face interaction is still putting a hamper on for example knowledge sharing (Cecchi et al., 2022). However, the literature suggests that hybrid teams can use face-to-face meetings for establishing group norms, trust, and cohesion to improve virtual collaboration (Kahlow et al., 2020). Generally being more positive about virtual communication's potential to replace physical interaction, Karis, Wildman, and Mané (2016) agree that initial face-to-face meetings “*remain crucial for enhancing subsequent remote interactions*” (p. 1). Recently, Brucks and Levav (2022) showed that video conferencing is inferior to face-to-face communication with regard to idea generation, which is critical for R&D teams. Hence, research finds that the absence of face-to-face interaction is problematic and suggests positive impacts of at least occasional in-person meetings.

2.4.2 Communication

DeRosa, Hantula, Kock, and D'Arcy (2004) noted a paradox claiming that virtual teams, against predictions of communication theories, are often successful. In their meta-analysis, Marlow, Lacerenza, Paoletti, Burke, and Salas (2018) find significant relations between team communication and team performance. Schei, Sverdrup, Heiene, and Olsen (2019) find that the most important preconditions for successful digital communication are high levels of trust and good technical solutions, while the main drivers are a good structure of work processes, as well as establishing a preferable company culture. Followingly, effective virtual collaboration does not occur automatically. Interestingly, McLeod (2013) finds higher vigilance in the interactions of hybrid teams than in fully co-located and than in fully virtual teams. As a possible explanation, Eubanks et al. (2016) note that “*Distributed groups may exert extra effort in sharing information because of the perceived disadvantage that they have.*” These findings of a positive characteristic being strongest in a hybrid team as compared to co-located and virtual

teams provide support for the hypothesis of curvilinear effects of geographical dispersion on team performance (cf. Tzabbar & Vestal, 2015).

2.4.3 Knowledge sharing

Knowledge sharing is described as one of “*the most significant team behavior[s] determining the performance*” of teams (Choi & Cho, 2019; see also Alavi & Leidner, 2001). Posing that knowledge sharing is critically important for distributed R&D teams to succeed, Cecchi et al. (2022) find that “*special efforts were needed to keep interactions at a sufficient level to foster the generation and transfer of tacit knowledge*” (p. 41).

Beyond the process of sharing specific knowledge between team members, also the existence of a common reference frame, say shared understandings and mutual knowledge are central but can yet be challenging for hybrid teams. Pioneering work by Cramton (2001) pointed out distributed teams’ challenges when it comes to mutual knowledge. She highlighted the following issues: “*failure to communicate and retain contextual information, unevenly distributed information, difficulty communicating and understanding the salience of information, differences in speed of access to information, and difficulty interpreting the meaning of silence*” (Cramton, 2001, p. 346). Despite the advancements in technology and tools to collaborate digitally, it is not evident why these underlying difficulties should not still persist.

2.4.4 Trust

According to the meta-study of Balliet and van Lange (2013), “*trust is commonly defined as a belief (or expectation) about others’ benevolent motives during a social interaction*” (p. 1091). Trust is a well-investigated subject in the research on teams generally and also virtual teams specifically. The role of trust for teamwork has for several decades attracted a lot of research interest (see e.g. Costa, Fulmer, & Anderson, 2018). A team’s trust climate was shown to be a boundary condition of high-performing virtual teams (Brahm & Kunze, 2012). A lack of trust, conversely, is deemed a main barrier to effective knowledge sharing in distributed teams (Rosen, Furst, & Blackburn, 2007). Followingly, Ford, Piccolo, and Ford (2017) suggest that the most important element to building effective virtual teams is trust. At the same time, research suggests that establishing trust is more challenging for teams with a higher level of virtuality and hence worthy of special attention (Ford et al., 2017; Choi & Cho, 2019). Explanations of why it is more challenging relate to findings that the development of trust is impacted by the possibility for team members to observe each other (Mayer, Davis, & Schoorman, 1995). In hybrid teams, there are imbalances to the extent to which this is possible.

For virtual teams, recent research (Choi & Cho, 2019) found indications that a team's goal congruence might be more important to develop team trust than interpersonal characteristics. This finding is described as positive for such teams as goal congruence can be addressed and improved on the team level and irrespective of a team's potential geographical dispersion (Choi & Cho, 2019).

There is very limited knowledge of how the hybrid setting influences team trust. In comparing fully virtual and traditional teams, Kirkman, Rosen, Gibson, Tesluk, and Simon (2002) observed major differences in what led to team members developing mutual trust. They wrote: *"Unlike face-to-face teams, where trust develops based on social bonds formed by informal chats around the water cooler, impromptu meetings, or after-work gatherings, virtual team members establish trust based on predictable performance"* (Kirkman et al., 2002, p. 71). The implications of this for modern hybrid teams are not sufficiently fathomed.

2.4.5 Potential conflict

Early research by Hinds and Bailey (2003) hypothesized that dispersed teams would see higher levels of conflict compared to traditional teams, mainly caused by a lack of shared context and reduced homogeneity due to the distance as well as difficulties in coordination caused by the need for technology mediation. Distinctly crucial for hybrid teams, the co-location of part of the team and the geographical dispersion of the other team members is a potential source of conflicts (O'Leary & Mortensen, 2010). Especially, the emergence of sub-groups based on location is said to lead to lower team identification and larger coordination issues. Evaluating prior research, Eubanks et al. (2016), too, report that distributed teams tend to develop location-based subgroup identities and explain this by the higher interaction and information sharing happening locally. Additionally, there can be competition mentalities between location-determined subgroups (O'Leary & Mortensen, 2010), a problem they do not find in fully virtual/dispersed team settings. Hence, this is a particular risk for hybrid teams.

2.4.6 Effectiveness and Innovativeness

The effectiveness of virtual teams is significantly influenced by factors such as task interdependence, cooperative group norms, and team cohesion (cf. Mysirlaki & Paraskeva, 2019). A study by Gibson and Gibbs (2006) reported a negative impact of a team's distribution on its innovativeness. Tzabbar and Vestal (2015) on the other hand, analyzing results of R&D teams, have found a curvilinear effect of geographical dispersion on the novelty of innovations.

The latter is an important observation, because it weighs the positive aspects of dispersed teams, such as the larger talent pool for team members, against its downsides and challenges.

2.4.7 Summary of Challenges

The subsections of 2.5 above discussed various challenges of hybrid teams described by the literature. In summary, a lack of face-to-face interaction harms communication and can affect the perception as one team. Hybrid teams can try to mitigate this by occasional physical meetings. Good communication is a driver of effective team work. Having to communicate with high levels of digital communication needs facilitation. Some research indicates that hybrid teams (over)compensate for the perceived communication disadvantage. Knowledge sharing is consistently described as more challenging for non-co-located team members. Trust is found a central element of successful team collaboration. It is said to be even more important for hybrid teams as they rely on high degrees of digital communication. For such teams, goal congruence might be a decisive building block of trust. The co-location of some team members while others are dispersed bears several challenges and is a potential source of conflict that is unique to hybrid teams. Overall, it is ambiguous how hybrid teams compare to traditional and virtual teams when it comes to performance and innovativeness measures.

2.6 Organizational complexity's effect on teams

The organizational setting and environment in which a team operates is obviously a factor influencing the behavior of team members and the functioning/performance of the team. It is long established that “*organizational features external to the team can be extremely important determinants of effectiveness*” (Cohen & Bailey, 1997, p. 240, cf. Hackman, 1987). Generally, an “*organizational structure can have strong impacts on team functioning*” (Cohen & Bailey, 1997, p. 240). A team's relationships with major external stakeholders can significantly impact the functioning of a team (Ancona, 1990).

As different dimensions of complexity exert influence on a team in an organizational setting, to grasp organizational complexity, it is useful to categorize and structure. The complexity framework of Maylor and Turner (2017) distinguishes three dimensions ‘structural’, ‘socio-political’, and ‘emergent’ complexity.

Structural complexity “*increases with the number of people involved, financial scale, number of interdependencies within and without, variety of work being performed, pace, breadth of*

scope, number of specialist disciplines involved, number of locations and time-zones” (Maylor & Turner, 2017, p. 1030). Socio-political complexity includes, among others, aspects such as the divergence of involved people, missing shared understanding of the goals, and stakeholders’ conflicting priorities. Emergent complexity can for example relate to the novelty of the work, lacking maturity of the workings (technologically and commercially), and changes that are imposed on the team/project (Maylor & Turner, 2017). According to Cecchi et al. (2022), this framework is validated and established. This emphasizes that for R&D teams, complexity clearly goes beyond the technical challenges of the work at hand.

2.7 Team growth

Despite having been a topic of interest for researchers of different fields, the relationship between the size of teams and their performance is still equivocal (Cao et al., 2022). Mao, Mason, Suri, and Watts (2016) argue that for complex tasks, neither theory nor empirics constantly favor smaller or bigger groups. They describe a general trade-off between gains from collaboration and losses to individual effort. Their study confirms both these effects but finds nevertheless that in solving complex tasks larger groups perform better. In contrast, Cao et al. (2022) find that *“with high complexity, the higher solution diversity led to more disagreements which in turn hindered larger groups’ collaborative problem-solving ability”*.

As mentioned, little research has addressed the growth in team members, particularly in hybrid teams. Generally, investigating the coordination problems of larger groups, Weber (2006) showed that by starting small and subsequently adding members, efficient large groups can be created. Particularly assessing virtually collaborating teams, surprisingly, Watanuki and Moraes (2016) failed to find statistical support for the hypothesis that increased team size does harm communication processes and cohesiveness among team members.

Nevertheless, it appears unambiguous that bigger teams face specific challenges. Recent research finds that commitment, trust, and mutual awareness decrease with increased team size (Soboroff, Kelley, & Lovaglia, 2020). According to Mueller (2012) lower quality in relationships and hence less perceived support is an explanation for why individuals often perform worse in larger teams. In addition, it was demonstrated that with increasing group size, the effect of ‘leading by example’ goes down (Komai & Grossman, 2009).

2.8 Psychological Contract Theory

To study this project's case team, psychological contract theory guided the data gathering. With its roots in social exchange theory, psychological contract theory has first been introduced in the 1960s. Substantial contributions to the development of the theory are attributed to Rousseau (1989). Types of psychological contracts can be categorized as transactional, relational, and, possibly, ideological (Rousseau, 1989; J. A. Thompson & Bunderson, 2003). Historically, it has been primarily used to investigate and explain vertical relationships between employees and employer. However, even the original works do not rule out a horizontal application (Sverdrup, 2012).

The horizontal (or: team) psychological contract is a framework that can be used to better understand the dynamics, processes, and more broadly, the collaboration of teams (Sverdrup, 2012). The horizontal psychological contract (HPC) between team members or colleagues is an extension of the psychological contract (PC) between employee and employer. The majority of research on psychological contracts focuses on vertical, i.e. hierarchical relationships in the workplace, and has had a predominant focus on breaches and violations. However, the theory can be applied to horizontal relationships among colleagues, i.e. team members. The body of academic literature on this particular type of psychological contracts is still underdeveloped.

In the case of horizontal psychological contracts, it can be distinguished between task-oriented and relational-oriented types. While the task-orientation is concerned with work effort, work quality, and feedback, the relational-oriented HPC refers to social interaction, adaptation, etc. (Sverdrup, 2012). According to Sverdrup, 2014 (p. 125) the relational psychological contract that characterizes successful teams includes elements of the transactional one but goes further. Hence, the relational contract is based on and added upon the transactional one. If this balanced psychological contract prevails the team members are said to have expectations to support each other beyond the mere tasks at hand. Further, Sverdrup (2012) poses HPC's can be 'loose', i.e. weak, narrow, and often violated, or 'tight', i.e. strong, broad, and renegotiating. Her findings hold that cooperation and group coordination is higher in teams with a tight psychological contract.

The horizontal psychological contract is found to play an important role for teams. Sverdrup and Schei (2015) view *“psychological contract theory as a basis for understanding the expectations and obligations between team members and how this was tied to team functioning”*

(p. 471). Alcover, Rico, Turnley, and Bolino (2017) note that “*psychological contracts lend structure to expectations concerning future exchanges, thereby reducing uncertainty between parties (e.g. by defining roles and specifying future courses of action)*” (p. 418). Research found that how team members perceive the psychological contract is related to team member engagement and team performance (Schreuder, Schalk, & Batistič, 2020). Gibbard et al. (2017) link in particular the horizontal psychological contract with team performance. They investigate the impact of perceived breaches of the PC on team effectiveness and find evidence of a negative relation². Sverdrup and Schei (2015) find a consistent pattern between psychological contract and cooperation (cf. p. 470).

Sverdrup, Brochs-Haukedal, and Grønhaug (2011) highlight the importance of considering the horizontal psychological contract in the early phases of a team. Sverdrup and Schei (2015) find that “*teams may benefit from early and explicit discussions about standards for work effort and work quality*” (p. 451) and that “*well-functioning teams develop explicit psychological contracts*” (p. 453). In recent years, research collaborations at NHH have worked on using insights from the horizontal psychological contract theory, as well as findings of the teams’ research and literature as such, to develop guidelines and toolkits for practitioners, like the Start Smart approach (Schei & Sverdrup, 2019). This is an attempt to bridge academic research to positively influence the initiation and development of real-world teams.

Elements relevant to the psychological contract and an indication of its type and strength are the individuals’ understanding and beliefs with regard to shared/mutual expectations, breach/violation of these expectations, reciprocity convictions, trust, and renegotiation (cf. Rousseau, 1989; Sverdrup, 2012). The qualitative methodology (see section 3) was designed to include aspects of the team’s psychological contract (see interview guide, appendix A). The aim was to gain insight into the state of the team’s psychological contract and learn about their mutual expectations, reciprocity beliefs, and perceptions of trust in their team. A well-functioning horizontal psychological contract is crucial to a hybrid team in order to collaborate effectively. Developing a strong HPC might however be challenging in a hybrid team work setting, and complicated in the light of team member expansion. This makes the HPC highly relevant in the light of this projects research question.

² Such approaches are common in the psychological contract literature. Arguably, it is more practical to prove the negative impact of breaches than a positive impact of the PC as such.

2.9 Summary of Theory

In this chapter, I have presented theory on what constitutes a team and what defines a hybrid team. I have provided and discussed definitions of team effectiveness and team processes. Then, I have reviewed the literature on virtual and dispersed teams to identify challenges faced by teams that rank high on the virtuality spectrum. Further, I have given an account of theory relating to the impact organizational complexity and team member growth have on teams. Finally, I have introduced psychological contract theory and discussed the importance of the horizontal psychological contract for teams to thrive.

While much research on virtual/dispersed teams relevant for this project could be identified, the knowledge on modern, growing hybrid teams is sparse. In the following chapter I explain the methodological choices taken to research this topic.

3. Methodology

In this chapter, I will give an account of the methodological considerations of this master thesis. Firstly, the overall characteristics of the study and its context are introduced. Secondly, the methods of data collection and data analysis are discussed in greater detail. Then, the quality and shortcomings of the approach are evaluated. Finally, the aspects of research ethics are displayed.

3.1 Research approach

A study's research approach classifies the researcher's stance on theory use and development and distinguishes three main categories, namely deductive, inductive, and abductive approaches (cf. Saunders, Lewis, & Thornhill, 2019). In this project, I have used an inductive research approach to investigate the challenges of hybrid teamwork in a growing knowledge-worker team. Arguably it is yet a partly abductive approach, as obviously the point of departure of the research takes into consideration existing theory. Hence, I started with theory and literature to draft an interview guide, while during the interviews being flexible, adaptive, and curious, allowing for new themes to emerge. Both virtual teams and geographically dispersed teams are known phenomena in the academic literature, and so are growth problems of startups. However, few studies have investigated the real-life challenges of a modern, growing, hybrid team of knowledge workers. Therefore, this study aims to contribute new insights relating to known phenomena and existing theory.

3.2 Research design

The research design refers to the overall plan of how the research question is intended to be answered through collecting, describing, and analyzing data. The aim of a study can be categorized as explorative, descriptive, explanatory, or evaluative (cf. Saunders et al., 2019). I view my research design to be of an explorative-descriptive nature. This goes hand in hand with a primarily inductive approach and the choice of a qualitative method.

3.3 Research method and strategy

The research strategy is to conduct a case study with a cross-sectional time horizon. I opted for an emerging case study strategy, in which the environment is deliberately chosen, whereas the particular focus is determined at a later stage (cf. Saunders et al., 2019). According to Yin (2018), "*A case study is an in-depth inquiry into a topic or phenomenon within its real-life*

setting” (via Saunders et al., 2019), which suits the research purpose. Followingly, it enables the investigation of ‘what’, ‘how’, and ‘why’ questions (Yin, 2018). This aligns with the research question being constructed as a ‘what’ and ‘how’ problem.

The findings of the thesis build on a series of non-standardized, one-to-one, internet-mediated interviews. The primary data collection comprises twelve interviews with core employees and the CEO of the case team, i.e. startup company. I considered supplementing the interviews with observations, however, this was not a possibility due to the high confidentiality of the contents on which the case company team is working on. The findings of the interviews are related to the literature on team effectiveness, virtual teams, and geographically dispersed teams, as well as psychological contract theory and growth problems in scale-ups.

3.4 Case team & company

The case company is anonymized in this paper. Therefore, not all details are presented below. Nevertheless, certain characteristics of the company and aspects relevant to understand the preconditions of the case team are explained in the following. This also gives an account of the setting and environment in which this research was conducted.

The case team is a research and development (R&D) start-up. The team is consistent and not a project team, which is a distinction from much other research conducted on teams. Its workforce is highly educated and specialized, hence a team of knowledge workers. It is a hybrid team, located physically in Bergen (Norway) and remotely in several locations, including abroad. In addition, also the Bergen office team members are allowed home office. Hence, remote working is common, and the team is operating with a high reliance on digital communication. The R&D team has experienced rapid growth in the past two years and especially in the months prior to this research. It has expanded from less than four to about 15 full time employees. For this reason, and also in the light of future expansion prospects, it is relevant to study what challenges such a growing hybrid team faces and how they can collaborate effectively (cf. research question).

The team is global from the perspective of the cultural backgrounds of the team members. While the geographical dispersion of the team is indeed international, it avoids some challenges of global team collaboration such as time zones around the world, as the leadership decided to only recruit team members based in locations of max +-2 hours’ time difference to the Bergen main office. The case company has been acquired by a multinational company relatively

recently, about two years ago, and has since been integrated as a division of the new parent company. This process, however, was not fully completed at the time this research was conducted.

The case team is dependent on technology to communicate, it is geographically distributed, it is nationally diverse, and it is facing dynamics in its structure (i.e. team growth and increased organizational complexity). Hence, understanding hybrid teams as a multifaceted concept, the case team is an ideal example as it comprises the different team ‘virtuality’ dimensions proposed by Gibson and Gibbs (2006) (see section 2.2.2).

3.5 Data Collection

The data was collected by single-company, internet-mediated access as an external researcher (cf. Saunders et al., 2019). By use of Microsoft Teams video conferencing, twelve individual interviews were conducted in the period from week 41 to 44, 2022 (more detail in the section on the interview process below). According to Saunders et al. (2019), research interviews enable “*to gather valid and reliable data*” (p. 434) and can also be used to reconsider the research question and research objectives. This was taken advantage of in this research project, as early interviews helped reshape the focus of the case study and hence also influenced the questions asked in later interviews.

It should be noted that in this case study, beyond factual matters, the perceptions and feelings related to the investigated phenomenon of collaborating in a growing hybrid team are pivotal. This calls for what the methodical literature often refers to as a subjective approach, acknowledging that the interview data is to some extent socially constructed, which emphasizes the role of the researcher in interpreting the findings (see Saunders et al. (2019). The adoption of a rather interpretivist approach also shows in the flexibility allowed for during the interviews (see section 3.5.2 on semi-structured interviews).

3.5.1 Selection

The selection of the team for the case study is rooted in the team’s characteristics of being an international hybrid team of knowledge workers which is recently experiencing substantial growth. For gaining access, the willingness of the leader to support this research was crucial. The selection of the interview candidates was straightforward, all twelve current members of the core team were invited for an interview. I, the project, and the framework for the interviews

were introduced to the team members by the CEO. The following communication, date planning, and the interviews themselves were worked out directly between me and the individual interviewees. Interviewing the entire team prevents the problem of participation bias. Participation bias refers to gathering skewed information as a result of the self-selection of interviewees out of a larger pool of potentially applicable interviewees (Saunders et al., 2019, p. 448). An overview of the interviewees' location, team membership duration, and interview duration is shown in Table 1 (below).

Interviewee Number	Location	Membership duration	Interview duration
Interviewee 1	abroad	1 year	31 min
Interviewee 2	Bergen	2 months	34 min
Interviewee 3	Bergen	>5 years	32 min
Interviewee 4	Bergen	>5 years	43 min
Interviewee 5	abroad	3 months	35 min
Interviewee 6	Bergen	1 year	34 min
Interviewee 7	Norway, large city	3 months	33 min
Interviewee 8	Norway, small city	1 year	34 min
Interviewee 9	Norway, small city	>5 years	47 min ³
Interviewee 10	Bergen	7 months	33 min
Interviewee 11	Bergen	1 year	30 min
Interviewee 12	Norway, small city	>5 years	32 min

Table 1 Overview of Interviewees; Case company core team members

Note that not all available information on the interviewees can be displayed due to anonymization. The team is more international as table 1 reveals in the sense that the location has little relation to the interviewees' nationalities. In fact, the majority of the Norwegian-based team members have a non-Norwegian cultural background. Overall, the interviewees comprise five Scandinavians, three Asians, one African, and three persons from Middle eastern countries. As a result, the company's working language is English. This goes hand in hand with English

³ Interviewee 9 was the only interviewee who engaged in excessive small talk, which complicates timing the actual interview.

being the language of this master thesis project. All interviewees were comfortable having the interview in English and naturally their language competence is generally very high.⁴

3.5.2 Semi-structured interviews

For semi-structured interviews, one starts with a selection of interview themes and related key questions. The way how I handled the themes, being flexible about them contingent on the informants' answers as well as altering the questions asked during the series of interviews, is typically associated with an interpretivist approach (Saunders et al., 2019, p. 438). Saunders et al. (2019) write *“You may omit a theme or modify your questions about a theme in a particular interview, given the context or some other characteristic that you encounter [... also,] new themes to explore may emerge from participants' interpretations”* (p. 438). Followingly, in this research the “semi” in semi-structured was taken advantage of. The following section elaborates on what this meant in practice.

3.5.3 Interview guide

Despite adopting a flexible approach with regard to the semi-structured nature of the interviews, the use of an interview guide was essential. Hence, before conducting the interviews, an interview guide was worked out. The prepared interview questions are a result of combining several strategies. Firstly, many questions are informed by existing relevant literature on the topic. Secondly, it was submitted to the supervisors of the thesis for suggestions and feedback prior to the interviews. Thirdly, creativity was enhanced by brainstorming with fellow students in the RaCE program.

Preparing an interview and its questions through an interview guide bears several advantages. Having the procedure written down helps structure the interview. Having interview questions worked out beforehand with careful consideration contributes to ensuring their quality and relevance. For example, it helps to avoid closed yes/no questions and similar pitfalls as best possible. The initial interview guide is attached in the appendices of this paper.

It is crucial to bear in mind, however, that the interview guide does not mandate inflexibility in conducting the interviews. My interview guide shall be understood as a point of departure for

⁴ However, in one single case (Interviewee 7) the language proficiency had a distinct negative effect with parts of the interview being literally unintelligible. When in doubt of what the interviewee tried to communicate, his utterings are obviously excluded from the analysis.

each interview and as a base with a variety of different interview questions. Each interview unfolded differently. In addition, based on interviewee reactions to questions as well as preliminary insights and new aspects emerging from early interviews, the interview guide was revised underway. This was done to include new aspects shed light on in early interviews and learn more about certain aspects, including verifying and contrasting viewpoints. In addition, interview questions that showed not to work as intended could be revised or excluded. For example, an initial pre-categorization of interviewees into being either ‘new’ or ‘old’ team members turned out to not work well in practice, as some fell ‘in-between’ these categories, and interviewees had more nuanced membership status and experiences. The categorization was therefore abolished. Other examples are questions on reciprocity and breach of the psychological contract which were comparatively fruitless, hence not prioritized in later interviews.

3.5.4 Interview process

The interviews are conducted digitally via Microsoft Teams. This is mainly due to the very nature of the hybrid team investigated, meaning the interviewees are geographically dispersed. To also conduct the interviews with informants located in Bergen virtually is a matter of consistency in the research approach, bears benefits with regards to recording and transcription, as well as being perceived as more efficient by the interviewees. The interviews lasted for about half an hour each. This comparatively short duration is due to a limitation of the overall time resources the case company could spare for the purpose of the study. It was deemed preferable to nevertheless interview a solid number of informants, i.e. 12. Followingly, it was aimed at a balance between the amount (i.e. including all current core members) and the duration of interviews. I kept a bullet point research diary noting down some observations and thoughts directly after each interview took place.

3.6 Data Analysis

3.6.1 Transcribing

In parallel to the data collection, i.e. conducting the interviews, the transcription of them was aided by technology. It was made use of the built-in transcription function of Microsoft teams. This, however, only provides a rough basis which was carefully revisited and extensively edited to achieve a high-quality transcription. Afterwards, the audio recording was again thoroughly compared to the transcript to serve as a quality check. Arguably, the auto-generated, manually corrected transcriptions are even more detailed than manually drafted transcripts, since per

default every spoken word is written down, with no interpretation nor researcher bias involved at the earliest stage of transcribing the interviews.

As suggested in the NHH ‘Methodology for Master Thesis’ course, it was made use of collaborating with an outside evaluator for the step of the identification of “units of meaning” in the transcriptions. Some editing was undertaken when converting from spoken to written language of the interviews. Below is an example of prioritizing readability while retaining indicative information. If an interviewee was for example searching for the right expression and utters “this this this this”, it was cleaned up to “this... this”. Hereby, the information that the informant was pausing and thinking are not lost, yet the sentence is now much better readable in the text format. There are considerable differences from one interviewee to another in the quality of the initial, auto-generated transcript. The range goes from informants’ answers being well-worded to difficult to understand and demanding extensive manual editing.

3.6.2 Thematic Analysis

“The essential purpose of this approach is to search for themes, or patterns, that occur across a data set” (Saunders et al., 2019, p. 651). Thematic analysis is a commonly used approach to analyze qualitative data. As theorized by Braun and Clarke (2006), it typically consists of six stages. Those are familiarization (1), coding the data (2), generating initial themes (3), reviewing the themes (4), naming and defining the themes (5), and writing up the report (6). According to Saunders et al. (2019), thematic analysis is ‘accessible and flexible’, yet a systematic approach to analyzing qualitative data. *“It is not overly prescriptive about the application of its analytical procedures”* and is therefore not bound to any particular research strategy, and referred to as a ‘general approach’ (Saunders et al., 2019, p. 660). Braun and Clarke (2006) think of thematic analysis as a *“foundational method for qualitative analysis”* (p. 78).

In the following, I will address the typical stages of thematic analysis outlined above in more detail. Familiarization is done in combination with the transcription work (described above). Here, I gained a better overview of the gathered data. Also, by assuring the sufficient quality of the transcripts, in this step the data was prepared for the subsequent steps, starting with the first coding.

3.6.3 Coding and categorizing

Initial coding of the data was done by making use of the comment function in Microsoft Word, carefully going through each interview transcript. The initial coding resulted in a varying number of codes for each interview, as can be seen in Table 2 (below). The focus in coding is put on the semantic content of the interviewees' statements, i.e. the actual meaning rather than the form or structure. It is not aimed to construct latent content through high levels of interpretation. However, in some cases such as the use of irony by an interviewee, this would be pointed out and explained, as taking the word for it would mean drawing false conclusions.

Interview	1	2	3	4	5	6	7	8	9	10	11	12
N of initial codes	33	54	51	68	44	58	34	32	35	65	52	43

Table 2 Number of initial codes per interview

An illustration of how the initial coding looks in MS Word is displayed below (Figure 1) by an example excerpt of interviewee 5.

[Interviewee 5]
 You think the hybrid and then somebody in the team is placed in Bergen or mostly in Bergen and then single units around? Yeah, that's what you think about hybrid. I think one of the key things that we kind of struggling with now at least with this Italian team is that, you know, we don't have any personal relations so that means that we kind of built this wall between us so and you know working in parallel not together.
 Uh, I don't say that we do it in [company name], but I think it's easier, you know, when we know, and the Bergen team, uh, just having a cup of coffee, having lunch, it's easier to, you know, ask questions. Uh, you... you can listen to... if in the discussions, uh, really taking down the walls. Maybe it's harder to call because since all of these people that not sitting in Bergen are new to me. I don't know them before, so it's a little bit harder probably to call them. It's, yeah, it's easier to just call, talk to somebody, to office because you know that you have personal interest. So. So that's is, that is one challenge I think. Umm, and as well since we are a development team, you know, we have a lot of use in sketches, a lot, uh, it's like brainstorming. And I think it's very important to be in the same room, at least for yeah, just, you know, draw on board, like drawings... Just yeah, have a discussion in the same room I think that's very beneficial at least for my role and my team so.
 And luckily, I'm... most of my mechanical team is placed in Bergen, so this is good for us, but I think this is a challenge for the people that it's always struggling to have people remote when having these sessions really.

Microsoft Office User
 Collaboration needs personal connection

Microsoft Office User
 Asking question is easier face to face

Microsoft Office User
 Perceived wall with remote colleagues

Microsoft Office User
 Not knowing remote colleagues (well)

Microsoft Office User
 Physical presence encourages communication

Microsoft Office User
 Team work is better when in the same room

Microsoft Office User
 Struggling to including remote team members into processes at the office

Figure 1 Example excerpt of initial coding, Interviewee 5

Assessing the codes throughout the twelve interviews and searching for patterns, initial themes are generated. It is worth noting that the themes are different and independent from the categorizations of interview questions in the original interview guide. This indicates that the themes actually emerge from the interview insights. A typical pitfall of thematic analysis where interview question themes are reported as themes of the analysis (cf. Braun & Clarke, 2006) has hence been avoided.

3.6.4 Coding and analyzing

In coding and analyzing, the researcher must be accurate as well as open-minded. Then, it is one of the strengths of thematic analysis that it “*can generate unanticipated insights*” (Braun & Clarke, 2006, p. 97). Reviewing the themes was done particularly concerning their relevance to the research question. Not untypical for qualitative research the research question was refined as well. The step to name and further define the themes was a natural continuation of the previous step with no clear-cut separation of these stages. To assist this process, original quotes and initial codes were manually exported to an MS Excel spreadsheet enabling filtering, sorting, and further coding. An illustration of how the interface in the tool looks is given below (Figure 2) on the example of a few quote excerpts and codings of Interviewee 1.

interviewee	original quote	1st level code	2nd level code
1	this team also uh this current team is also a kind of new team growing fast in this one year	Rapid team growth	team growth
1	in terms of the background and the expertise experience	Diverse team	team diversity
1	the geography. We are, we are located in different countries	Geographical dispersion	hybrid work
1	and work collaboratively through the teams and those kind of modern we call it the modern work approach	Hybrid work as the new normal	hybrid work
1	We save a lot of time for commuting between house and company office	No commute	hybrid work
1	disadvantages that it seems with the convenience of this approach, then we have it seems had more meetings because it's so easy to grab some put somebody for you in the meeting	Overuse of meetings	meetings

Figure 2 Example excerpt of the coding spreadsheet, Interviewee 1

3.6.5 Presenting findings

The interview insights and results of the analysis are presented in the findings section of the thesis. It is important that the findings are displayed in a clear and structured manner, making them unproblematic for the reader to understand. When taking a comparative approach between informants, I make use of summary tables to summarize insights and make them relatable at first sight. In addition, word clouds are used as a way to visualize findings, for example, to display all team members’ aggregated perceptions of the benefits of meeting in person.

3.7 Research quality

3.7.1 Reliability/Dependability

A typical criticism of a qualitative research methodology with semi-structured interviews is that findings can hardly be reproduced. It must be noticed though that “*these are not necessarily*

intended to be repeatable since they reflect reality at the time they were collected, in a situation which may be subject to change. The assumption behind this type of research is that the circumstances to be explored are complex and dynamic. The value of using in-depth or semi-structured interviews is derived from the flexibility that you may use to explore the complexity of the topic” (Saunders et al., 2019, p. 449). Followingly, it is important to describe the context, methodological considerations, and procedures followed in great detail. Through this and by discussing the changes that were undertaken during the ongoing research process, dependability is established (Saunders et al., 2019, p. 217).

3.7.2 Credibility / Internal Validity

The credibility/ internal validity of semi-structured interview methodology is often high (Saunders et al., 2019). This requires thorough work during the interview and analysis process. Further, it includes for example reflecting on the research process and findings with others. This is being done with fellow students as well as faculty at NHH. In addition, analyzing the interview data thoroughly and not letting preconceived expectations decide the findings (see researcher bias) is important. This also means not ignoring contradictions in the gathered information but instead including, analyzing, and reflecting those in the findings (cf. Saunders et al., 2019).

Discussing the interpretive validity of the findings, I shall acknowledge that I conducted the interviews as a single researcher. However, the interviews being video recorded provided a chance to revisit them and rework the accuracy of the transcriptions. Further, I did a small research diary in the form of taking some notes of my impressions after each interview. As mentioned, making use of an interview guide, too, contributes to the appropriateness of the approach followed. Finally, the entire core team was interviewed, so that much of the perspectives and perceptions of team ongoings are likely captured.

3.7.3 Transferability (External validity)

As with any case study investigating the peculiarities of an individual case and its specific characteristics, there are natural limits to transferability. This study is based on one particular team in one company. However, as the entire team is interviewed the findings are deemed representative of this particular group. Yet, the research approach is posing challenges to the generalizability of results in different settings. Still, many findings will apply to other cases and companies. The links between the findings of the study and the existing academic literature

underpin this. Ultimately, the reader will have to make his or her judgements as to whether the findings of this research apply to other settings in mind. Saunders et al. (2019) highlight that “*a full description of the research questions, design, context, findings and interpretations*” (p. 217) enables the reader to decide what the results can be used for beyond the study at hand.

3.7.4 Respondent bias

Respondent or interviewee bias refers to the potential problem of the interviewee consciously or subconsciously altering their answers towards what they believe is expected of them to answer, or a socially desirable ideal, rather than a factual account of the matter. Additionally, also the interviewees’ decisions on how to understand and answer a question, i.e. what aspects to highlight and which to ignore are causing respondent bias (cf. Saunders et al., 2019, p. 447f.). Further, it is problematic when informants do not speak their minds freely. This is found to be influenced by culture (cf. Gobo, 2011). As the interview sample is culturally diverse such effects are hard to disclaim for this study. Overall, some interviewee bias cannot be eliminated from a research study such as this project. I made efforts to reduce the ‘desired answers’ bias by asking mostly open questions and leading the interview in a nonjudgmental style, not suggesting what is right and wrong. It must also be noted that getting the perspective of the team members is inherently part of the study. Hence, when genuine, the existence of subjective perceptions is natural and less problematic.

3.7.5 Respondent error

Respondent or participant error describes “*any factor which adversely alters the way in which a participant performs*” (Saunders et al., 2019, p. 214). This cannot be fully controlled. An aspect of how a researcher can negatively influence in this regard is timing the interview to not really fit the participant. This I addressed by suggesting three different time slots for the interviewee to pick plus encouraging them to suggest a different time as they please. Followingly the interviews took place at a moment the interviewee felt comfortable doing the interview. An additional indication that this was the case is the rescheduling of two interviews due to an interviewee feeling sick and another being too busy at the initially scheduled time.

3.7.6 Researcher bias

Researcher bias is “*any factor which induces bias in the researcher’s recording of responses*” (Saunders et al., 2019, p. 214). Considering the matter from this rather narrow definition, the fact that original responses were digitally recorded in real-time and stored for later revision

leaves little space for bias in this particular step of gathering the data. Further, advantageous in the light of bias is that due to the inductive nature of the project, I did not start with preconceived conclusions and had no desired outcomes. Additionally, I have no conflict of interest to report for this research. On the other hand, however, despite an upright intention to avoid researcher bias, qualitative research following an inductive and interpretivist research philosophy can hardly claim full objectivity.

3.7.7 Researcher error

Researcher error is defined as *“any factor which alters the researcher’s interpretation”* (Saunders et al., 2019, p. 214). An example would be to misunderstand something an interviewee said or intended to communicate. This was worked against by listening to the interview recordings several times and reworking the transcripts with the purpose of spotting errors. Applying this approach is also intended to increase confirmability.

3.8 Research ethics

Research ethics were taken into consideration throughout the entire research process. The RaCE program procedures for conducting a research study are approved by the Norwegian Centre for Research Data and were closely followed. Each interviewee was provided a consent form before the interview, which they had to sign. The consent form followed the template from the RaCE program for voluntary participation in a master thesis study at NHH, informing interviewees about their rights. The consent form is attached in the appendices. The individual interviewees of this research are anonymized. Likewise, the company name and industry are excluded from the published result. It was explicitly discussed with the company representative that the interviews are focusing on how the investigated team works, not what the team is working on, which has high levels of confidentiality. Agreement with the case company on the above was reached prior to conducting the interviews.

Data protection is another aspect to consider when addressing research ethics. In addition to anonymization, data was stored on a password-protected computer and, in the case of the interview recordings, within the Microsoft Teams platform only accessible with my personified, university-provided Microsoft office account. Importantly, these recordings are permanently deleted at the end of the research project. The interview transcripts, in anonymized form, are handed over to the thesis supervisors, hence the RaCE program at NHH upon the completion of the thesis.

3.9 Summary of the methodological choices

The methodology of this research is briefly summarized as being qualitative research of exploratory-descriptive nature. It follows an inductive approach to theory development, with the methodological choice falling on a mono-method case study. Semi-structured interviews are conducted and analyzed following a thematic analysis approach.

Dimension	Methodological choice
Research design	Exploratory/descriptive
Research approach	Inductive
Research method	Qualitative
Research strategy	Single case study
Primary data	Semi-structured interviews
Data analysis	Thematic analysis

Table 3 Summary of the methodological choices

4. Findings

This chapter presents the findings of this study. Specifically, the results of the analysis of the interview data are shown in detail. In relation to the research question, the focus lies on the team members' perceptions of how they collaborate as a growing hybrid team and on the challenges the team is facing in this regard.

Through thematic analysis and coding, five themes (i.e. challenges) for a growing hybrid team emerged. These are related to (1) organizational complexity, (2) the psychological contract, (3) meeting culture, (4) internal communication flow and knowledge sharing, and (5) integrating new members. Followingly, this chapter is structured by these overarching categories. By those themes, within their respective findings section, I give a detailed account of what the interviewees perceive as the most challenging and most relevant aspects of their work reality as a growing hybrid team. Note however that, naturally, many themes are intertwined.

In short, some key insights from the interviews are the following. There is full agreement among the interviewees that face-to-face interactions have qualities and attributes that digital communication and collaboration cannot replace. The interviewees differ in their evaluation of the team's collaboration plan and rules. There are greatly different perceptions among the interviewees about whether or not there are differences in the relations between co-located and remote colleagues. The interviewees share the opinion that there is an overuse of meetings, as well as too many emails circulating. It is clear from the interviews that the ongoing organizational changes the team is experiencing play a role for the team members. There are distinct factors to consider integrating new members into a hybrid team. Many communication and coordination challenges the team is facing relate to the rapid growth of the team.

4.1 Organizational Complexity

As described before, organizational complexity is a boundary condition of the case team. Besides the team's growth, this emerged as an important contextual factor. Despite being a contextual fact rather than a finding in itself, there are findings on how the organizational complexity impacts the team collaboration and in what ways it is challenging. This makes the insights relevant in the light of the projects research question. These are described below. It is evident from the interviews that the organizational complexity the team is embedded in and is demanded to navigate within is having an impact on the team and its members. Interviewees

took initiative to speak about changes in the organization, challenges and tensions with the parent company, and organizational complexity as such.

While being a start-up company at first and now a R&D team in a big, multinational company, many actors are involved with whom the relations are different from for example simplistic buyer-supplier business relations. Interviewee 2 explains it like this: *“you can say that many players are involved right now in this development, some of them are research institutes and some are more technological institutes, and some are bigger organizations”*.

Interviewee 5 elaborates on how they, as a team of specialists need to merge their work with that of another unit: *“our small group is a part of a bigger company and there is two-parts of the game, one of the R&D of the product and the other very important part is to commercialize the developed product. And in in our group, so a lot of people has a very good expertise regarding to very specific... technology, uh expertise. However, the group still need to understand the major picture.”*

This also comes with practical challenges regarding the hybrid setup. While the hybrid work is, despite it's limitations, functioning team internal, it makes external collaborations more difficult: *“But it's very hard at working remotely with team to team. So if we are a team working remotely with another team that's kind of it's hard to be like one team”* (Interviewee 6).

Some interviewees explain tensions with the parent company with differences in the company culture. Interviewee 3 emphasizes that the new parent company is *“a huge [foreign] corporate”* and several interviewees observe clashes of company cultures. The following paragraphs illustrate some examples.

Interviewee 5 refers to the team having been acquired by a big company relatively recently. He points out that everyone was used to *“working very fast, very short decision paths, and now suddenly we have a big company around us and the decision-making paths are quite long and it's a lot of people involved, so it's quite complicated”* (Interviewee 5). Changes and for example the longer decision paths are also expressed by Interviewee 1, who finds that: *“We have a parent company now so we needed to compromise something”*, however, the interviewee's general evaluation is nevertheless that: *“It's good for the start-up”* (Interviewee 1).

With the acquisition “*kind of everything changed*” (Interviewee 6) for the team, from having responsibility for all processes in the start-up to focusing on the technology development only. As a result, the growth of the team and the increasing organizational complexity also result in changes in the roles and responsibilities of team members. This can lead to inefficiencies and confusion. One interviewee shared that: “*So when I started... and my role was kind of new, so it's took some time to figure out [...] a few months really, we couldn't understand what my role and responsibility was.*”

The meeting culture seems to be an obvious difference between the start-up team and the parent company. Taking a critical stance, Interviewee 9 says about the parent company: “*as a company they have a very different meeting culture from what I have seen anywhere before.*” A very similar comment is made by Interviewee 3: “*they have a quite different meeting culture than what we are used to in our start-up company, so I would say that we, uh, have faced... we are still facing this challenge.*” The differences described by the interviewees are in essence that the parent company is having more meetings with more attendants and more complicated decision-making processes.

Interviewee 4 is of the opinion that “*administratively... I would state that we are too integrated*” and acknowledges that it is hard to balance between scientific curiosity and experimentation on the one hand and concerns for business readiness level on the other. He says: “*So we are a lot of eager scientists wanting to do magic in every step we do. And our counterparts with the experience of kind of a production company are far more risk-averse.*” This, too, is a vivid example of attitude/cultural differences between the start-up team and the parent company. He finds this tension to “*require a lot of communication to not allow it becoming personal frictions*” and agrees that it is a challenge not only for him but for the entire team and its members.

On another note, the parent company can be seen as having an impact on the psychological contract of the team, too. While the growing hybrid team is still exploring how to collaborate and work together as a team, “*the bigger organizations they already have established their explicit and implicit rules*” (Interviewee 2). Generally, it appears that the team is still exploring the conventions of the parent company and which rules to adopt and which to oppose. Taking the onboarding of new team members as an example, it is said that in the team “*We are following firm structure but we're not afraid of deviating it*” (Interviewee 4).

The above paragraphs demonstrate that the organizational complexity is a challenge for the expanding hybrid team because it fuels unclarity about how and with whom the team can best collaborate externally. It also complicates the integration of new team members as another challenging factor beyond the technical complexity of the team’s workings.

4.2 Psychological contract in a growing hybrid team

To investigate how to collaborate effectively as a growing hybrid team, this research set out to investigate the horizontal psychological contract of the case team. The insights are described in this section. In summation, it can be said that building a strong psychological contract in a growing hybrid team is a challenge and that the case team is actively working towards this.

4.2.1 Team member expectations

In order to characterize the horizontal psychological contract, it makes sense to consider what the team members expect of each other. The word cloud below (Figure 3), to which all twelve coded interviews have contributed, summarizes the mutual team member expectations.



Figure 3 Word cloud of team members’ expectations

While Figure 3 shows the variety of expectations, some team members’ expectations stand out. This means that particularly many interviewees pointed out they expect team members to contribute to the work of the team, hence foster the R&D of their technology, give each other feedback, and ask each other questions. Expectations to reach out, be proactive, take initiative and the focus on feedback seem particularly important tied to the hybrid way of collaborating.

4.2.2 Interaction/Collaboration plan

One way to investigate the psychological team contract is to look at what the team members think of the collaboration in the team and how they view explicit and implicit rules of working together. Interestingly, the team members' opinions on collaboration rules are not fully aligned. In fact, the team members have surprisingly different perceptions in this regard. In the following paragraphs, I present the team members' views. What the interviewees seem to be able to agree on is the fact that the team is undergoing several changes and that, hence, also the implicit and explicit rules on how to work together are in a developmental phase.

As mentioned, the core team has to find out how to collaborate. *"We are a fresh team in the sense that we've grown very fast in a one year. So we have to really work out the routines and then and rules of the game. Let's say on how to work efficiently together, we have to work this out together"* (Interviewee 3). This is a process seen to take time: *"I think we need to make this guideline together, really, through discussions and through time"* (Interviewee 6). The observation that it is an ongoing process is also supported by the statement: *"so we are trying to form each other together somehow [...] how best we can use our expertise within the group"* (Interviewee 5).

As a very new team member, Interviewee 2 senses the existence of an interaction plan: *"I think they have developed these procedures and protocols how they are going to collaborate with the different organizations and how they are going to work within team as well."* Nevertheless, Interviewee 2 finds the rules for collaboration rather implicit and flexible, which he attributes to the team being developing: *"But for now, we have more some implicit rules because this is kind of a development stage [...] So that that's why it's more flexible, implicit I would say... rules for now."* According to Interviewee 7, there are efforts to shift collaboration rules from being implicit to more explicit forms. *"Currently we are trying to, like, have maybe what you can say like a guide on how we do things... to trying to put it on paper"* (Interviewee 7). For the time being, Interviewee 5 suggests a relatively simplistic, or flat, psychological contract, saying: *"The most important is that you are aligned and respectfully... and respect the timelines and the meetings and the work deadlines. So therefore there is not much implicit expectations"*.

Directly relating interaction plan elements to the hybrid setup, Interviewee 8 states that the team has some rules on how to better collaborate digitally. As an example, putting on cameras for meetings is mentioned. Another example is provided by Interviewee 10, mentioning as an

established rule of working together that no meetings should be scheduled after 4 pm in respect of all team members' work-life balance.

The level of awareness regarding rules on how to work together in the team differs amongst team members. This can for example be seen by considering the statement of Interviewee 12 who said: *"I don't think so. I don't know, we just work together... And if I need help, I just ask somebody."* Followingly, the consideration for collaboration rules shown by team members varies.

Recently, before the interview series, the team had gathered for a physical meeting of all members of the core team. This was the first face-to-face gathering of the entire hybrid team since the pandemic, and hence the first-ever physical team meeting for new team members. Conducting such an event is perceived as more challenging for the hybrid team due to the team members' various locations. The event was brought up by several interviewees in the light of establishing rules on how to collaborate. There is a shared opinion amongst the team members that the team building workshop and physical gathering were intended to improve "the how" of working together, and there is unity that it was an enjoyable event.

Interviewee 11 finds that *"how to interact and how we can like set some goals or the rules for our company. So that was the idea for this team building."* Along the same lines, Interviewee 3 explains: *"and the idea is like the product of this team building will be a set of ground rules on how we are supposed to work together as a team and how we are supposed to... act towards each other and what expectations we have to each other and to the team. So we have started this, but it's not yet finalized let's say."* Asked about his perception of the team having an interaction plan, Interviewee 7 says: *"we are working round this, trying to improve all the time. Recently we had the team building meeting [...]"*. And Interviewee 6: *"this as well is something we had... this workshop a few weeks ago on how to collaborate so, umm, no, we I think this is something we're trying to develop now really."* These views are in line with Interviewee 4 confirming that: *"putting rules [...] was one of the things that we discussed also in the workshop."*

As a result of the team building workshop, Interviewee 6 poses that: *"we have like a [...] preliminary guideline for this now. So now it's really just up to people and start using it and see how it works."* Interviewee 3 once again emphasizes that team building is an ongoing

process for the team: *“we worked a lot in groups and there was a lot of input and thoughts collected so we have to follow up on it.”*

In summary, findings show that the team is actively working on developing their interaction plan and making efforts to constantly improve their collaboration. Interviewees find that both explicit and implicit team rules are still ‘in the making’. In this process, the team found it helpful to step out of the hybrid daily routine and meet physically to conduct a workshop. This is an important finding that showcases a real-world example of how the team could make use of research-backed tools (cf. section 2.8) to mitigate self-identified challenges to improve and effectivize their team work. It indicates the team’s and team leader’s motivation and ability to actively work on improving elements of the psychological contract and make it more explicit. An important factor of successful teamwork beyond a plan and rules on how to collaborate, namely trust, is discussed in the next subsection.

4.2.3 Trust

Trust appears to be a value that is shared by the team members and which serves as a common basis for their collaboration. Besides being implied, this understanding can also be derived from direct quotes like the following. *“I believe that the people trust me”* (Interviewee 7). *“I would trust every one of them not to stab my back”* (Interviewee 9). *“[I] find the origin for everything is in trust”* (Interviewee 10). *“They put on us a lot of trust”* (Interviewee 5). *“For me trust is key”* (Interviewee 4). *“The most important to focus on from day one is to build trust”* (Interviewee 3). Nevertheless, it should be noted that the findings on the team’s view on trust are somewhat scattered, with trust being a topic some interviewees bring up themselves early in the interview, others finding it important after being asked about it by the researcher, and finally, some conversations not resulting in discussing the relevance of trust.

With respect to trust in the hybrid setting the following points were raised. As one cannot directly see if and how remote team members are working, trust has been described as a precondition for the hybrid team to collaborate. *“And the trust in terms of remote workers is also [...] we cannot control what they're spending their time on. So [...] it has to be a minimum degree of trust”* (Interviewee 4). However, Interviewee 9 points out that trust might be easier to create in a face-to-face environment, which can be a disadvantage for a hybrid team: *“it's easier and quicker to build a real trust if you go routinely meet people over the coffee machine.”*

Similarly, Interviewee 10 sees less trust for team members not met personally, with negative effects on effective teamwork and the distribution of tasks: *“I mean you have not met that person, you do not feel that close. And to believe in him or her... So you do not entrust activities to them.”* In addition, remote team members must not be falling behind when it comes to trusting each other within the team. This is raised as one of the arguments physical gatherings with the entire team are needed. Otherwise, remote team members could be at risk of becoming culprits when things go wrong if *“you do not have trust the other team members because you never met them in person and you are not sure about their capabilities”* (Interviewee 10).

Team members believe trust develops over time. Interviewee 2 says: *“trust is not a one-time thing. It takes really long time to build up.”* Nevertheless, new team members feel that they were met with a leap of faith upon joining the team (cf. Interviewees 5 and 7). Interviewee 7 puts it like this: *“the impression I have here is that people trust me.”*

In essence, trust is of high value to the team members. On the one hand, trust is seen as a precondition for the hybrid team to function, and trust is awarded to new team members by a leap of faith. On the other hand, findings suggest it is challenging to develop trust with non-co-located team members, and that trust generally takes time to manifest.

While the interviewees report to generally trust each other, the above findings show how trust must be a focus area for the growing hybrid team as the interviewees find trust harder to establish digitally and to take some time to truly unfold with new team members.

4.2.4 Reciprocity and breach

As part of aiming to investigate the team’s horizontal psychological contract, some interviews discussed (im)balance between team members, helping each other out within the team, and expectations of reciprocity. The insights that could be gathered on this aspect of the psychological contract are relatively sparse. Nevertheless, a few relevant insights are described below.

Collaboration with team members is generally seen as very natural. Hence, the majority of the interviewees rejected a framing of doing each other favors. Instead, the understanding is that it is normal to help one another. *“I think when we are working together, that most of the time we [...] helping each other”* (Interviewee 2). *“I really feel that we have a team where we always*

support each other, and we rely on team efforts to really succeed” (Interviewee 3). The same argument is raised by Interviewee 6: *“we are depending on really everybody to deliver.”*

Still, helping each other out is understood as reciprocal. For example, Interviewee 2 says that *“it's a give and take thing.”* Plus, showing the will to ‘repay favors’ when possible is being seen as crucial. And, *“even if you can't support, [...] feedback that I will support you when I have time so that is very respectful”* (Interviewee 5). An imbalance between team members could be explained by different experience levels, rather than a lack of effort of some team members. In working together on a specific task, Interviewee 2 finds that: *“someone knows more things than you or someone knows less things than you [...] So even though when you are working as a team then you are actually unconsciously teaching or learning from each other.”*

Connecting to the hybrid setting of the team, Interviewee 4 observes that *“if someone remote is not delivering then it would take time before you discover.”* This suggests that breaches of the psychological contract can take longer to be revealed in the absence of sharing the same workplace. There is no indication of this being the case, as interviewees unanimously describe their fellow team members as committed and motivated. Interviewees did not report any breaches of reciprocity in the team. However, this might also be due to the current team composition being rather new.

4.2.5 Differences in relations

Interviewees were asked, “Do you sense a difference in the relations between colleagues co-located in Bergen and the remote team members?” Table 4 gives an overview of the perceptions of the interviewees.

Interviewee	In short	Quote	Location	Membership
1	Yes	<i>Yeah, definitely there are differences</i>	remote	1 year
2	Yes	<i>There is a big difference of course, when you are physically meeting people then you have kind of like different feeling [...] even though you are trying to be more and more social with your remotely colleagues it takes even more time to get comfortable with them [...]</i>	Bergen	2 months

3 ⁵	“No”	-	Bergen	>5 years
4	No	<i>I would dare to say no. I think that people with the same interests are bonding not people with the same location</i>	Bergen	>5 years
5	No	<i>Uhm... not really, no, not really. I can't see big differences, actually.</i>	remote	3 months
6	Yes	<i>Absolutely. Yeah, I think because I don't really [...] know the people that [are] working remotely because they [are] new to me</i>	Bergen	1 year
7	undecided	<i>I don't really know [...] not sure if I see any major difference</i>	remote	3 months
8	Yes	<i>Yes, kind of difference [...]</i>	remote	1 year
9	No	<i>No, not really</i>	remote	>5 years
10	“No”	<i>Uh, I can say at this stage that we had this team building and then at least I had the chance to meet some of the colleagues [...] several times. I don't feel it that much</i>	Bergen	7 months
11	Yes	<i>Definitely. [...] ...the colleagues working here in Bergen office, so I know them more and we are like more interacting as compared to the people in [city]...</i>	Bergen	1 year
12	-	[interviewee misunderstood / avoided the question]	remote	>5 years

Table 4 Perceptions of relational differences between co-located and remote team members

As can be seen in Table 4, the perceptions of team members regarding this question differ greatly. Answers range from “no, not really. I can't see big differences, actually” (Interviewee 5) to “Yeah, definitely there are differences” (Interviewee 1). Note that interviewees could have a different understanding of the question itself, which is not controlled for in this research. Yet, it is precisely the perceptions of the existence of such differences that are being interrogated at the level of the individual.

Note also that there is no straightforward interpretation of these insights, as no clear pattern emerges between remote and co-located colleagues being of one or the other opinion. Therefore, the viewpoints on this might primarily be determined by personal characteristics.

⁵ To Interviewee 3 the question was asked differently, with specifically regards to trust. The answer suggests that differences in team members cultural background and prior work experience would matter more than the remote vs. co-located condition.

Where there appears to be a connection is with team membership duration. The longest serving members (+5 years) are more likely not to perceive differences in relations due to team members' location. They know each other well, and they appear less critical regarding the impact of location on the relationships. This could but does not have to be grounded in their experience with the hybrid model.

Some detailed insights in form of examples and potential explanations were provided. They are discussed in the following. Interviewee 11 gives an example of a non-co-located team member who is working on the same topics as him, *“but we mostly have like limited interaction”* due to the remote location of the other team member. Therefore, *“we don't interact like daily so it's like [...] little gaps [...] as compared to the people I'm working in the Bergen office”* (Interviewee 11). The interviewee goes on to explain how, in contrast, relations evolve naturally with co-located team members *“you are sitting in the same office, you know, they're availability when you can talk to them and have a lunch or together and have a different conversation. So it's... you get more close to the person as compared to the digital media”* (Interviewee 11).

Interviewee 8 elaborates on how and why the relations differ by saying: *“If we are sitting together it's very easy to catch up together to get a cup of coffee. To have a 5-minute chat or just to relax. [...] But working remotely I cannot have this kind of interactions with other co-workers and this I think this small things is the really key to build up a good relationships because you need to talk with somebody with small talks”*. As a result, Interviewee 8 concludes: *“So I don't feel the same... like friendship I felt with my previous co-workers sitting in the same office.”* On a similar note, Interviewee 2 states on the differences that: *“even though you are trying to be more and more social with your remotely colleagues it takes even more time to get comfortable with them”* and *“when you are physically meeting people then you have kind of like different feeling”*. (See section 4.3.3 ‘digital coffee chat’ on how the team is trying to mitigate this.

For example, Interviewee 6 explains the difference in relations with being unfamiliar with the remote team members. *“Because I don't really [...] know the people that is working remotely because they [are] new to me”* (Interviewee 6). Interviewee 12 finds that digital collaboration gets the work done but does not create personal bonds. He describes a feeling of not quite knowing remote colleagues before a physical meeting has occurred, and that remote colleagues sometimes can be perceived as ‘unreal’.

Interviewee 9 attributes more importance to the time dimension of how long people have collaborated, rather than the fact whether team members are co-located or not. Another argument against the significance of the location aspect as the decisive factor is offered by Interviewee 4: *“I think that people with the same interests are bonding not people with the same location.”* Agreeing in not sensing much difference in the relations between co-located and remote team members, Interviewee 7 says: *“I am not sure If I observed any core difference with the people that are based in Bergen at least to my own eyes”*.

4.2.6 Benefits of meeting in person

To conclude the chapter on the psychological contract, after having discussed aspects like team member expectations, interaction plan, trust, reciprocity, and, especially differences in relations due to the hybrid setting of the team, it is worth emphasizing the multiple reported benefits of face-to-face interaction. The entire team agrees that meeting in person, at least from time to time, is essential. The team members find that digital communication cannot fully replace face-to-face meetings. The most often named major advantages of interacting face-to-face are visualized in the word cloud below. As the word cloud (Figure 4) shows, the team members highlight many aspects. Most often they expressed more ease of building connections, fewer misunderstandings, ability to assess body language, as well as informality and the possibility for small talk as major advantages of meeting in person. By inverting the argument, it can mean that these are pain points for the hybrid team with a very high degree of digital communication. Hence, these positive attributes can sometimes be missed by the team members due to the hybrid work setting.

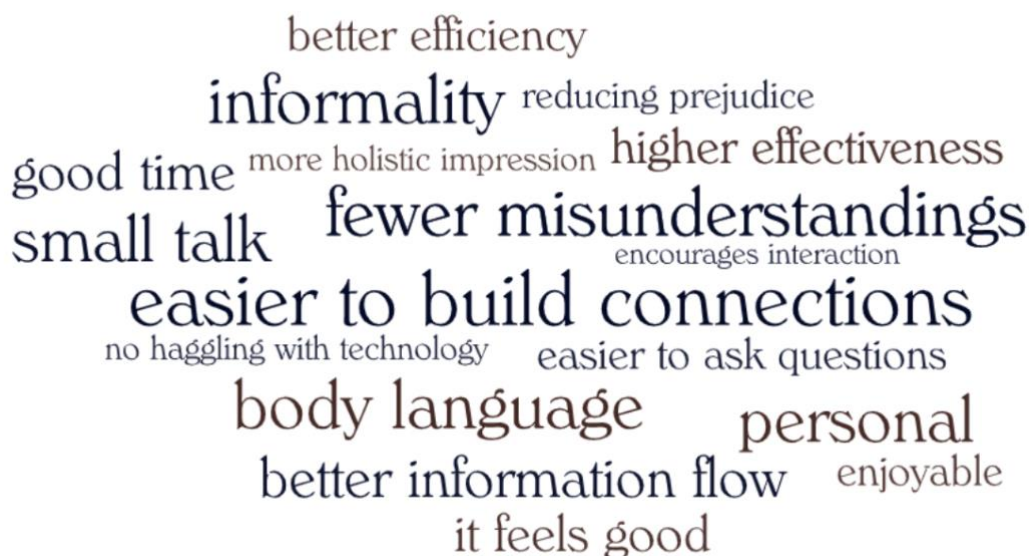


Figure 4 Word cloud of perceived advantages of meeting face to face

4.3 Meetings

Meetings are a central aspect of the collaboration in the hybrid team. However, they are not without challenges. There is a great variety of meetings the team members are frequently engaging in. This concerns internal meetings of the core team, meetings with the parent company divisions, meetings of smaller work groups, etc. Interviewee 3 describes the different purposes of meetings: “*some meetings are for information sharing, [...] the majority of the meeting are to discuss ongoing topics [...], occasionally we also have meetings where the purpose is to take a decision [...] and to allocate responsibilities*”. In addition, the team is having a weekly ‘coffee chat’ social meeting which is explained in subsection 4.3.3.

4.3.1 Meetings overuse & inefficiencies

Overall, a majority of the team members have a clear perception that there is an overuse of meetings, as summarized by Table 5 below.

Interviewee	In short	Quote
Interviewee 1	Too many	<i>“disadvantage that it seems with the convenience of this approach, then it seems we have had more meetings...”</i>
Interviewee 3	Too many	<i>“often we have meetings when I would expect it to be much more efficient to just either talk one-on-one or communicate by e-mail”</i>
Interviewee 4	Too many	<i>“now there's too much meetings”</i>
Interviewee 6	Too many	<i>“You know it is, it is a lot of meetings [...] too many”</i>
Interviewee 8	Too many	<i>“we have too many meetings and a lot of meetings is there's no need for”</i>
Interviewee 9	Too many	<i>“People get more tied up in meetings and there's less time for work”</i>
Interviewee 10	Too many	<i>“Generally, I can say [...] there are too many”</i>
Interviewee 12	Too many	<i>“I think the meeting[s] is[are] too much for me”</i>
Interviewees 2,5, 7, 11	Not discussed	
No Interviewee said there were too few meetings.		

Table 5 The team generally thinks there are too many meetings

The sentiment of too many meetings as described in Table 5 can be nuanced by pointing towards underlying frustrations described by the interviewees. These mainly relate to meetings being viewed as neither effective nor efficient. Interviewee 3 says: “*often we have meetings when I would expect it to be much more efficient to just either talk one-on-one or communicate by e-mail.*” He elaborates by saying “*ideally you should only be like three to four people when you're setting up a meeting and sometimes we have a tendency to involve too many, many colleagues.*”

Additionally, the team works on improving the agendas of meetings in an attempt to improve how the team members can prepare for meetings. This is described as needed because: *“one of the other things that we have faced is that there is a lot of kind of unpreparedness because people are really not sure what to discuss in the meeting”* (Interviewee 4). Interviewee 9 agrees with this, criticizing that *“people tend to come into meetings fairly unprepared.”* According to Interviewee 11, the team has improved this but he finds as well that *“there was some meetings which have no outcomes and there was no agenda.”*

Interviewee 10 shares how it feels to be abundant in a meeting: *“I’ve been invited to several meetings [where] in the whole meeting time I was just saying hello and goodbye [...] find it like wasting time while I have so many loads of work to do [...] you know, it’s not that efficient.”* Followingly, Interviewee 10 suggests not only reducing the number of meetings but also the audiences of some meetings.

Linking the meeting overload to team member growth, Interviewee 12 finds that a larger group results in more meetings which can feel more like a liability: *“maybe it’s not important to you, but you have to take part”* (Interviewee 12). Generally, the increase in team size is perceived as making meetings more demanding. Hence, this is a challenge and focus area for the growing team.

4.3.2 Meeting as a hybrid team

The hybrid way of working, requiring meetings to be primarily digital or at a minimum include some remote participants, is a characteristic that bears certain implications. Some advantages and many disadvantages have been discussed by the interviewees. On the positive side, the possibility for digital meetings is named as an enabling factor for the hybrid team’s very existence and possibility to thrive (cf. Interviewees 2, 4, 9). Plus, digital meetings easily generate a track record, memos, etc. which is not automatically the case for physical meetings (cf. Interviewee 11). Also, it is for example mentioned that having digital meetings allows for progress despite team members being away or on travels (cf. Interviewee 7). Further, in digital meetings *“we can share the screen [...] So sometimes I like this way”* (Interviewee 12). Asked about the differences between physical and digital meetings and whether it matters, Interviewee 11 came up with a vivid example, explaining: *“I will like give it example. It’s like you watch a football match on TV and the difference is if you watch on the real stadium. So there is a huge difference.”*

Interviewees 5 and 9 miss brainstorming tools that match the quality of what is available in a face-to-face meeting. *“The really big drawback is that you don't have a proper whiteboard on which to exchange ideas. With engineers, we need to be able to sketch things, make illustrations, figures and some bullet points”* (Interviewee 9). *“[S]ince we are a development team, you know, we have a lot of use in sketches [...] it's like brainstorming. And I think it's very important to be in the same room”* (Interviewee 5).

The following will focus on challenges with special regard to the hybrid team with some team members being physically co-located while others are not. The team found that in some situations, the fact that some team members are physically present while others are joining remotely causes inequity. For example, as Interviewee 4 describes: *“we experienced when people were starting to meet in the physical locations, that the group that was there was kind of a group, but everyone else, even if we were outnumbered of the digital attendees, they are alone and we are a group, so we had to force this into everyone attending to this meeting digitally to make kind of an equal starting point. Not being three persons around one table and one digital. Then it was better that everyone was digital because then it's equality on how we interact. So now everyone is attending personally on their own computer, even if we are located in the same space”*. This shows that in this instance, while physical team communication would be preferred, since impossible, the hybrid team deliberately becomes a fully virtual team instead to establish the same conditions for all team members.

Below is another illustration of the hybrid setting causing issues that are absent in purely physical and purely remote situations. Interviewee 6 describes the struggles of having a digital meeting, while several participants are sitting in the same office. *“It's really hard to work in open landscape remotely with kind of the same people and other[s remotely]... so that is something we're struggling with”* (Interviewee 6). The interviewee suggests changes in the physical location, i.e. investing in specific office equipment to enable better hybrid collaboration. *“We don't have these good headsets. So we try to get that as well [...] we don't have these good meeting rooms. It's really not up to date. So we should really make a lot of change”* (Interviewee 6). This finding relates to the growth of the team in the sense that the physical office location has become busier through the team expansion. Hence, this can further challenge to conduct hybrid meetings properly.

4.3.3 The digital coffee chat

Once a week, the team meets for a digital meeting that is supposed to be non-work-related, has a social character, and has a team-building intention. There are different perceptions amongst the team members of the weekly digital coffee chat meeting. Interviewee 4 explains the rationale like this: *“it really started in COVID when everyone was remote we missed the social gathering that you often have on Monday morning... When you grab a cup of coffee and you have a chat. And that's when we started to simulate this by having each Monday morning a 30-minute session where no work talk is allowed. [...] I think that we are socially bonding and also meeting each other in the hallway [...] so we have to simulate the hallway as well.”*

Some team members mention it as a welcomed and helpful tool. For example, Interviewee 11 says: *“we have a very good coffee meeting on Monday. [...] So we have a coffee and we share everything except from our work over what we have done on the weekend with our families [...] this platform is really helpful for us, like to know each other”*. Interviewee 10 agrees on the usefulness of the coffee meeting: *“when you interact with people, there should be some opportunities that you can just have talk and discussion, which is... which are not work-related. So informal talks”*. Interviewee 8, on the other hand, questions the success of the meeting to simulate random, private conversations and the informal nature of the meeting. *“It's working.. but in my feel when becomes a routine... It's a lost... lost their characteristics of small talks because the small talks need to be random. But when you organize it [...] this is a formality”* (Interviewee 8). This more critical view points out a weakness of the approach that is difficult to prevent. Nevertheless, overall these meetings are seen as a beneficial instrument for non-co-located team members to get to know one another better. Also, it helps new team members of the expanding team to familiarize and interact with all existing team members.

4.4 Internal Communication channels and tools

It is only logical that a hybrid team is relying heavily on digital solutions for its internal communication. Interviewee 7 comments: *“Communication itself is more challenging when you're working hybrid.”* The following two sub-sections explore the challenges the growing team is facing concerning emails as well as in the area of knowledge transfer.

4.4.1 Email and Alternatives

In the past and up to now, emails have been heavily used for internal written communication of the team. With the expansion of the team and increased organizational complexity, the amount

of emails has become very high. This has been identified as problematic by the team members as well as the leadership.

Interviewee 4 explains how emails having become problematic relates to the growth of the team: *“It was ok when it was a 3-4-person discussion but suddenly there is now 10-15 [...] it's a lot of inefficient time, browsing through the e-mail trying to figure out if it's a nice to know or need to know”* (Interviewee 4). Naturally, the team growth and rising amount of emails is connected to the increased organizational complexity and acquisition of the team: *“all our team members facing this e-mails problems as we are small company at the beginning, but we were acquired by a bigger company”* (Interviewee 8).

The amount of emails is described as tiring: *“email threads [are] becoming very long, we working a lot of emails”* (Interviewee 6), harming the productivity: *“So it's kind of destructive for me to receive a lot of email”* (Interviewee 8), and overwhelming: *“we find it very overwhelming when you receive lots of e-mail and it's happens for all of us”* (Interviewee 10). Interviewee 9 reflects that *“there are very many emails going about and [compared with meetings] it's even easier to copy just about everybody on most things. So that has been the tendency being done.”* Interviewee 4 reports that the team has now aligned to always (re)assess the recipient lists of emails, and to be thoughtful about the ‘reply all button’. Interviewee 11 observes considerable improvement in this regard, mentioning having received many emails not concerning his work at first, but finding this no longer to be the case.

As reported by several interviewees, the team has discussed a lot on how to make the internal communication of the growing hybrid team more effective. Instead of relying on emails for written internal communication, the team is experimenting with alternatives. One is shared documents, to be accessed, edited, and commented on by the respective team members involved. *“So we are stepping away from discussing in e-mail threads. Instead, we're making notes and then we could comment and change in the notes and everything is stored in SharePoint, so we will not send all of the emails”* (Interviewee 4). Or, as Interviewee 6 puts it: *“a document that people [are] putting their comments in so you can file it and it's easier to find it later for other people.”* Additionally, on the other hand, Interviewee 6 highlights calls and chats as agreed upon alternatives for email discussions: *“we're not going to have long discussions on e-mail, but having discussions just calling or to chat.”* In any way, the team has made it a convention trying to avoid internal emails when possible. *“This is something that we have agreed on”* (Interviewee 10).

According to several interviewees, Microsoft Teams is now the team's central tool for internal communication, not only for digital meetings but also by making use of the chat function. Interviewee 3 illustrates: *"We use teams a lot. It's really our main platform for communication. So we chat. We talk to each other on Teams and we set up meetings"* (Interviewee 3). Improving the internal communication and exploring different options and tools is an ongoing process at the time of the interview series. As Interviewee 11 puts it: *"I do not say it like it's 100% now, but we are improving day by day."*

Overall, similar to what was found for meetings, as the team has grown larger, approaches how to organize written communication demand adjustment. Interview findings indicate that the team is actively pursuing change in this regard.

4.4.2 Knowledge storage and transfer

The transfer of knowledge is crucial for the rapidly growing team. There are different ways the team is applying to share relevant information with new (and current) team members. Those take different formats. Information is for example summarized text based on a PowerPoint presentation *"we have put up a quite large slide [deck ... with] a lot of subjects that insures, say, that we have been remembering everything that we would like to go through"* (Interviewee 4). Also, a question and answer session on the technology in video format is shared with all team members. *"We have recorded an onboarding session when we were acquired so there was a lot of experts on the [parent company] side asking our experts a lot of questions on how the technology works and what we have been doing"* (Interviewee 4).

Interviewee 1 highlights storing and transferring knowledge as an area that should be improved: *"the current team should [...] clearly record the expertise and the knowledge of the current team in the document[s?] or in a good way"*. Besides the call for documentation, challenges due to the hybrid way of working are evident when it comes to knowledge transfer. It is experienced as easier to share knowledge and explain things in a physical context. *"I mean for the knowledge transfer part it's still face-to-face maybe still necessary"*, says Interviewee 1. Interviewee 2 shares similar thoughts, describing the hybrid setting as a communication barrier for a new team member, saying: *"when you are physically with the team, then it takes one minute to ask the things that you're looking for, for a new person. But when you are located at different places then you have to wait for them to be available"*.

Therefore, especially relevant in the hybrid context, the team is concerned with lowering the threshold of asking questions for new team members to facilitate effective knowledge sharing in the growing team. As a result, struggles like this one should be avoided: *“and then you are new and hesitant to figure out how the other person would [feel about you asking] and then you... ok make courage to call or send a message”* (Interviewee 2). As the team is aware of this problem, they are taking steps trying to decrease the effect. *“We are also preparing the person that is the lead of the role of that particular person to be very responsive when questions occur”* (Interviewee 4).

Finally, the shared document approach described in 4.4.1 is seen as an instrument set to contribute to improving knowledge transfer. *“It's not just about the communication, but [using] the platform to sharing information better”* (Interviewee 10). In conclusion, it is found that knowledge sharing being a crucial success factor for the expanding team, is an area where several interviewees see potential for improvement.

4.5 Integrating new team members

Integrating new members into the team is a frequently occurring process for the rapidly growing team and it is posing challenges about being a hybrid team. Naturally, integrating new members work-content-wise is highly intertwined with the challenges faced with regard to knowledge transfer (which are presented in 4.4.2). Social integration is touched upon when describing the team building event (under section 4.2.2) as well as the coffee chat (4.3.3). Additional findings worth consideration are presented below.

The findings hold that new members do feel warmly welcomed into the team. To give examples of three relatively new team members, Interviewee 11 says: *“Yes. So speaking of myself, I was very like, welcomed, warm-heartly and people around me like they really helped me.”* Similarly, Interviewee 7 says: *“it was really nice, the way I've been welcomed in the team.”* Also, Interviewee 2 has experienced the same, saying: *“so the experience with the new colleagues and the team that has been very, I think very good actually and they were all very positive and [...] we have good connection so far”*.

Interviewee 8 acknowledges that integrating and teaching new team members is not easy and that they are still learning how to best possibly collaborate with the new members joining the team. This is seen as a generally demanding task: *“I think this is challenging for everybody”*

(Interviewee 8). Finding time to involve new team members properly is a concern also raised by the experienced team member Interviewee 5, saying: *“it's hard to get time to learn the new people up, to get them up and running. So that's something we struggling with, umm, because we have a heavy workload”*.

New and existing team members alike highlight the importance of gaining an understanding of the team and company structure and the contents of the work, as well as building social relationships within the team and with the team as a unit. Interviewee 3, after acknowledging to be one of the team members with direct responsibility for onboarding, raises a number of points. One aspect to improve is spending more time on providing new team members with the big picture, i.e. an overview of the technology, the organizational complexity, and the long-term strategy. Another aspect is to make more time to give new team members a deep dive into the R&D itself that the team is undertaking.

Interviewee 4 is generally seeing little difference between digital and physical onboarding. However, he admits that *“Of course, the difference is when we are onboarding someone physically we could put the dusks together with the persons they will ask frequently questions, so the threshold of asking question is lower.”* The same argument is raised by Interviewee 2. He finds this point very important and presents it as the reason why in his view onboarding the hybrid team remotely is more challenging. Nevertheless, there is a belief that the difficulties faced in the beginning due to the hybrid setting will diminish and that the advantages of also including remote team members will eventually prevail. *“I would say it's more of a beneficial [setup] in the future I think compared to now”* (Interviewee 2).

Finally, interviewees mention that it is important for the integration of new members to find tasks enabling them to contribute right away. For example, Interviewee 11 is thankful to experienced team members who found appropriate tasks for him upon joining the team. This is said to make integrating into the team easier. Interviewee 11 says: *“That helped me a lot to get going with the company!”*

Successful integration of new team members is central for the effective collaboration of the hybrid team. Interview insights indicate that the team has good measures and procedures in place to accommodate for this but should learn from the experiences with recent team members to further improve the onboarding and inclusion of existing and future new team members.

4.6 Miscellaneous findings

With regards to the advantages and disadvantages of the remote/home working possibilities and demands for the individual, many comments of the interviewees adhere to common sense and are also well described in the literature. Hence, they are not made a focal point of the interview findings and analysis. In summary, interviewees highlight the increased flexibility for the individual and the enlargement of the talent pool as advantages. Pointed out as disadvantages are the reduced structure of the workday for the individual. Here, the reduced structure is the flip side of the coin of increased flexibility. The possibility to work remotely was also mentioned to be a crucial enabler of the employment in the first place.

It is to be noted that several interviewees refer to the Covid-19 pandemic and the political/societal response to it in the context of hybrid work. For example, new team members could say they do not really experience learning with regards to the work approach at the current team, because such practical learnings were incurred some time ago as pandemic response before joining said team. So, while the pandemic is clearly not the reason for the team working setting in the case company, there might be some positive effects regarding the preparedness to work in this setting amongst team members.

5. Discussion

In this chapter, I interpret and discuss the findings presented in the previous chapter in connection to relevant theory. Further, I discuss the practical implications of this study for hybrid teams in relation to the research question, i.e. how growing hybrid teams can collaborate effectively. Finally, I discuss limitations and lay out avenues for further research.

5.1 Team member growth

The increase in team members has a wide variety of impacts on the team dynamics and the team's collaboration. Firstly, the growth of the team is an integral element of the increasing structural complexity. Secondly, the expansion of the team is a contributing factor to communication challenges of the team, i.e. of the phenomenon of 'too many meetings with too many people' or 'too many emails with too many recipients'. Thirdly, expanding the team relates to the horizontal psychological contract, as integrating new members demands creating relations, establishing and discussing expectations, etc. For these reasons, and as an explicit element in the research question of the thesis, the growth in team members is a condition of the case team which's impact is discussed throughout the different parts of this chapter.

Overarchingly, it can be reflected that the team member growth does have a "negative" effect on the case team's communication processes, in the sense that established processes became ineffective and needed adaptation to the new circumstances. Hence, the perceived reality of the case team is at odds with the no-effect-hypothesis of Watanuki and Moraes (2016).

5.2 Organizational complexity

The findings show that the organizational complexity in which the team is embedded plays a crucial role in the functioning of the team. The team members feel the impact of both the new parent company as well as the number and variety of stakeholders involved. Hence, in this case, it confirms the theory that "*organizational features external to the team can be extremely important*" (Cohen & Bailey, 1997, p. 240) and that team's relationships with major external stakeholders matter greatly (see Ancona, 1990). However, the notion of 'external' is debatable here. It can be claimed that the acquisition by the parent company marks an external event but that the requirements to merge and collaborate with the larger unit mean greater internal complexity.

The variety of aspects raised by the interviewees are relating to all three kinds of complexity in the complexity framework of Maylor and Turner (2017). The structural complexity the hybrid team is facing can be evaluated as high as well as increasing. This is the case since based on the interview findings there are many internal and external interdependencies, several locations, and a growing number of people and actors involved.

Socio-political complexity is also evident for the team. Firstly, this is anchored in the team members' descriptions of the diversity of the team, which goes hand in hand with the theory arguing that teams ranking high on the virtuality spectrum see greater levels of heterogeneity for example in terms of nationality (Gibson & Gibbs, 2006). Secondly, stakeholders' conflicting priorities are vividly clear in the findings when describing the case team's scientific curiosity contra the parent company's concerns for the business readiness level resulting in tensions. Likewise, the above are indications of emergent complexity, as they connect to changes imposed on the team. Another factor here is the complexity and non-maturity of the work contents.

For effects of the organizational complexity induced in form of the acquisition, examples are given by the interviewees. Findings reveal substantial differences in the company culture between the case team and the parent company. Interviewees emphasize the corporate size of the parent company and describe very evident differences in for example the meeting culture. Another example is the finding that the increasing organizational complexity in some instances causes confusion about the roles and responsibilities of team members. In this sense, the findings indicate that changes due to the merger and increased organizational complexity can be perceived as bothersome and harmful for productivity on the one hand, but also as necessary to elevate the project and impact of what the team is developing.

Followingly, it appears that a mere reduction of complexity is neither practically possible to implement (at least from the perspective of ordinary team members), nor theoretically desirable, as the organizational complexity is also described as needed to succeed with the team's technologically complex tasks. Therefore, it appears reasonable to rather aim at improving how the team navigates the complexity. An example of this provided in the findings is the attempt to spend more time explaining the complexities to new team members.

5.3 Team member relations and the psychological contract

Findings show that the team is making extra efforts to build the psychological team contract. This relates to establishing an interaction plan and rules, explicitly discussing expectations, and emphasizing social relations to build trust. Thereby, the team addresses both the transactional and the relational elements of psychological contracts (cf. Rousseau, 1989). This indicates an understanding of the team members and the teams' leadership for the importance to include and balance both task-orientation and relation-orientation (see Sverdrup, 2012). The interviewees report that they are working towards making their expectations and collaboration rules more explicit. This must be seen as a positive undertaking, given that "*well-functioning teams develop explicit psychological contracts*" (Sverdrup & Schei, 2015). The aspects interaction plan, social relations, and trust are discussed in further detail below.

5.3.1 Interaction plan

The interview findings show that the growth of the team means that new routines and ways of collaborating have to be found. The physical gathering including a team building workshop is perceived as a means to develop such collaboration guidelines by the team members. The efforts of the team to explicitly discuss 'how' they want to work together are supported by theory (e.g. Sverdrup & Schei, 2015). Theory's claim that teams will benefit from having such discussions in the early days of a team is intricate for a consistent but changing team (as opposed to a project team). While for recently introduced team members working on establishing an interaction plan might have been 'early', for more experienced team members it is likely to have been rather late. For an expanding team, arguably team building processes and establishing and sustaining a strong psychological contract among the team members becomes a continuous process. Interview findings are ambivalent about the effects of consciously addressing the interaction plan as a team. It is not clear that the workshop has immediately aided the collaboration. This fits the reflection that team dynamics are not to be explained by a single event (Schei & Sverdrup, 2019). What the team members are very explicit about, on the other hand, is the positive effect meeting in person has on creating personal bonds.

5.3.2 Social relations

The findings reveal interestingly different views among team members on whether they see differences in the relations of co-located versus remote team members. This suggests that the matter is not objective but depends on individual interpretation. However, for the team members who do feel such differences, they are actually real. It should be realised that the team members

differing reflections on this question bear the potential for conflict in the future. Likely, explanations for differences in the relations are the overall time spent together which is higher for co-located team members, and a lack of bonding through virtual communication. Many of the interviewees point out the difficulty of creating personal bonds as a main disadvantage of virtual communication over face-to-face interaction. These findings match with prior research on virtual teams that posed the missing face-to-face interaction as a major problem (Gibson & Gibbs, 2006). It shows that also for the case team the technological advancements made in recent years do not close the gap in the quality of in-person versus digital communication (Cecchi et al., 2022). The interviewees described various advantages of face-to-face interaction. The most prominent argument is that team members find it easier to build connections in person. Meeting face-to-face is seen as more personal, informal and small talk friendly, contra digital meetings.

5.3.3 Trust

The importance of trust for teams is well established and has been highlighted for teams ranking high on the virtuality spectrum (Ford et al., 2017). Generally, trust was found to be a high personal value for the team members. Yet, naturally, interviewees' approaches and reflections differed. Some interviewees thought of trust as so important for the topic of hybrid teamwork that they brought up the topic by themselves early in the conversations. Others found the matter important and elaborated on the topic when asked. However, it is possible that the semi-structured interview approach can have caused such differences rather than an actual underlying assessment of importance by the interviewees.

In the hybrid context, findings point towards two meaningful arguments. Trust is regarded as both more important and at the same time harder to establish in a hybrid team. More important in the sense that co-located colleagues cannot see the remote team members' work. Hence, they need to trust them to work as hard to contribute to the teamwork in absence of direct control. This point appears especially relevant to R&D teams, or teams of knowledge workers in general, in cases where the work is highly complex. Here, results usually take time and there might not always be an immediate or linear connection between effort and visible output. In this situation, team members' trust in each other's abilities and work ethics is a prerequisite for a functional psychological team contract.

Trust is considered harder to archive for a dispersed team due to the absence of face-to-face interaction. This relates to the expressed difficulties with getting to know the respective other through digital communication. Therefore, physical gatherings of the entire team aimed at creating close bonds between the members of the hybrid team are crucial. Another aspect highlighted by interviewees was the perception that trust takes time to develop. This is relevant when thinking of the expansion of the team. Thankfully, new team members posed in the interviews they did feel being met with a leap of faith. Still, real trust among team members is supposed to grow over time through the fulfillment of the team's psychological contract. Besides fulfillment, it is worth noting that also breaches and violations bear potential to contribute to the development of trust. For this, breaches must be resolved in a positive manner and hence help renegotiate the psychological contract (see e.g. Sverdrup, 2012). The interview insights suggest such conflicts related to psychological contract breaches to be something the team, at least in its newly expanded composition, is yet to experience.

Research found that a team's autonomy relates positively to team trust (Choi & Cho, 2019). It is beyond this study to evaluate the case team's autonomy. What can be reflected is that the findings suggest the 'introduction' of the parent company to be a factor decreasing the autonomy of the team. On the contrary, it could be speculated (i.e. without indication through interview findings) that having to stand its ground towards the more powerful stakeholder might help the team to feel united and develop a group identity positively impacting team trust.

Finally, reconsider the observation of Kirkman et al. (2002) that trust develops differently in face-to-face and virtual teams, namely through personal connection versus predictable performance. Here, it can be hoped that over time hybrid teams get to pursue both options and thereby achieve a good trust climate in the team.

5.4 Hybrid team communication

The findings have shown many challenges of communication in the growing hybrid team. These are crucial to consider, bearing in mind that theory suggests significant relations between team communication and team performance (cf. Marlow et al., 2018). A general challenge in both written communication and meetings thematized by the interviewees is the perception of too many individuals involved. To decide whom to include or exclude from which communication is far from trivial. Obviously, including team members in meetings and email threads that are not relevant to them is harmful to productivity and efficiency. On the other

hand, it must not be neglected that “*excluding one member from team communication hurts team cooperation*” (Abbink, Dong, & Huang, 2022).

In other words, not including team members can as well produce negative outcomes. Such difficulties of being uncertain about whom to include in distinct communication streams were mentioned by some interviewees. This appears to be linked to recent organizational changes and team member growth, which makes the phenomenon possible to decrease over time. As other more prevalent challenges relate to the different aspects of written communication, meetings, and knowledge storage and transfer, these will be discussed in turn.

5.4.1 Meetings

For meetings, two aspects emerge as most important to consider, namely ‘how’ and ‘how many’.

How many?

The question of how many is twofold. Both ‘how many meetings’ and ‘how many meeting participants’ need to be addressed. The findings show unity among the team members that they are faced with too many meetings. It should be noted that this viewpoint seems to not only built on internal meetings of the team but also meetings with for example parent company representatives and external stakeholders. Nevertheless, meetings overuse is perceived to harm the productivity of the team members. Some team members reported improvement about the number of meetings they felt compelled to attend, while others did not. As team members described the different kinds of meetings and their purposes, a mere significant reduction in the overall meetings does not appear to be a probable solution.

Interviewees indicated that the perceived optimal number of meeting participants is lower than the number of actual participants in most meetings. One lever to decrease the number of meetings per individual team member is to attend fewer meetings. This aspect will likely see a change in the future of the growing hybrid team. In the current phase in which both the composition of the team as well as the organizational setting are relatively novel, as findings indicate, there can be ‘fears of missing out’ among team members leading to high attendance rates also when participation is not mandatory. While the latter is a matter of ‘how many’ for the individual team members, it is also clearly a question of ‘how’ for the team as a whole.

How?

For the hybrid team, as meetings are primarily digital, certain arguments deserve attention. It must be noted that findings regarding the impact of meetings being digital highlight both positive and negative aspects.

First of all, the possibility of conducting digital meetings is found to be an enabling factor of the hybrid setup. Besides being able to meet despite home office or business travels of team members, it is a precondition for remotely located individuals to be team members. Therefore, it impacts the assembly of the team, and the qualifications and expertise of people can take priority over the physical location. Hence, this established argument in favor of geographically dispersed teams (see e.g. Prasad & Akhilesh, 2002) is evident for the case team. Evaluating the composition of the team is beyond the boundaries of the thesis. However, the theoretical argument of access to a much larger pool of candidates for team membership is naturally connected to the performance and effectiveness potential of the hybrid team. Additionally, the possibility of digital meetings can in theory enable team growth as well because potential physical capacity limitations can be circumvented.

Another positive aspect of digital meetings shed light on through the findings is that of meeting notes and track records. Digital meetings can be recorded with ease and automatically produce transcripts of oral discussions. The possibility of recording meetings to allow for later review and accessibility for non-participants is something the case team is making active use of, for example when providing new team members with Q&A sessions recorded in the past. This is seen to improve effective knowledge-wise team integration of new members. The quality and hence the practical value of automatically generated transcripts, on the other hand, is questionable. Likewise, there is no evidence of effectively using this in the case team.

Positively, team members highlight the possibility and ease for presenters to share the screen during digital meetings. Negatively, team members miss adequate tools for brainstorming in virtual meetings, for example having proper whiteboards to draw and make sketches. These findings are interesting for assessing where the technological advancements of recent years help to make hybrid teams collaborate effectively (i.e. screen sharing, meeting recordings) and where they cannot (i.e. whiteboards, and as discussed below, regarding personal connections). As a result, despite immense technological development, today's digital tools are not capable

to eliminate shortcomings and limitations that practitioners and academics alike were concerned with upon the emergence of virtual teams decades ago (cf. e.g. Denton, 2006).

By anecdotal evidence, House (2019) claims that “*Remote participants questioned presenters at one-third the rate of those present at the face-to-face meeting*”. The interviewees of this research did not report such drastic observations. However, the team does experience imbalances and disadvantages in conducting hybrid meetings. The findings show instances of the hybrid team voluntarily opting to become a fully virtual team for conducting meetings as a means to achieve ‘equality’ or ‘balance’. It appears that the hybrid team experiences hybrid-mode team meetings as the least beneficial and therefore tries to center at the respective ends, say conduct fully digital or fully physical meetings. In that case, a team would be hybrid in the sense of including both types, yet not at the same time which is the decisive characteristic of a hybrid meeting.

A recent study found that videoconferencing has a negative impact on, among other things, the cognitive focus of participants (Brucks & Levav, 2022). Hence, such action of deliberately increasing virtuality thereby mediating team dynamics of the hybrid team, however, poses new challenges for a hybrid team. Interview findings show that co-located team members find it difficult to individually attend virtual meetings from the office. Here, distinct equipment such as headsets and constructional adjustments of the office space would help the hybrid team collaborate more effectively.

Importantly, also the existence, frequency, and relevance of fully physical meetings of the hybrid team must be discussed. Since physical meetings comprising the entire team are rare and, as described by interviewees, relate primarily to social relationships and team building this is discussed in that section, respectively.

5.4.2 Written communication

Findings show that team members face an overwhelming amount of emails which is harming the productivity of the team. Email overload is not unique to hybrid teams. However, with regards to the geographical dispersion of the team, naturally, some written communication would be redundant could questions be asked orally in person and without the barrier to make a call.

Interviewees very much relate the abundance of emails to the growth in team members and organizational complexity. While the tool itself and to include all team members in emails was probably appropriate in a team of 3-4, it is ineffective in a team of 15-20 members. The team is found to improve the situation by first establishing rules and guidelines for the use of emails, while simultaneously shifting away from emails. Yet, the different perceptions of team members on the functioning of team internal written communication suggest that this matter still needs to be worked out among the team members. Emails have diverse shortcomings which are arguably solved by more modern tools for effective team communication such as ‘Slack’ (Johnson, 2018). Judged by the interview insights, the team’s current modus operandi of combining Microsoft Teams (including channels and chat function) and emails does appear more like a developmental stage rather than a sustainable solution for the team’s internal written communication.

Acknowledging its often problematic role, Fayard and Metiu (2014) show that written communication can, much more than a necessary evil, be fruitful and productive, contributing a fair share to effective collaboration in dispersed teams. Followingly, working towards finding and implementing a setup that works well for all team members should be pursued not only with the mindset of reducing overflow but also an opportunity to actively improve team member communication flow. Beyond everyday communication, knowledge storage and transfer are an aspect for which written documents matter greatly.

5.5 Knowledge storage and transfer

Findings show that as of now knowledge is stored in various ways in the case team. Examples of a structured approach are the extensive slide deck shared with new team members during their onboarding and the video recordings of previous Q&A sessions, answering typical questions of new team members regarding the technology the R&D team is working on.

On the other hand, the findings also indicate knowledge to be discussed and stored in complicated email threads. As mentioned above, this appears outdated and more problematic. Team members indicated they would wish for a more structured approach, which the team is currently trying to implement by creating, editing, and commenting shared documents stored online, accessible to all team members. The reflections of the interviewees confirm the observations of McLeod (2013) describing high vigilance for knowledge sharing issues in

dispersed teams. As a result, it seems like the team is making extra efforts to counter the perceived disadvantage as suggested by Eubanks et al. (2016).

Beyond the knowledge stored one way or another as described above, there is knowledge that is grounded in the experience of longer-serving team members and not formally stored. Such tacit knowledge is natural and a common phenomenon for knowledge worker teams (see e.g. Chuang, Jackson, & Jiang, 2016). Findings indicate that for the hybrid team, it is especially challenging to transfer such knowledge when non-co-located. Followingly, this adds to the team members' arguments of why physical gatherings are beneficial. Logically, sharing knowledge is crucial for team members who lack knowledge, for example, due to being new to the team.

5.6 Integrating new members

There are different elements to the integration of new team members. They have to be effectively integrated into the work processes as well as be socially welcomed in the team. The case team interviewees report achievement of both these dimensions. Nevertheless, integrating new members is also found to be a challenging task.

Theory suggests that being a small team at first and subsequently adding members can help team efficiency and avoid coordination problems (Weber, 2006). In fact, starting as a very small team and now, although at a high pace, adding new team members 'one by one' is a reality for the case team. Regardless, theory agrees that increased team size brings various challenges (Soboroff et al., 2020). Regarding the integration into work processes, existing team members point out their workload as problematic when it comes to onboarding new members. Naturally, there is no easy fix for this challenge. Besides being a matter of prioritization, the successful application of the measures for knowledge transfer (discussed above) might help reduce the time current team members need to invest in teaching new team members general and more basic applicable knowledge. On the other hand, time spend in the beginning with a new team member is highly likely to be well invested.

Proper social integration of new team members is crucial, as lower quality of relations is a key aspect of harming collaboration in larger teams (Mueller, 2012). New team members were very clear about them feeling 'warmly welcomed' by the other team members. But being warmly welcomed into a hybrid team might unfold differently for co-located and remote team members.

Existing team members reported little difference in the approach the team takes to integrate new members whether it is physical or remote. Nevertheless, drawing from the findings that the team members feel a need for physical meetings of the entire team to ‘really’ get to know each other, it is not likely that introducing a new member virtually to the team adequately substitutes personally welcoming the new team member at the company premises.

Notwithstanding, the successful integration of new dispersed team members is arguably related to individuals’ experience with working in dispersed teams. Experienced team members are likely quicker to include new members into the team (DeRosa et al., 2004). The general competence and familiarity of team members with the hybrid work setup, in the current situation aided through experiences made during the Covid-19 pandemic, is also likely to be a supportive factor in this regard.

5.7 Effectiveness of the hybrid team

This study was interested in how to collaborate effectively as a growing hybrid team and the associated challenges. Being interested in teamwork, i.e. the interactions of the team members (McIntyre & Salas, 1995) rather than the taskwork, I investigated the team processes, i.e. how the team collaborates to achieve its outcomes (Martins et al., 2004). As the findings show and as discussed above, the team faces several challenges in collaborating effectively. This is especially evident when recalling the holistic definition of team effectiveness by Hackman and Wageman (2005). Both the social processes (dimension 2) and developing/educating team members (dimension 3) are found to be challenging in the growing hybrid team, mainly due to the limited and imbalanced face-to-face interaction of the team. This is for example seen when it comes to building a strong psychological team contract (cf. dimension 2) and when addressing the transfer of knowledge to new and existing team members (cf. dimension 3). Other elements that need attention when considering the effective collaboration of the growing hybrid team were shown to be the organizational complexity the team must navigate, as well as the challenges with meetings and emails.

It is important to bear in mind that this study did not measure the hybrid team’s effectiveness quantitatively. It gives an account of hybrid team members’ perceptions of conditions and challenges in collaborating effectively as a hybrid team. Hence, it must be assessed which findings can be generalized to other settings and which are more likely to be individual or dependent on the specific setting. In part, this was done above by intertwining the findings with

existing literature in the field. Yet, in part, this must be done by the reader who wishes to apply the insights to another context.

5.8 Practical implications

Based on the insights gained through this project, a number of recommendations for practitioners can be derived to help growing hybrid teams collaborate effectively. It is important to bear in mind that ‘getting the basics right’ is often going far. Further, achieving and excelling at ‘basics’ is not trivial but needs the constant effort of the team members as well as the support and facilitation of the leadership.

-> Acknowledge the value of physical gatherings of the entire team.

In a hybrid team, actually bringing everyone together physically brings benefits in many regards. Co-located team members are thankful to interact face-to-face with remote team members at least occasionally. In turn, those appreciate getting to know their fellow team members better as well as experiencing more proximity to the main location, hence their attachment to the team and company is strengthened. Positive spill-overs in for example team identification and communication flow are to be expected.

-> Facilitate team building and treat it as a continuous process.

For hybrid teams with high degrees of virtual collaboration, developing common ground, establishing collaboration rules, and achieving goal congruence can be challenging and in need of deliberate facilitation. Generally, but in particular upon entry of new team members, there should be reoccurring team building activities.

-> Foster the identification as a team.

In a hybrid team, an in-group out-group divide between co-located and geographically dispersed team members has to be avoided. Further, a growing team with emerging sub-teams as well as increasing organizational complexity pose additional threats to identifying as one team. A strong team identity is desirable, as seen to boost overall team performance.

-> Make the integration of new team members a priority.

When the team is expanding, sufficient time must be spent on including the new team member(s), both professionally and socially. This must not be overlooked in the heat of high-

workload daily operations. Involving and including new team members as best possible from day one helps get them up to speed and contribute to the team's tasks.

-> All team members should understand the bigger picture.

Mutual knowledge is a prerequisite for effective collaboration. It is therefore important that all members of the hybrid team, regardless of their specific task, and irrespective of being remotely placed or co-located, have a good overview of the overall situation and proceedings.

-> Focus on a productive meeting culture.

The growth of a team and increasing organizational complexity can lead to an overuse of meetings harming the productivity and satisfaction of team members. Therefore, the number, duration, and ways to conduct meetings need deliberate attention. It should also be accounted for individuals' varying needs, e.g. differences in the usefulness of meeting participation, for example due to them being new in the team, or because of their remote location.

-> Use appropriate tools for internal communication and knowledge sharing.

Hybrid teams, not being able to count on face-to-face interactions to ensure an efficient flow of communication need to apply tools to accomplish this. The choice of tools is non-trivial and non-obvious, as findings show that what is well-functioning is subject to change as the team expands.

-> Create an office environment made for hybrid collaboration.

Teamwork in hybrid mode comes with distinct challenges not only for remote but also for co-located team members. Workspaces, meeting rooms and the team members' equipment should be designed and selected accordingly.

5.9 Limitations

Generally, the descriptions of situation and ongoing in the case team can hardly be fully comprehensive. Followingly, simplifications cannot be avoided when describing and analyzing the growing hybrid team. In addition, the study is cross-sectional and therefore cannot capture developments over time in a setting where these are clearly going to occur.

The unique setting of the case team is a strength of the study. Yet, it imposes limitations with regard to the generalizability of results. Obviously, not all aspects highlighted for the case team such as team member growth and increasing organizational complexity apply to all hybrid teams alike. Nevertheless, many findings and recommendations surely do have more general applicability. Ultimately, as standard for qualitative research, it is upon the reader to assess the use for respective deviating settings.

It has to be acknowledged that the findings and the analysis are based on normative views. For example, team members perceiving too many meetings is not necessarily an objective standard for the number of meetings desirable. However, this is intentional as the research methodology was designed to inquire the perceptions of team members on their hybrid team collaboration. Firstly, it is assumed that the aggregate team member observations give valuable insight into the team's collaborations. Secondly, the team members' subjective assessment of what works and what does not are crucially relevant in crafting a thriving team.

Another limitation of this study is the time availability of the interviewees. With some interviewees, the conversations could have easily extended beyond the half an hour time boundary. Therefore, it is possible that additional aspects and insights were not uncovered and would hence be missing in the findings. However, the flexible prioritization of questions during the semi-structured interviews and giving interviewees space to voice whatever they deem relevant to say at the end of the interviews aimed to avert this risk.

5.10 Further research

Longitudinal insights on how hybrid teams collaborate (and expand) over time are needed. This concerns how the teamwork evolves over time and how the team psychological contract develops, but also phenomena such as 'Zoom fatigue' in cases where teams work together in a hybrid setting over long time periods.

This research on the case team could be followed up by a quantitative methodology with regard to the team psychological contract. For example, measuring it on a validated scale through surveys (see Schreuder, Schalk, & de Jong, 2017). Also, as this study cannot unequivocally conclude on differences and frictions between co-located and remote team members of a

modern hybrid team, future research could address this phenomenon by applying different methodologies, for example through observations.

One can reflect that in light of the rapid growth of the team, the very team definition becomes also subject to change. While in a team of 3-5, the team membership is deemed self-evident and the team boundaries are rather clear, transitioning to a team of 15-20 members challenges the identification as a team. There is an indication of the emergence of sub-teams correlating with differences in the main task/ field of work. While sub-group identities based on location are researched for distributed teams (see Eubanks et al., 2016), the emergence of sub-groups due to the growth in team members of a hybrid team is an interesting potential finding deserving the attention of future research. It is possible that in the future sub-groups will develop the strongest team characteristics. Additionally, this relates to the phenomenon of multiple team membership of the individuals that could be a future research avenue with said team as well as in other settings.

This study mentioned prior advancements in technology as an enabling factor of the present state of hybrid team collaboration. An aspect that, alongside the ongoing technological development, remains to be investigated is how the potential use of tools such as augmented-, virtual-, and mixed reality equipment can be implemented to improve the collaboration of hybrid teams.

6. Conclusion

Thinking of teams as either virtual or physically co-located work groups no longer fits the modus operandi of an increasing number of teams. The empirical insight into how modern hybrid teams collaborate and what particular challenges such teams face is limited. The gap is even more distinct regarding the issue of team expansion. Additionally, there is a lack of research addressing the horizontal psychological contract, investigating the relationships and mutual expectations of team members. The central question for this research was: *What are the main challenges of expanding hybrid teams and how can they collaborate effectively?*

This study aimed to provide such insight by applying a qualitative research methodology, interviewing 12 core members of a hybrid team of knowledge workers. Semi-structured individual interviews lasting a minimum of 30 minutes were conducted digitally, recorded, transcribed, and coded. The interviewees were all highly educated technical experts. The interview coverage was balanced between new and experienced team members, between co-located and remote team members. Two important conditions must be noticed for the case team. Firstly, in line with the research question, it had been in a phase of significant growth in the number of team members at the time of the study. Secondly, the startup team had recently been acquired by a large company and had affiliations with several other stakeholders, i.e. research institutions. This means the team had to navigate a setting of increasingly high organizational complexity.

The research was designed to inquire about the team members' perceptions and insights of challenges and the effectiveness of the team collaboration. The interview findings provide an in-depth look into the challenges faced by a growing hybrid team. In summary, a couple of findings deserve to be highlighted. The study finds a perceived difficulty in building relations through virtual communication. It indicates the superiority of face-to-face interactions to prevail when aiming to develop a strong psychological contract. This is found to spill over into making knowledge transfer and the integration of new members more challenging in a hybrid team. In a growing team with high reliance on technology-mediated communication, the applied procedures and used tools will need adaptation and must be evaluated continuously. For example, to consider the number of meetings and the number of participants, or to move written communication from emails to more comprehensive and organized solutions for internal

communication. Further, it is found that the hybrid setting can cause imbalances based on team members' locations (co-located vs. remote). This can be attempted to be mitigated by the team voluntarily opting to operate with a higher degree of virtuality than mandated by the hybrid conditions. In addition, elements of a social work life that are scarce for remote team members, e.g. small talk, can to some extent be transferred to virtual collaboration and be simulated, yet fails to adequately substitute face-to-face interaction.

Followingly, there is a dilemma where the team would benefit from being more physical *and* more virtual. Therefore, it can be beneficial to increase the instances of operating in one state or the other, while limiting, adapting for, and improving simultaneous hybrid collaboration where necessary.

From the insights of the findings derived a number of crucial focus areas to build an effective growing hybrid team. It is important to acknowledge the value of physical gatherings of the entire team, facilitate team building, and foster identification as a team. The integration of new team members must be made a priority, which also emphasizes team building being a continuous task. Furthermore, all team members should understand the bigger picture. It must be focused on a productive meeting culture, appropriate tools for internal communication and knowledge sharing must be used, and an office environment made for hybrid collaboration has to be created.

Limitations of the project and paths for further research were discussed. The unique setting of the case team paired with the qualitative research methodology was a strength of the project generating in-depth insight into said team but could limit the generalizability. While this thesis contributed to filling a gap in the literature, future research on growing hybrid teams and their the psychological contract is desirable.

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8. Appendix

Appendix A – Early Version Interview Guide

Interview guide – Early version

*Note: Interviewees can be categorized into new (up to one year) and old (more than one year) team membership. Questions targeted specifically at just one “condition” are marked accordingly *new* or *old*.*

(intro)

- Introducing myself
- Introducing the topic and RaCE at NHH
- Remark on anonymity, general reference to the informed consent
- Do you have any questions before we start?

(general questions)

- Can you tell a little bit about yourself and your career path?
- What is your educational background?

(hybrid work)

- What is the role of meetings in your team?
(How often, how does it compare to your other workplace experience)
- How do your digital meetings usually look like? Do you and your colleagues keep your video on? Artificial or real background?
- Would you say you have undergone a learning process with regards to working in a hybrid team? What are your key learnings from the experience of working in a hybrid team?
- Do you sense differences in the relations between remote colleagues and those who are physically in Bergen?
- What are the advantages for you working in a hybrid team?
- What are the disadvantages for you working in a hybrid team?

(onboarding)

- *new* Can you give a little account of how you perceived your onboarding process to the team?
- *old* How do you perceive the onboarding process of new team members? (what, when, how, existing members involvement)
- *new* What would you say is important when starting as a new member?
- *old* What would you say is important when welcoming new members to the team?
- *old&new* What activities or procedures do you think could be added to the process of integrating new members to the team?

(psychological contracts in a growing team)

(perception of team charter) [collaboration plan]

- Would you say that your team has some explicitly established rules on how you work together?
- How about implicit rules, can you think of any? (how does this compare to your former workplace?)
- *old* During your time here, how have you and your colleagues talked about how you should work together, and develop better ways to collaborate?
- *new* How have you experienced the process of improving how you work together?
- (Do you discuss expectations tied to work quality and work effort with your colleagues?)

(expectations / contents of psychological contact)

- *old* What do you expect from new team members? (follow up?!)
- *old* What do you think the new hires expect from you as an existing team member?
- *new* What do you expect from your new colleagues who are already part of the company?
- *new* What do you think the existing team members expect from you?

(renegotiation)

- *old* Thinking of recent examples, would you say your expectations of new colleagues changed after the first days/weeks of working with the new team members? how?
- *new* Would you say your expectations of working with your new team in the hybrid environment changed after the first days/weeks of working with the team? how?
- *old&new* Generally, would you say that the mutual expectations between you and your colleagues are rather stable, or are those changing / being adapted?

(trust)

- *old* How do new team members earn your trust?
- *new* What do you do as a new hire to earn trust of the team? Do you feel you were met with leap of faith? (How has this affected you?)

(tolerance)

- How fast do you think favours have to be repaid? Can there be imbalance between colleagues?

(breach)

- Can you think of a situation where a colleague did not deliver as promised or did not deliver to your expectations? What happened, how did you react, how did you deal with the situation?
- Are there any agreed upon procedures should conflicts occur?

(outro)

- Is there anything you would like to add?
- Do you have any questions before we close?

Note: Good basic follow-up questions include:

- *Could you elaborate on this?*
- *Do you have an example for this?*
- *Why do you think this is?*

Additional/context questions for the team leader / start-up CEO

- Can you share something on the status of integrating the startup into the parent company? How far have you come in aligning procedures, etc.?
- How do think about tracking working hours of your employees?
- What measures do you have implemented for the team members to develop social bonds as a hybrid team?
- What are the ways the team is meeting digitally beyond mere work meetings?
- Can you give an account of what is being done to onboard new members and integrate them to the team?
- How does the onboarding process differ between new team members who will start remotely and those who will start physically in Bergen?
- How do you assess the working style of team member candidates? Does their experience and willingness to collaborate virtually play a role in recruitment?
- Which tools and software packages do you use as a team to plan and structure your work, and which platforms are used for digital communication?
- How are emails used in internal communication?

Appendix B – Later version Interview Guide

Interview guide – Later version

(intro)

- Introducing myself
- Introducing the topic and RaCE at NHH
- Remark on anonymity, general reference to the informed consent
- Do you have any questions before we start?

(general questions)

- Can you tell a little bit about yourself and your career path?
- What is your educational background?

(hybrid work)

- What is the role of meetings in your team?
(How often, how does it compare to your other workplace experience)
- How do your digital meetings usually look like? Do you and your colleagues keep your video on? Artificial or real background?
- Would you say you have undergone a learning process with regards to working in a hybrid team? What are your key learnings from the experience of working in a hybrid team?
- Do you sense differences in the relations between remote colleagues and those who are physically in Bergen?
- What are the advantages for you working in a hybrid team?
- What are the disadvantages for you working in a hybrid team?

(onboarding)

- How do you perceive the onboarding process of new team members (i.e. your own)?
(what, when, how, existing members involvement)
- What would you say is important when welcoming new members to the team?
- What activities or procedures do you think could be added to the process of integrating new members to the team?

(psychological contracts in a growing team)

(perception of team charter) [collaboration plan]

- Would you say that your team has some explicitly established rules on how you work together?
- How about implicit rules, can you think of any? (how does this compare to your former workplace?)
- During your time here, how have you and your colleagues talked about how you should work together, and develop better ways to collaborate?
- How have you experienced the process of improving how you work together?
- (Do you discuss expectations tied to work quality and work effort with your colleagues?)

(expectations / contents of psychological contact)

- What do you expect from fellow team members? (follow up?!)
- What do you think fellow team members expect of you?
- What do you think new members expect from existing team members?
- What do you expect from new members joining the team?

(renegotiation)

- Generally, would you say that the mutual expectations between you and your team members are rather stable, or are those changing / being adapted?
- Would you say your expectations of working as a team in the hybrid environment changed over time? How?
- Thinking of recent examples, would you say your expectations of new colleagues changed after the first days/weeks of working with the new team members? How?

(trust)

- What role does trust play for your collaboration in the hybrid team?
- What did you do as to earn trust of the team? Do you feel you are met with leap of faith? (How has this affected you?)

(breach)

- Can you think of a situation where a colleague did not deliver as promised or did not deliver to your expectations? What happened, how did you react, how did you deal with the situation?
- Are there any agreed upon procedures should conflicts occur?

(outro)

- Is there anything you would like to add?
- Do you have any questions before we close?

Note: Good basic follow-up questions include:

- *Could you elaborate on this?*
- *Do you have an example for this?*
- *Why do you think this is?*

Appendix C – Consent Form

Informed consent form –Participation in RaCE research program

NHH Norwegian School of Economics

Background and aim

This research is a part of the RaCE project at SNF and NHH Norwegian School of Economics. The goal is to examine how established firms respond to and manage radical technology-driven change. We are targeting individuals within established firms that have information on and experience with organizational changes.

What participation in the study entails

We invite you to participate in an interview lasting approximately 0.5 hour(s). If you permit, the interview will be recorded and later transcribed. The audio file will be deleted after transcription and the transcribed version will be anonymized.

How is information about you handled?

Personal information will be treated confidentially. Any information that could identify individuals will be removed (eg your name). Transcriptions will be allocated a code instead. Name and contact information, including this form, will be kept separate from any interview data. Only persons participating in the RaCE project at NHH/SNF will have access to the anonymized interviews.

Your firm/organization will be anonymized.

The project will be completed in December 2022.

Voluntary participation

Participating in the project is voluntary. You can withdraw at any time without any further explanation. If you chose to withdraw, all information about you and your interview will be deleted.

Should you have questions regarding the research project, please contact Bjarne Astor +45 91962224 email bjarne.astor@student.nhh.no or Inger Stensaker 99792127 email: inger.stensaker@nhh.no.

Should you have other questions please contact: personvernombud@nhh.no

On behalf of SNF/NHH, the Norwegian NSD has approved that the procedures followed by the RaCE research project are in accordance with current rules and regulations for handling data.

Your rights

As long as you can be identified in the data material, you have the right to:

- Access in which personal information is registered in your name
- To correct personal information about you
- To have personal information about you deleted
- To receive a copy of your personal information (data portability)
- To file a complaint to personvernombudet or Datatilsynet regarding use of personal information on you

What gives us the right to use personal information about you?

By signing this form you consent to participate in the study.

Informed consent form:

I have received written information and I am willing to participate in this study.

Signature Date.....

Printed name.....