



IT TAKES TWO SIDES TO BUILD A BRIDGE

A qualitative study of the interaction between HR- and IT-professionals in cross-functional teams

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Abstract

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Purpose: This study aims to investigate cross-functional teams in a multinational setting. The purpose is to understand the perceptions among HR- and IT-professionals in cross-functional teams. Using sensemaking theory and the notion of boundary work, this study will contribute to the understanding of how individuals make sense of their professional role within cross-functional teams and furthermore their ability to cross existing boundaries between roles. The intention is further to contribute with practical insights regarding potential possibilities and challenges arising when composing and managing cross-functional teams.

Theory: The empirical findings are analysed through sensemaking theory and the notion of boundary work, alongside previous research concerning interprofessional collaboration.

Method: The study is based on a qualitative research design where the primary data collection consists of 15 interviews conducted within three different cross-functional teams.

Result: The findings demonstrate that cross-functional team members perceive their professional identity in connection to their previous work experience within the HR- and/or IT field. Their identity also seems to be shaped by their current environment in the cross-functional teams. The findings also show that different types of boundary work occur simultaneously in the analysed cross-functional teams and that several challenges emerge, hindering professionals to cross the existing boundaries. Finally, the study presents an example of how the fourth wave of HR is impacting HR-professionals as they are expected to work more business oriented.

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1 Introduction

In today's labour market, social and technological aspects are inherently inseparable due to the entrance of a fourth industrial revolution impacting the digitalisation of industrial processes, business and social opportunities. Alike the labour market, the field of HR also moves through different eras (Bissola & Imperatori, 2019). During the first wave of the HR field, the HR-profession comprised of administrative HR work. In the second wave, the focus shifted towards designing and implementing HR practices, instead aiming to manage employee performance. During the third wave, a strategic approach on HR was in focus, where HR professionals aimed towards becoming a legitimised organisational business partner. The upcoming, and somewhat already existing, fourth wave of HR will, according to Ulrich and Dulebohn (2015) be dominated by a focus on the HR-role as driving the overall business value and to a higher extent, considering the external organisational context and stakeholders. The aim will be to serve the final customers (the end market), as well as employees and managers (the internal market) (Ulrich & Dulebohn, 2015). Thus, the HR profession seems to be facing a new era with altered demands and challenges (Ulrich & Dulebohn, 2015). The relationship between HRM and IT has become increasingly discussed due to the fourth wave of HR innovation. Consequently, this has raised new questions concerning altered demands on professionals to engage in processes of digitalisation, which also requires new collaborations and approaches (Bissola & Imperatori, 2019).

An example of a cross-functional collaboration that has been given attention during recent years, is the collaboration between HR and Marketing. A study conducted by Maheshwari, Gunesh, Lodorfos and Konstantopoulou (2017), demonstrate the importance of long-term collaboration between the two functions, with the purpose of enhancing organisational image and reputation. This study on the other hand, is an example of how HR-professionals due to external expectations emerging from the fourth industrial revolution and HR wave, also need to interact with other functions in order to meet those new demands (Ulrich & Dulebohn, 2015). This study can be considered an important contribution since little research is found concerning the potential interaction between HR- and IT-functions. The few existing studies concerning this, focus on the administrative and operative communication that should or could exist between HR and IT, specifically in the area of information- and cybersecurity (e.g. Schiff & Schiff, 2016; Mäki-Lohiluoma, Hellsten & Pekkola, 2016; Pace, 2016; Wipawayangkool,

2009). Yet, the more long-term interaction between HR and IT seems to be missing in research, despite statements from business leaders and strategists implying a need for such collaborations as workplaces are becoming more digital (Donaldson, 2016).

A common framework used as a tool in social science studies, in order to understand interactions between individuals, groups or organisations, is the notion of *boundary work*. Boundary work are the individual as well as collective efforts made to influence boundaries and distinguishing one group from another. Boundaries can be social, symbolic, material and/or temporal (Langley, Lindberg, Mørk, Nicolini, Raviola, & Walter, 2019). In addition to understanding interactions between groups, research using boundary work can also aid the understanding of different occupational roles. Several studies concerning boundary work between professions can be found, mainly conducted within the health care sector (Comeau-Vallée & Langley, 2019; Bucher, Chreim, Langley & Reay, 2016; Sanders & Harrison, 2008; Cregård, 2018). However, an area that is rather unexplored, is the connection to inter-occupational collaboration and power relations emerging from these interactions (Cregård, 2018). Since the research concerning the general collaborations between HR and IT is scarce, consequently so is also literature using boundary work to explain these cross-functional collaborations.

Several studies can be found where *sensemaking* is used as a tool for analysing different social phenomena. Sensemaking is usually applied when analysing how people make sense of their surroundings and understand how they through individual and/or collective actions, grasp what is happening in a specific context or during a certain shared event (Weick, 1995; Weick, Sutcliffe & Obstfeld, 2005; Weber & Glynn, 2006; Brown, Colville & Pye, 2015). Although there are a vast amount of studies using sensemaking when analysing different organisational phenomenon, there does not seem to be an extensive amount of research describing sensemaking in relation to social interactions and communication between occupational groups in organisations. The understanding of sensemaking considering the interaction between HR- and IT-professionals seems to be particularly scarce. Therefore, this study could contribute to the existing sensemaking literature, by understanding individuals' professional identity through sensemaking processes and furthermore how this impact the interaction between HR- and IT-professionals in cross-functional teams.

In the present study, teams consisting of, among others, Business Analysts (BA) and Technical Professionals (TP) will be explored. As these roles come together in cross-functional teams, this study explores an example of when, what could be considered traditional HR- and IT professionals, are expected to collaborate in new ways. This is interesting because it allows for an understanding of the impact that the fourth industrial revolution (Bissola & Imperatori, 2019) may have on the HR field. The data collection has been conducted in a producing organisation located in a Swedish context, this since the organisation recently chose to merge previous HR- and IT- professionals into teams working with HR digitalisation. We expect that this study could contribute with a little piece to the research puzzle and generate value for organisations intending to organise cross-functional teams with members representing HR and IT. The findings could contribute with learnings regarding the possibilities and challenges emerging when merging these professional roles.

1.1 Aim, Purpose and Research Questions

This study aims to investigate cross-functional teams, in a multinational setting. The purpose is to understand the perceptions among the roles of HR- and IT-professionals in cross-functional teams. Using sensemaking theory and the notion of boundary work, this study will contribute to the understanding of how individuals make sense of their professional role within cross-functional teams, and furthermore their ability to cross existing boundaries between roles. We further intend to contribute with practical insights regarding the potential possibilities and challenges in composing and managing cross-functional teams.

Consequently, the aim is to explore and answer the following research questions:

- How do team members perceive their professional identity in relation to their cross-functional team?
- How are boundaries experienced in the interaction between cross-functional team members?
- Is it difficult to expand roles within existing cross-functional teams? If so, why?

2 Background

In the following section, the studied organisation and cross-functional teams, will briefly be introduced and relevant characteristics of these will be described.

The present study has been conducted in a producing company, operating globally, but located in a Swedish context. This corporation is of interest for this study since they recently decided to carry out a unique way of bringing IT- and HR-professionals together, where those with HR experience most commonly work as *Business Analysts* and those with IT experience work as *Technical Professionals*. Some of these team members are employed as consultants and some are internally employed by the company (personal communication, April 2020). In order to ensure the anonymity of the organisation and participants involved in the present study, the organisation will not be described further. The following information will thus focus on the teams rather than the company since additional organisational information will not be necessary for the purpose of the report.

During the time of conducting the present study, the organisations' HR-digitalisation department have worked based on the agile work method for about 18 months, with most teams being active for approximately twelve months. There are currently eight teams working fulltime with digital HR-systems within the areas of e.g. leadership, recruitment, people-support, HR-analytics and performance. The aim of these agile teams is to inspire a digital work life by working quickly and globally with the development of support systems and processes for all employees. The investigated agile cross-functional teams comprise of the roles presented in the table down below. Despite the information provided in the organisational role descriptions, the interviews indicate that this material does not seem to be formally communicated to all team members (personal communication, April 2020).

Table 1: Role descriptions in the cross-functional teams.

Role	Purpose
Product Owner (PO)	Maximising value-added work by prioritising and owning the team backlog (to-do-list) from a business perspective while also maintaining technical integrity of the teams' components.
Business Analyst (BA)	Working as a bridge between the internal end-costumers and the team members, with the purpose of understanding the organisational needs in order to create a digital product valuable for the end-user.
Technical Professional (TP)	Making sure that the backlog-tasks are finalised and deciding in what way they are performed. Based on requests, deciding what is to be done within each sprint.
Additional Functions (AF)	Depending on their specific role, these individuals have different types of responsibilities. Their common purpose is generally not of producing kind.

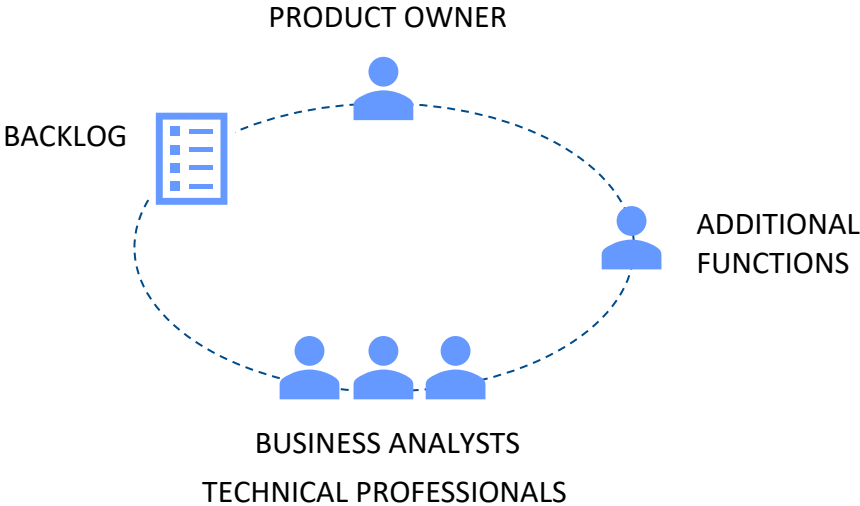
Source: Internal organisational documents (2020). Authorised use. The authors own interpretation.

Note, that the role titles have been somewhat adjusted in this study as a way of anonymising the participants. Furthermore, those participants titled *Additional Function* in fact have different roles, but as these are not important to describe individually and due to anonymity reasons, these will all be addressed as "Additional Functions". Although the focus of the study is on the *Business Analysts* and *Technical Professionals*, the teams *Product Owners* and some *Additional Functions* are also a part of the data collection. This as, these roles provide a valuable outside perspective of the interaction between BAs and TPs.

The agile method includes some set timelines that the teams follow. Every twelve weeks, all product teams meet with the purpose of planning the upcoming twelve weeks. During this occasion, the teams discuss so called *epics* which are described as demands from the top-level management. Thereafter the epics are divided into *features* which are then distributed to the teams depending on their character. The teams thereafter work in so called *sprints* during a period of two weeks, comprising different stages or *ceremonies*, such as their daily meetings. During the sprints, the teams work based on a *backlog*, described as a to-do-list, including different requirements from stakeholders. The backlog is divided into smaller tasks called *user stories* where the Product Owner is responsible for prioritising among these and oversee the

short- and long-term vision of the product. After one sprint, when the backlog is supposed to be finished, the teams enter another sprint with a new backlog and so on, until another twelve weeks have passed (personal communication, April 2020).

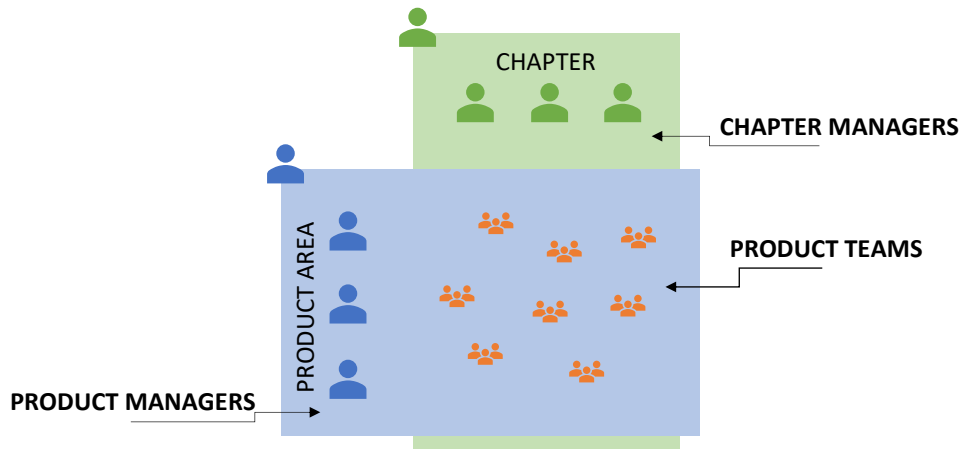
Illustration 1: The agile team.



Source: Internal organisational documents (2020). Authorised use. The authors edited version of internal document illustrations.

In the studied organisation, the teams have so called *Chapter Managers* and *Product Managers*, as illustrated below. The Chapter Managers have managerial responsibility for the team members and are responsible for the development of skills required for delivering within- and across teams. The Product Managers are responsible for making prioritisations in the teams and be accountable for the product that the teams deliver. Important to note is that within one team, each team member can have different Chapter- and Product Managers, meaning that the team members can be part of different organisational departments. The departments are commonly referred to as either HR- or IT departments, with different managers. However, the Technical Professionals, currently working with technical tasks, do not necessarily belong to an IT-department. Yet, all Business Analysts belong to the HR department. Additionally, those team members who are consultants are only a part of a departments' budget, while not involved in any department-activities as the internally employed team members are (personal communication, April 2020).

Illustration 2: The teams in the organisational structure



Source: Internal organisational documents (2020). Authorised use. The authors edited version of internal document illustrations.

The Business Analysts and Technical Professionals currently work in roles they have not worked in before. All Business Analysts have a broad experience of working with HR, except from one BA who mainly has IT experience and some HR-competence. The Technical Professionals all have previous IT experience, however two of them also have some experience of working with HR questions (personal communication, April 2020). This information is important to consider since the connection between Business Analysts and HR, as well as Technical Professionals and IT, is evident in the analysed teams. As this study aims to explore how HR- and IT-professionals interact in cross-functional teams, it is important to demonstrate the connection of the existing roles and their professionals background.

3 Previous Research and Theoretical Framework

The following section will present the chosen theoretical frameworks of this study, *boundary work* and *sensemaking*, alongside previous research concerning interprofessional collaboration.

3.1 The Notion of Boundary Work

The notion of boundary work, and more specifically the framework developed by Langley et al. (2019), will be used in this study with the purpose of understanding how boundaries between Business Analysts and Technical Professionals are manifested within the studied cross-functional teams. As boundaries emerge from institutions, organisations and individuals (Abbott, 1995), boundary work has been particularly prominent in studies focusing on different professional groups, commonly concerning inter-professional collaboration (Comeau-Vallée & Langley, 2019) and can thus be argued to be of high relevance for the present study. By analysing the findings with the use of boundary work, the present study can contribute with knowledge of how professionals working in cross-functional teams experience the interaction between professionals and furthermore the opportunities to broaden their role. Additionally, the framework of boundary work will also be connected to previous research on collaboration between professions, as yet another perspective of analysis and discussion.

In order to fully understand the notion of boundary work, and before we focus on the framework of Langley et al. (2019), it is important to recognise the origin of boundary work. Thomas F. Gieryn (1983) formulated boundary work in order to describe the discursive strategies used by scientists to separate science from non-science. Gieryn (1983) identifies the following three situations when boundary work is a likely resource used by professionals, not limited to the distinction of science and non-science. (1) *Expansion*, when someone uses boundary work in order to enhance the contrast between rivals in a way that is beneficial for them. (2) *Monopolisation*, when the goal is to monopolise the authority and resources that come with a profession, boundary work is then used to exclude rivals from within. (3) *Protection*, when the goal is to protect one's professional autonomy, boundary work is used to free individuals from having to take responsibility for consequences of their actions by blaming people from the outside (Gieryn, 1983). More generally, boundary work is simply referred to efforts made with the purpose of creating, maintaining or changing boundaries, suggesting that boundaries emerge

from interactions (Gieryn, 1983; Comeau-Vallée & Langley, 2019) and is supported by institutions, organisations and individuals (Abbott, 1995). Moreover, *boundaries* are to be understood as a phenomenon dividing one group from another, categorising people, objects and activities (Comeau-Vallée & Langley, 2019).

Boundary work is argued to be of importance due to the influence it has on the dynamics of collaboration, inclusion and exclusion, which in turn could influence other team- and organisational practices as well as performance. In the framework presented by Langley et al. (2019), boundary work is defined as the:

/.../ purposeful individual and collective effort to influence the social, symbolic, material or temporal boundaries, demarcations and distinctions affecting groups, occupations and organisations (Langley et al., 2019:2).

In this framework, Langley et al. (2019) reviewed the existing studies made on boundary work and defined three categories for these: (1) *Competitive boundary work*, (2) *Collaborative boundary work* and, (3) *Configurational boundary work*. During recent years, the use of boundary work as a tool for analysing individuals, groups, organisations, occupations and institutions have increased. Boundary work is argued to be beneficial when addressing organisational difference, conflict, collaboration and integration. Furthermore, using boundary work can contribute to a unique processual view of understanding forms of organising and integrating agency, power dynamics and materiality (Langley et al., 2019). The three forms of boundary work identified by Langley et al. (2019) is further presented in table 2 below.

Table 2: Three types of boundary work

	Competitive Boundary Work	Collaborative Boundary Work	Configurational Boundary Work
<i>Agents, positions and purposes</i>	People raising boundaries around themselves to protect territory and exclude others	People realigning the boundaries separating them to enable collaboration	People designing boundaries to orient configurations of differentiation and integration among groups
<i>Modes of Boundary Work</i>	Working <u>for</u> boundaries: <ul style="list-style-type: none"> ○ Defending ○ Contesting ○ Creating 	Working <u>at</u> boundaries: <ul style="list-style-type: none"> ○ Negotiation ○ Embodying ○ Downplaying 	Working <u>through</u> boundaries: <ul style="list-style-type: none"> ○ Arranging ○ Buffering ○ Coalescing
<i>Consequences of Boundary Work</i>	Creation, maintenance or disruption of power relation between groups.	Collaboration, learning and coordination among different groups	Reconfiguration of patterns of collaboration and competition among groups

Source: Langley et al. (2019:74). The authors edited version.

Competitive boundary work involves how groups work *for* boundaries, including the three *modes* of *defending*, *contesting* and *creating* boundaries. This type of boundary work occurs when people wish to gain advantage from others and does so by distinguish themselves from the “rivals”. Boundary relations here often shifts the power balance or legitimacy between the parties involved. Studies focusing on the *defending mode* demonstrate the efforts made by agents in order to make themselves superior to others while also creating practices enhancing their claims. Research presented by Langley et al. (2019) focusing on the *contesting mode*, show friction generated by boundary work between different groups. While the higher status groups tend to perceive their superiority as natural, other groups instead try to deliberately blur out the boundaries in order to justify their positions. The third mode of competitive boundary work, *creating* boundaries, includes two different aspects. One being that groups use boundaries to position themselves as valuable and influential in a wider domain, often bridging or connecting with other powerful groups or people. The second aspect concern groups with a

social mission, who opposition themselves to dominant parts of society, trying to minimise connection with those parties (Langley et al., 2019).

Collaborative boundary work (Langley et al., 2019) focuses on groups working *at* boundaries, including *negotiation*, *embodying* and *downplaying* boundaries. Here, groups work at boundaries to develop and/or sustain coordination in contexts where achieving goals is dependent on the collaboration of different groups. These practices emerge in e.g. inter-occupational teams. *Negotiating* boundaries is the most common mode of collaborative boundaries and many studies demonstrate how collaboration is made possible through boundary negotiation where boundaries are created and reformed through interaction, sometimes daily. The paradox of negotiating boundaries is that it is considered both necessary for achieving collaboration but also demanding since it require a constant “give and take” in order to manage tension and competition. *Embodying* boundaries show how boundary work may be developed through the activities of individuals who personally play the role of *boundary subjects*, including negotiating boundaries between groups and coping with their personal identity strains. These boundary subjects can trough their actions reduce tension that could harm collaboration, while also mobilising existing differences in order to form their own roles in new contexts of collaboration. *Downplaying* boundaries describe how people try to minimise the boundaries of “us” and “them” and instead build a shared identity of “we”, despite differences between groups (Langley et al., 2019).

Configurational boundary work or working *through* boundaries (Langley et al., 2019) is often a combination of both competitive and collaborative boundaries as it involves people in a managing or leading position actively reshaping the boundaries of others to orient emerging patterns of competition and collaboration. This type of boundary work includes the mode of *arranging* boundaries, where agency comes from outside the boundaries to influence activities between groups. The outside party reforms boundaries in order to change how things are done, with the aim of creating new interactions that may allow actors to accomplish tasks that otherwise would not have been possible. *Buffering* boundaries is the mode of boundary work where boundaries are shaped by creating spaces to mediate relations between groups with the purpose of achieving collaboration between actors from “incompatible social worlds” and/or competing interests. The arranging and buffering of boundaries thus involve using spaces to orient existing activities, the mode of *coalescing* boundaries on the other hand, integrates

activities from existing domains to new or expanded ones by reshaping boundaries (Langley et al., 2019).

3.1.1 PREVIOUS LITERATURE ON COLLABORATION BETWEEN PROFESSIONS

Professionals engage in boundary work with the purpose of maintaining, changing or broadening the practice domains (Gieryn, 1983). A recent study conducted by Comeau-Vallée & Langley (2019) offers an analysis of boundary work among three professional groups in a multidisciplinary team. The study identifies competitive and collaborative boundary work occurring simultaneously and the dynamics of boundary negotiations over time. Additionally, the study also presents the relationship between the social position of professionals' groups in connection to the use of competitive boundary work. In addition to Comeau-Vallées' & Langleys' (2019) conclusion on boundaries as occurring simultaneously, another study (Ungureanu, Cochis, Bertolotti, Mattarelli, & Scapolan, 2020) conducted in a product development organisation, found that simultaneously occurring boundaries often lead to collaborative strains. This occur when the expectations on how to collaborate do not match the experienced boundaries.

Comeau-Vallée & Langley (2019) furthermore conclude that boundary work used by one group can affect others, both within as well as between different groups. The study also shows how boundary negotiation may positively contribute to social order within or between groups, when professionals have clear boundaries between roles. Furthermore, the study presents a connection between social positions and boundary work tactics, suggesting that status can affect to what extent individuals benefit from interprofessional relations. The article demonstrate that higher-status professionals are more likely to benefit from interprofessional work and relations. The authors explain that high-status professionals, in relation to other professionals, can easily assert their role as well as allow themselves to intrude on the territory of others. Professionals may blur boundaries temporarily for the purpose of a specific work tasks or to maintain socioemotional bonds. However, status-related distinctions among professions often seem to remain in-tact, hindering collaboration. As the study focuses on the conflicts between professionals belonging to the same discipline, it also presents a major challenge of high-status professionals working together in one team, as their need to seek dominance often end up in competitive rivalry and conflicts (Comeau-Vallée & Langley, 2019).

In another study made by Bucher et al. (2016), boundary work was used to explore how professionals respond to a change in boundaries and furthermore how the strategic changes are influenced by the professionals' role. The article presents a framework including four focus areas explaining the strategies used by professionals when the boundaries are *configurationally* changing. Similarly, to Langley et al. (2019), this article shows the connection between status and boundary work, dividing professions into low- middle- and high-status groups. Bucher et al. (2016) present that high-status professionals communicate their authority associated with their status as a way of legitimising their own preferences. Alike strategies may also be used by high-status professionals with the aim to defend existing boundaries. The article suggests that a common strategy for high-status professionals in defending their boundaries is simply to ignore the claims of those with lower status. Bucher et al. (2016) further explain how the lower-status professions overcome authority by using more evidential tactics such as engaging in open debates or attempting to position themselves as credible actors. These tactics are used to reshape boundaries in order to establish equal participation in shared practices and become recognised by the higher-status groups. By bringing light to the existing power structures, lower status professions may delegitimise the attempts of high-status groups to maintain existing boundaries (Bucher et al., 2016).

Sanders and Harrison (2008) presents a study on how employees in the health sector use various tactics to legitimise their occupational boundaries as their environment is growing more complex, demanding changes of existing roles. The article identifies different themes characterising the discourses used by professionals. Sanders and Harrison (2008) suggest that their findings demonstrate a theory of “occupational legitimation talk”, implying that professionals, specifically in new occupations, use different types of legitimacy claims with the purpose of strengthening their role and legitimacy within their complex and everchanging healthcare-environment. Especially two of the findings from Sanders and Harrison (2008) research are interesting in relation to the present study. Firstly, they identify *special expertise* as one type of claim for professional legitimacy, meaning that some employees use relatively narrow claims, such as referring to their expert knowledge from working as specialists, to motivate themselves as being uniquely able to take on certain work tasks. Secondly, the claim of *demonstrating competence*, meaning that employees of different professions or roles use competence as an argument for their own skills being adequate, rather than superior to others, in order to motivate the boundaries between roles. These findings, in comparison to the studies

presented above (Comeau-Vallée & Langley, 2019; Bucher et al., 2016), does not necessarily focus on differences in status, as the study conducted by Sanders and Harrison (2008) demonstrate different professional roles working together using the same tactics for claiming professional legitimacy.

3.2 Sensemaking Theory

Sensemaking theory (Weick, 1995) will in this study be used as a framework for exploring how Business Analyst and Technical Professionals in cross-functional teams, individually and collectively make sense of their reality (Brown et al., 2015). By the use of sensemaking theory in analysing the empirical findings, the present study can contribute with the understanding of how professional identity is perceived amongst HR- and IT-professionals within cross-functional teams. Additionally, sensemaking theory in previous studies will be presented, highlighting the interplay between sensemaking processes in cross-functional teams.

Early implications of sensemaking can be traced back to the late 1960's and the work of Katz's and Kahn's "The Social Psychology of Organisations" (1978). However, it was not until 1995 when Weick released the book "Sensemaking in Organisations" that the concept *sensemaking* was mentioned as an approach to understand the process of organising (Weick, 1995). This view provided a new perspective with an emphasis of understanding how people give meaning to situations rather than focusing on organisational outcomes (Mills, Thurlow & Mills, 2010). In recent years, the concept has mainly been applied in social science research when trying to understand how individuals make sense of how their world is organised (Weber & Glynn, 2006). There is no universal definition of what sensemaking entails (Brown et al., 2015), although there is a general agreement that sensemaking describe the situations where people try to grasp and make sense of ambiguous and complex events (Weick, 1995; Weick et al., 2005; Weber & Glynn, 2006; Brown et al., 2015). Through sensemaking, people impose their experiences, knowledge and beliefs repeatedly and therefore, sensemaking should not be understood as something static (Weick, 1995; Brown et al., 2015). Sensemaking should be looked upon as an ongoing process where the reality is constantly reinterpreted in feedback loops by several actors (Weick, 1995).

Sense may be in the eye of the beholder, but beholders vote and the majority rules (Weick, 1995:6).

In 1995, Weick provided seven *properties* of sensemaking which he means can be used as a guide when trying to understand how, when and why certain sensemaking processes appear. Despite the wide range of diverse situations people are exposed to every day, they still seem to share the same properties and demonstrate a similar process of sensemaking. The description of the seven properties have been moderately revised over the years (Weber & Glynn, 2006; Weick et al., 2005) but the main content of the explanations made by Weick in 1995, seem to remain. Weick (1995) explain that some properties could be more dominant and thereby more interesting to use when analysing a certain phenomenon. In this study, four of the properties were chosen as suitable for analysing the findings, since these were valuable for explaining the sensemaking processes among the team members of the cross-functional teams.

One of the properties explain sensemaking as *grounded in identity construction*. This means that people are going to react differently in a specific situation depending on their personal perceptions. Due to differences in identity, people tend to understand and then act according to their personal experiences and beliefs (Weick, 1995). Identities are created when people give and receive feedback from others. During the reflection of individual and collective actions, people make sense of the observations made which in turn contributes to their understanding of themselves (Seligman, 2006). Another sensemaking property explain sensemaking as *enactive of sensible environments (enactment)*. This property is based on an ontological view, which emphasizes that the world cannot be described as fixed or objective. Instead, the world must be understood as created by, and attached to, the people who shape it. This means that people are to a large extent part of the context and environment they belong to (Weick, 1995).

Based on the above-mentioned properties, sensemaking could be interpreted as a highly individual process. However, it is always grounded in a *social context*, which is also one of the sensemaking properties (Weick, 1995; Seligman, 2006). When a group discuss an issue, everyone contributes to the conversation, regardless of whether they agree to the final decision. People do not necessarily need to be physically present or communicate their opinions, in order to have an impact on the sensemaking process. Absent actions, perceptions, thoughts or facial expression could also contribute to a certain direction of a sensemaking process (Seligman, 2006). The final property to be used in the present stud, explain how *cues* can be of interest when analysing a social phenomenon through sensemaking theory. In the flow of ongoing events, people extract cues in order to make sense of, and grasp, their reality. It is these cues

that lay the ground for the emergence of a certain sensemaking process. Cues are deeply rooted in the context of the situation as well as connected to the identity of the person who is contributing to the sensemaking. People will thereby notice different cues depending on their view of the world and how they look upon themselves (Weick, 1995).

Researchers who have studied sensemaking have not come to a consensus regarding if it should be understood as (1) a purely individual-cognitive construct, (2) a socially collective process where peoples' interactions are of interest, or (3) a process between people where the communication and language is of interest (Brown et al., 2015). Thus, the sensemaking analysis of the team members concerning professional identity and the social interaction between them, must be understood as two separate phenomena. Moreover, the occasion when sensemaking is expected to occur is not established either. Some mean that sensemaking happens constantly in all daily interactions (Patriotta & Brown, 2011) while others emphasize that sensemaking only emerge in rare events such as during crises (Weick et al., 2005).

3.2.1 SENSEMAKING IN CROSS-FUNCTIONAL TEAMS

Sensemaking have received attention in the field of organisational theories and studies, which could be explained by a discovery made by Weick et al. (2005: 410): "sensemaking and organisation constitute one another /.../ we need to grasp each to understand the other". Weick (1995) also implies that sensemaking provide a way of discovering social processes which in turn affect the emergence of organisational outcomes (Weick, 1995). Organisations can be looked upon as sensemaking systems where the goal is to establish events in order to stabilise the context and make it more predictable (Weick, 1995: 170).

In 2016, Beverland, Micheli & Farrelly conducted a study where they through the sensemaking theory examined how design experts and marketing experts interact when working together during interprofessional collaborations. They could see that when these professionals were supposed to interact and work in new ways, new challenges arose as they needed to stand by their perspective while at the same time also having to reach consensus with others on how to make progress. The findings demonstrated that the experts where able to create common understandings while at the same time remain the benefits of having diverse expertise to contribute with to the team performance. This was important since employees from different functions brought important knowledge to the problem solving, and if the team solely relied on

one of the viewpoints, their accomplishments were not as satisfying compared to when they utilised both areas of expertise (Beverland et al., 2016).

Another contribution to the research within organisational sensemaking was made by Akgün, Keskin, Lynn and Dogan (2012), when they demonstrated how sensemaking process can aid cross-functional teams to improve knowledge implementation and faster share information in order to solve problems quicker. The findings also reveal that when team members believe that their colleagues are competent in their area of expertise, the level of trust increases and furthermore enhances collaboration and information sharing among team members. The study demonstrated that if the management does not intervene in the work process within the team, the team members are more prone to improve their collective sensemaking processes, in order to manage the autonomy (Akgün et al., 2012). A similar discovery was made by Kitzmiller, McDaniel, Johnson, Lind & Anderson (2013) when the authors studied sensemaking processes in cross-functional teams. The authors demonstrate how team leaders have an impact on the social interactions and sensemaking processes within teams. The teams' main purpose of implementing health information technology, was diminished when team leaders failed to aid shared sensemaking and understandings among the team members.

4 Methodology

This section will present methodological aspects such as the choice of research strategy and - design, followed by a description of the research method as well as the data analysis and ethical considerations. Lastly, the limitations of the research method will be presented.

4.1 Research Strategy

The ontological view of the world in the qualitative approach is often characterised by the conviction that the social reality is constantly recreated through people's assumptions and actions (Bell, Bryman & Harley, 2019). Since this study is of explorative kind and aims at describing a social phenomenon (Ormston, Spencer, Barnard & Snape, 2014), a qualitative research strategy is thus the most suitable choice. Considering that the present study aims to understand perceptions and experiences among people, a contextual research approach was selected to study the interactions between Business Analysts and Technical Professionals. The key element of this type of research approach is the descriptive and exploratory nature, which can contribute to an understanding of a social phenomenon by exploring experiences and interpretations among participants of one or several groups (Ormston et al., 2014). The groups in this case are the cross-functional teams in the studied organisation. This organisation was chosen for data collection in order to answer the research questions and fulfil the purpose of understanding cross-functional interaction between HR- and IT-professionals. As qualitative researchers, we were open to the flexibility of changing the course of actions as the study evolved, since unexpected observations in qualitative research often occur during the data collection and should be considered (Lewis & Nicholls, 2014). By using an abductive research strategy, we do not seek to come up with a possible explanation for the emergence of the patterns in the collected data (Ormston et al., 2014). Instead, the participants' perceptions are of importance in order to explore the social phenomenon of cross-functional interactions.

4.2 Research Design

The choice of research design should always correspond to the aim and purpose of the research (Bell et al., 2019). Therefore, we chose a qualitative research design deriving from the research questions and purpose of the study. The intention for this study is to understand certain

perceptions and actions among individuals in a specific social context. The research design provided a framework for studying patterns and associations between Business Analyst and Technical Professionals in their daily interactions. The design for this study draws on multiple levels (Bell et al., 2019), since the units of analysis are both the team members as well as the overall cross-functional teams. The technique for data collection was chosen based on the research design. The understanding of context was vital for this study, and therefore primary data was gathered through individual semi-structured interviews as well as non-participation observations (Lewis & Nicholls, 2014; Bell et al., 2019).

4.2.1 SAMPLING

Among several teams that could be applicable as units of analysis, three teams were chosen due to time and cost limitations. The sample was based on the likelihood that the units of analysis would contribute to an understanding of the studied phenomenon. Among many teams, three were chosen as units of analysis based on pilot interviews. The intention was to collect data from teams with diverse characteristics concerning e.g. work tasks and number of team members. An evident factor affecting the sampling of teams was naturally also their willingness to participate. This is by Bell et al., (2019) described as a generic purposive sampling method, where the sampling is fixed on certain criteria needed in order to answer the research questions. The primary stratifying criteria for the participants in this study was that they either had an occupational background in HR and/or IT, and that they were members of one of the three chosen teams of analysis. Additionally, no one from the organisation have had the ability to affect the sampling strategy, since we as researchers were the ones deciding upon the criteria for participation.

4.2.2 DATA COLLECTION

For this study, semi-structured interviews are the primary source for data collection. A total of 15 interviews were conducted with five Business Analysts, four Technical Professionals, three Additional Functions and three Product Owners. The number of interviews were not determined in advance but rather a result of saturation of information gained during interviews (Bell et al., 2019). The semi-structured interviews were based on several interview guides with the same content but somewhat modified depending on the participants' roles. The questions were categorised into themes, in order to cover the topics of the study and the open-ended questions

allowed the interviewees to make their own interpretations. Through this approach, the risk of imposing our perspectives on the participants were minimised (Bell et al., 2019), and thus a deeper understanding of their personal stories was gained.

The interaction between the interviewees in each team was observed during multiple team meetings. The observations made fall under the category of “non-participation observations”, which means that the researchers do not engage in the observed social environment (Bryman, 2011). Therefore, we intentionally placed ourselves at the back of the room and did not interact in conversations. The observations can also be described as systematically structured since an observation chart was created in order to later analyse the observations made (Bryman, 2011). As the observations occurred both previous to- and during the process of conducting interviews, the observations helped to highlight interesting aspects to consider when creating the interview guide and furthermore taking part of daily situations described by the participants.

The data collection also consists of secondary data in terms of internal documentation which were used as background information for the report, in order to understand the teams’ work structures and roles.

4.2.3 SETTING

It was important to create a safe environment where the interviewees felt that they could share their experiences and ask necessary questions. The interviews conducted at the participants workplace were therefore held in soundproof meeting rooms. However, due to the Covid-19 pandemic that took place during this research process, a majority of the interviews were conducted by the use of digital tools. As the teams usually work internationally through various digital devices, having interviewees in this manner was not an unusual way of communicating for the respondents. Neither did this way of collecting data affect the overall research design.

4.3 Data Analysis

In the following section, the process of analysing the empirical findings will be described, followed by a discussion concerning the trustworthiness of the empirical data.

4.3.1 METHOD FOR ANALYSIS

The purpose of this study is to understand a social phenomenon based on the perceptions of individuals, which is explained as an inductive method (Bryman, 2011). At first, the semi-structured interviews were thoroughly transcribed in order not to miss any interpretations and details in the interviewees' explanations. The transcribed material was thereafter analysed through a thematic analysing technique, where the focus was to analyse *what* the respondent said instead of *how* they said it (Bryman, 2011). The first step was to code a part of the data material with an extensive amount of codes, described as first order coding. These were later discussed, and a second set of codes were agreed upon which were then used for coding the entire data material (Bryman, 2011). Thereafter, patterns in the second order codes were found and categorised into different themes depending on their character. Based on the codes and themes, the decision regarding which theoretical frameworks to use for analysing the empirical data was made, which resulted in the use of sensemaking theory and the notion of boundary work.

4.3.2 TRUSTWORTHINESS

In qualitative studies the *trustworthiness* of the research is often discussed. This includes the (1) *credibility*, (2) *transferability*, (3) *confirmability*, and (4) *dependability* (Bryman, 2011), as presented below.

The interviews conducted in this study have been transcribed before analysed and processed as empirical data. However, the transcriptions were not sent to the respondents for them to revise before data analysis. Thus, we cannot dismiss the risk of some participants having expressed themselves wrongfully. This could potentially have led to unconscious misinterpretations during the interviews, which consequently can decrease the level of *credibility* of the results (Bryman, 2011). In order to avoid this issue, the both of us were present during all interviews which allowed for a discussion of the shared information. Subsequently, this course of action increases the credibility of the empirical data (Bryman, 2011). To avoid any misunderstandings the presentation- and analysis of empirical data is presented through applicable quotations. Furthermore, observations were conducted in order to ensure the credibility of the information retained during interviews.

A study's *transferability* refers to whether the result is substantial enough to transfer to other environments (Bryman, 2011). As this study is conducted in one specific organisation, there

certainly is an issue of generalisation to other organisations. However, the analysis of the empirical findings in connection to previous studies, may still contribute with an understanding of the studied phenomenon that can be interesting to consider in other environments as well.

When it comes to social sciences, there is a general perception that one individual cannot present a fully objective analysis of the phenomenon being studied. Thereby, it is important that researchers can *confirm* that they have not consciously been affected by personal values or beliefs in ways that favour the researchers in any way (Bryman, 2011). Therefore, it was important for us to independently interpret and analyse the empirical data, without being impacted by the organisation of investigation. During the work process, we have been in contact with a person working in the organisation, also known as a *gatekeeper* (Webster, Lewis & Brown, 2014), who have supported us in practical matters. One risk with having a gatekeeper, is that this person could potentially have demands impacting the trustworthiness of the data collection. These possible issues have been considered and therefore the gatekeeper was neither informed about the choice of participants, nor has the gatekeeper been able to impact the analysis of the findings.

Finally, *dependability* entails that the researcher ensure that there are thorough explanations of all the stages within the work process. By having external objective parties reviewing the legitimacy of our theoretical conclusions (Bryman, 2011) and then adjusting any inaccuracies, while also presenting the method thoroughly in the report, one can argue for a high reliability of the present study.

4.4 Ethical Considerations

During the process of the study, we carefully complied with the four ethical principles of the humanistic and social science research issued by the Swedish Research Council (The Swedish Research Council, n.d.).

Before the participants began their participation in the study through interviews or observations, they were informed about several aspects regarding their participation through an information letter. The information stated that the participants at any given time could contact the researcher to ask questions or withdraw their participation without being negatively affected. However, no participant desired to withdraw their participation from this study. They were also informed

that they had the right to make demands on the circumstances of their participation. This is important in order to avoid that a feeling of dependency or enforcement is placed on the participants (The Swedish Research Council, n.d.). During the time of data collection, the participants were once again asked if they had any questions regarding their participation. Due to the above-mentioned measure, the *information requirement* stated by The Swedish Research Council (n.d.) can arguably be perceived as complied to.

In addition to the information letter, the participants also received a letter of consent which they signed as they agreed to participate in the study. This agreement clearly states that the participants have received written as well as oral information regarding the purpose of the study. In order to comply with the *consent requirement* (the Swedish Research Council, n.d.), the participants were also asked if they agreed to the interview being recorded. They also learned that they had the right to refuse to answer any questions without having to explain themselves or be negatively affected by doing so.

It was of high importance that both the organisation as well as the participants were kept anonymous in this study for the reason of confidentiality. This was also of importance so that the professionals would feel that they could share their stories without having to be cautious about how they express their experiences and perceptions. Therefore, everyone involved in this study was informed through the information letter that all information that could be traced to them or others personally, will remain confidential. The material was after the data collection stored digitally with a password which made it practically impossible for unauthorised to gain access to. Additionally, the quotations presented in this study are not traceable to anyone personally. Finally, as some of the participants role titles could affect their anonymity, we have decided to revise these to a collective title named *Additional Functions*. Thereby we believe to follow the *confidentiality requirement* (The Swedish Research Council, n.d.).

The empirical data collected during the research process will not be used for any other purpose than as data for the present study. This follows the *utilisation requirement* which highlights that the material gained during data collection may only be used for purpose of the present study (The Swedish Research Council, n.d.)

4.5 Limitations of the Research Method

Although the method for this study has been carefully designed, some limitations are inevitable. Even though we strived for a varied representation in the sample (e.g. background, competence and gender), the primary stratifying criteria was their previous occupational background and that they are members of one of the three chosen teams for analysis. Thereby, the diversity in other aspects was de-prioritised, possibly impacting the degree of variation in representation among participants. Although there was a substantial amount of qualitative data gathered during 15 interviews, critics mean that qualitative research results are difficult to generalise to other contexts (Bryman, 2011). We acknowledge this limitation and the purpose is thus not to generalise the conclusions but rather inspire- and provide knowledge for potential actions taken within similar circumstances regarding HR- and IT interaction in cross-functional teams.

An unplanned practical limitation was the effects of the Covid-19 pandemic, which demanded the majority of interviews to be conducted digitally. Although we have argued for the limited negative effects this probably had on the data collection, there were some technical difficulties occurring that could possibly have affected the data collection negatively in terms of misunderstandings due to poor internet connection. Another limitation is that two of the interviews were not recorded as we followed the consent agreement (The Swedish Research Council, n.d.) and accepted that two of the participants were not willing to have their interviews recorded. As mentioned above, an important aspect when conducting this study was to keep the organisation and participants anonymous throughout the entire process. Some of the interviews were held in English and some in Swedish, which alone did not affect the data collection negatively. However, some quotes have been translated into English, but it is not possible to declare which ones due to confidentiality.

5 Empirical Findings and Analysis

The following chapter will present the empirical findings and analyse these with the theoretical frameworks of boundary work and sensemaking theory. Most commonly, the focus will be on one of these, while at times using them concurrently. The empirical findings will be presented in the following order: (1) *Professional Identity in Cross-Functional Teams*, (2) *Experienced Interaction in Relation to Boundaries in Cross-Functional Teams*, and (3) *Difficulties in Crossing Boundaries*. The analysis of the findings will be conducted continuously together with the empirical findings in this chapter.

5.1 Professional Identity in Cross-Functional Teams

In the section below, the empirical findings concerning respondent's perceptions of their professional identity is presented. Also, the experiences of interaction in the teams and perceived mandate and status between roles is described and analysed through the theoretical frameworks. This chapter aims to answer the research question concerning how team members perceive their professional identity in relation to their cross-functional team.

5.1.1 UNDERSTANDING ONES PROFESSIONAL IDENTITY

When asking the cross-functional team members to reflect upon their professional identity, some differences were found among Business Analysts and Technical Professionals. All Business Analyst expressed that they identify with the HR-profession in one way or another, primarily connecting their professional identity to the overall business and them being representatives for the internal end-customer of the system. However, most do not necessarily identify with what can be considered traditional HR practice.

*/.../ For me it is about working to gather what is needed for the needs in the business, in this case an HR product, but it could just as well have been another product.
- Business Analyst*

The quote above exemplifies that the most important part of the professional identity of BAs is not to identify with digital HR products, but rather to identify with being a representative for business, regardless of what the team is producing. When reflecting upon their professional identity as Business Analyst, most BAs do so in relation to the competence of their technical

colleagues. The majority of BAs mention that they somewhat also identify with the IT-profession, at least enough to understand the TPs perspective and meet their demands.

When asking the Technical Professionals about their professional identity, they were not as unified in their answers as the Business Analysts. However, most of the Technical Professionals do consider themselves being the once contributing with the more technical aspects in the teams. One of the respondents explain that the work tasks are not only IT-related and therefore this respondent does not identify as being an “IT-person”. Others express that they within their teams identify fifty-fifty with BA and IT, often due to their previous experiences in both areas.

That's my problem in this role, because they say that I'm more IT now and clearly, I am. But my background is more HR business, but with the understanding of systems. /.../ I am placed a little in between [BA and TP]. I am a little on both sides, business and IT /.../. I care more about the bigger picture, whilst [the TP colleague] is more on the details. - Technical Professional

When analysing how the respondents perceive their professional identities within the teams, the findings indicate that the Business Analysts share the identity of being HR-professionals, which is further described as being a representative of the business. It seems as if the BAs sensemaking processes are made through a shared “HR-lens” where they unconsciously enhance each other's professional identity. This way of conducting sensemaking processes through collective actions will in turn contribute to each person's understanding of themselves in accordance with the *social* property of sensemaking (Weick, 1995; Seligman, 2006). As the BAs work in the context of a cross-functional team, they seem to differentiate themselves from the Technical Professionals and thus enhance their collective identity as HR-professionals. The change in professional identify is demonstrated as some of the BAs explain themselves to somewhat identify with IT as well, which they argue to help them understand their TP-colleagues perspective. This indicate that their identity becomes a reflection of their environment in accordance with the *enactment* property (Weick, 1995).

Regarding the Technical Professionals, the findings indicate that most of them identify more with the technical aspects. However, those TPs who also partly identify with HR, have previous experience of working in both the HR- and IT-field. This indicate that the TPs professional identity is both impacted by their previous experiences, as well as the new context they are currently working in, according to the properties *grounded in identity construction* and

enactment (Weick, 1995). As a result, some still identify as being both business and technical, however they perceive themselves as not being allowed to take on the business-role, since they are expected to be technical according to their role in the team. This indicates that the expectations from others in the cross-functional environment not only shape the work process, but also indirectly the sensemaking process and identity construction among the team-members. This corresponds to the social property of sensemaking, describing how actors who are not physically present could still impact the sensemaking processes within a certain context through their perceptions and beliefs (Seligman, 2006).

5.1.2 EXPERIENCING INTERACTION BETWEEN ROLES

A vast majority of the interviewees express that there is a difference between Business Analyst and Technical Professionals when it comes to perspective and mindset. Many also consider that it is easier to interact with, as well as understand, those in the team who have a similar background and experience as themselves. Some of the TPs describe that it is more difficult to work with BAs because of their lack of system knowledge. Furthermore, they emphasize that it is important that the Business Analysts not only place an order of what they would want in the system, but instead that there is a continuous dialogue between the two professions in order to be more efficient.

Several respondents with BA-competence express that they have demands from the business that are not always compatible with what is possible to do in the system. Therefore, there can be friction when BAs want an ideal product that matches the customers' demands, while the TPs are not keen on repeatedly changing the created product. This tension was expressed by several team members, both Business Analyst and Technical Professionals:

/.../ we try to make the [TPs] understand what we want to achieve but sometimes it is not compatible with the /.../ systems. But we also think very unlike. They become frustrated /.../ There have been several discussions, some things we have had to let go of, but other things we have agreed upon. /.../ [TPs] are supposed to realise our intentions. It is just that sometimes they do not understand what we want. - Business Analyst

/.../ I think that all who are not [TPs] think that it is just to change things and 'move fields here and there', they do not understand how long time it takes. But there are no conflicts regarding this. - Technical Professional

Understanding the above from the sensemaking perspective (Weick, 1995) and the fact that team members with similar background and experiences prefer to interact with each other, indicate that the effort of making sense of a situation is easier when interacting with those who share similar experiences and knowledge. The above can also be connect to individuals extracting different *cues* which they make sense of based on their personal perceptions and experiences (Weick, 1995). The Business Analysts perceive themselves as representatives for the business. Therefore, when interacting with the TPs, the BAs maintain their professional role by standing by the demands from the stakeholders and customers. The BAs thus make sure that the business receives a useful product and at the same time remain their professional identity of being their representatives. However, the TPs extract other sensemaking cues and thus tension emerges when none of the two professional groups are willing to abandon their perspective and leave room for shared sensemaking processes. The above is thus an example of how diverse cues can be extracted during the same situation and still being interpreted in different ways through diverse sensemaking processes (Weick, 1995).

Several respondents' use the metaphor of "speaking two different languages" when they describe the interaction between Business Analysts and Technical Professionals. Some even experience that they must act as translators in order to aid communication. The team members taking on the role as "translator", all have experience of working both technically and with more business-oriented tasks. Below, one Product Owner and one Additional Function is quoted, describing the difficulties in having team members not understanding one another and, taking on the role of a translator.

Never ever have digital colleagues been so close to [HRs]. /.../ it has been a bumpy journey and a learning experience. /.../ And my clear analogy is like, bringing [BA- and TP-professionals] together, they *don't talk the same language!* And that's exactly what we experienced during the first few months and of course in the team there are different dynamics /.../. The business will not understand what the digital colleagues are saying and vice versa. - Product Owner

I had to go in and translate [laughter]. It sounds totally crazy, but like /.../ It becomes a major clash when they say: 'I can only business, and I can only IT /.../' And it can still be like that in some sense, but the understanding has increased on both sides - Additional Function

The above findings concerning the need of translators can be analysed trough the notion of boundary work (Langley et al., 2019). The actions of "translators" can be compared to the

embodying mode in *collaborative* boundary work, where some individuals play the role of *boundary subjects*, functioning as a threshold between groups. Through their actions the boundary subjects can absorb tension that otherwise could hinder collaboration (Langley et al., 2019). These efforts could also be understood as a way of helping the team members to pick up the same *cues* and/or understand each other's social cues. The understanding and learning of new cues might redefine the sensemaking in the group and change it from being a solely individual process to a socially collective one (Weick, 1995; Brown et al., 2015).

Although there currently are some challenges in working cross-functionally, one Additional Function share a positive approach regarding the teams and explain that the new structure could minimise misunderstandings between professions:

The idea is very good, to un-build these bridges between IT and [HR]. - Additional Function

Many explain there to be a challenge in making everyone recognise that the team consist of two professions with diverse perspectives and mindsets. Some respondents expressed that these issues have been raised in their teams and that they have seen improvements in the understanding between BAs and TPs due to this. Most of the interviewees also experience a general effort amongst colleagues in trying to understand the perspective and needs of the other profession. Many express the rarity of conflicts and that they have seen examples of team members actively helping each other to learn some easier tasks of their opposite roles, for the team to become more efficient. BAs and TPs generally agree that they now are working closer together than ever before. One of the TPs describe the agreed work process:

Whenever the businesspeople /.../ go into a meeting, they right away get back with all the technical questions they have /.../ and ask us what is possible to do and then they define the process, go back to the users and get the process clarified or confirmed. If possible, they actually, invite us to those meetings. That is the first preference, if not, they keep everything open and won't commit to anything unless they have taken our approval first. - Technical Professional

The findings indicate what can be understood as a difficulty in separate sensemaking processes, where the cross-functional team members at times struggle to understand each other because of their diverse backgrounds and work processes. This is explained through the metaphor of "speaking two different languages". All BAs and TPs seem to view their previous knowledge as a strength that they bring to the team, and they are not willing to change that entirely. Weick

(1995) explain that people make sense of ongoing events by extracting social *cues*. Therefore, it is easier to collaborate if people are able to extract similar cues in a certain situation. The respondents experience a general effort towards finding synergy between BAs and TPs. From a sensemaking perspective, this indicates that the team members recognise the importance of understanding the perspective of the opposite profession in order to make sense of what each team member represents and contributes to the team. However, there still seems to be a lack of understanding concerning diverse cues of communication which causes misunderstandings. This is for example demonstrated when a Business Analyst fails to understand what the system is capable of and then brings the demands from the customer without being open to changes.

The indications of team members actively trying to understand the perspective and needs of the opposite profession could also indicate that there is a movement of *downplaying* boundaries (Langley et al., 2019). This is for example demonstrated through new agreed work processes, where the Business Analysts do not make any decisions without consulting the Technical Professionals first. This way of minimising the “us-and-them” feeling and thus downplay the boundaries, is according to boundary work a way of building a shared identity despite differences among participants in a group (Langley et al., 2019). The fact that most of the interviewees experience a general effort of moving in this direction, indicates a possibility of moving towards *collaborative* boundary work (Langley et al., 2019).

5.1.3 MANDATE AND STATUS AS SHAPING PROFESSIONAL IDENTITY

Concerning who takes initiative in the teams, there was a common understanding among the respondents that it varies depending on which competence is needed to carry out a certain task. If the work requires more business competence, then the BAs tend to take more initiative for action and the same goes for the TPs if the task is more technical. Still, several of the Business Analysts explain that the Technical Professionals more often need to adjust to the business more than the other way around since the team needs to make sure that the end-users receive a useful product. While several TPs argue for their competence to be vital for product development, one of the Technical Professionals accentuates that the Business Analysts have a greater influence in terms of how the team conduct their work and what decisions are made. However, this person does not believe that this is due to their separate roles or expertise, but instead because of BAs' legitimacy in the organisation. Therefore, this TP believes that the BAs also have a great influence on the Product Owner, giving them the possibility to exert power through the PO

without having to be responsible for any decisions. The respondent continues by explaining how it is frustrating that the BAs more often have the last word in discussions regarding the work-process despite their limited understanding of the technical aspects. This, as their strong influence often makes the work unproductive.

/.../ basically, for them [BAs] it's like: "We will decide, and we'll let you know what we want in the system". /.../ So [laughing] they wouldn't take me into the conversation in discussing what they want. They would just tell me in the end what they want. And I would tell them that the system can't do that because of its limitations and they're like 'oh...'.
- Technical Professional

The findings concerning mandate and status within the cross-functional teams can be analysed through boundary work (Comeau-Vallée & Langley, 2019). Some of the BAs professional identity seem to be shaped by (Weick, 1995) their organisational status. This status is used by the BAs in order to influence the TPs and the boundaries (Langley et al, 2019) between them. The Technical Professionals on the other hand seem to have developed their professional identity mainly throughout their previous work experience (Weick, 1995) and they instead use their technical competence as an argument to remain legitimate in the discussions in an attempt to reshape the boundaries (Langley et al, 2019).

The professionals seem to give each other legitimacy to make decisions within the areas where they have the most experience and competence. However, the findings indicate that the team members have different perceptions of each other's competence, which could possibly explain the tensions emerging when professionals perceive themselves as not "allowed" to take part in certain conversations. This indicate that the team members use their competences in order to exert power within the area of expertise and therethrough remain legitimate. Legitimacy and authority within the teams is used as a way of working *for* boundaries instead of *at* boundaries (Langley et al., 2019). It seems as if the TPs experience that the BAs are trying to create boundaries as they emphasize that they are the once coming with the request from the end-users and that the TPs more often need to adjust to their demands.

5.2 Experienced Interaction in Relation to Boundaries in Cross-Functional Teams

In the following section, the roles and boundaries within the teams, the emergence of them and the boundaries in connection to department belonging, will be presented and analysed with a focus on the notion of boundary work. This chapter provides empirical data intended to answer the second research question concerning how boundaries are experienced through the interaction of cross-functional team members.

5.2.1 DEFINING ROLES AND BOUNDARIES

When reflecting upon the roles within the teams, all respondents described a division between BAs and TPs in the sense of having different responsibilities and work tasks. Several respondents mention role descriptions as non-existing which indicate that these have not been formally communicated, as they do in fact exist. Despite this, everyone seems to have a good understanding of what is expected from their role in the team. The role of being a Business Analyst is described as understanding the organisation and its processes from start to finish. It also requires an ability to network and ask the right questions while being a bridge between the end-customer and the technical system. The Technical Professionals, on the other hand, are described as knowing what technical questions to ask, understanding the abilities of the digital HR systems and working with developing or configuring these. Most respondents explain their role as either BA or TP, but with some flexibility between roles. Below are some examples of the respondents' thoughts on this flexibility.

I don't really think there are like boundaries between BAs and [TPs]. No, there isn't really a difference between BAs and [TPs]. – Additional Function

But if a task is 100 % business, then perhaps [TPs are] not the right [ones] to do it. And if something is purely technical, then BAs shouldn't do it, it wouldn't be done good enough. So, the boundaries between us has its purpose. – Additional Function

I can also step into the BA role when needed. /.../ It takes some time for new team members to understand the roles /.../ before [they] know what we are doing and where we draw the line like, "okay you're technical, I'm business, this is how we should work". – Technical Professional

Despite the perceived flexibility, it is evident that the team members use a vast majority of their time working with tasks that are either BA or TP related. Reflecting upon the division, some positive aspects were mentioned. One being that tasks are performed quicker when each person is an expert in one area. However, this was only considered positive on short term, as having team members competent enough in both areas of expertise is considered even more effective. Another positive aspect mentioned, was that it can be a team strength to have different competencies if they are utilised correctly and the team members can collaborate well. A clear example of the boundaries between BAs and TPs is the recognition of subgroups. One PO describe subgroups as a natural part of the work process, since everyone does not always need to be involved in every matter. This PO also makes a point in mentioning that subgroups are not necessarily negative, if the purpose of them is clear, otherwise subgroups may risk contributing to an "us-and-them" feeling within the group.

When analysing the description of the existing roles as well as the division and flexibility between them, the findings indicate *collaborative* boundary work (Langley et al., 2019) within the cross-functional teams. Most participants seem to prefer to describe the division in roles in accordance to *negotiating* boundaries, where the BAs and TPs ability to be flexible between roles is mentioned by several participants. However, several state that they spend a vast majority of their time working with tasks that are either BA- or TP related and thus do not cross the border between roles that often. Consequently, the descriptions on roles and the division between them rather shows a clear boundary between roles, with actions of *downplaying* (Langley et al., 2019) the existing boundaries and trying to collaborate *at* them whilst keeping the roles clearly separated.

The initial feeling or perhaps wish of being more flexible could furthermore be argued to be hindered by the sensemaking of roles within the team. According to Weick's (1995) description of sensemaking as *grounded in identity construction*, one could argue that the team members difference in identity and previous experiences can be a barrier restraining the team members to be flexible between roles. Since the team members might be influenced by their previous experiences of working in separated teams, rather than cross-functional ones, the willingness to *negotiate* boundaries may rather be analysed as a *downplaying* of existing ones (Langley et al., 2019).

5.2.2 THE EMERGENCE AND VISION OF BOUNDARIES

During the interviews the respondents were asked about the Product Owners involvement regarding the distribution of work tasks within the cross-functional teams. This in order to understand *how* the division between Business Analysts and TPs emerge within the teams.

All participants describe the division between BAs and TPs to partly just “happens by itself”. Some mention that the work is being divided between roles based on competencies and skills needed for each work task, which naturally separates the team members and thus create a boundary between them. Most participants also describe that the division is a result of the Product Owners directives. In all teams, there are participants mentioning that the Product Owners’ initial idea is that every team member should perform both business- and technical tasks. However, the team members say that this is not a current priority, which some explain to be the result of an increased workload and limited time for developing new skills and competencies. In connection to the framework of Langley et al. (2019), one could argue that the agile work structure could enable a *negotiating* of boundaries. However, due to the lack of resources such as time, and perhaps as a result of the team members sensemaking of their own role and identity (Weick 1995), it seems as though the team members rather continuously establish already existing boundaries and thus *downplay* them.

During interviews with the Product Owners, all three of them state that the goal is to merge BAs and TPs, however the POs have somewhat diverse perspectives on the matter. One PO wishes for the difference between BAs and TPs to be as minimal as possible, ideally non-existing. This same PO also claims that there is no clear division between BAs and TPs in their team today and that titles or roles are irrelevant, instead referring to competence as the most important aspect. On the contrary, the two other POs argue that some difference between roles is positive, as this could potentially be the strength of their cross-functional teams, where professionals with different areas of expertise work together, hopefully collaboratively. They both explain that the difference between BAs and TPs today are quite large.

As the three Product Owners have somewhat different visions of the boundaries between Technical Professionals and Business Analysts, the boundaries within their teams are most likely to developed differently. Langley et al. (2019) describe *configurational* boundary work as involving a leading position to actively reshaping the boundaries of others, leading to new interactions and activities. It is evident that all three Product Owners show signs of

configurational boundary work as they all want to create new interactions among the TPs and BAs. All Product Owners also describe a vision that can be connected to *collaborative* boundary work (Langley et al., 2019). However, their aim differs when it comes to the mode of collaborative boundary work. Since the reflections from the Product Owners focuses on their visions rather than the current situation, an in-depth analysis of what collaborative boundary work the POs aim for, will not be conducted here. Even though the POs visions of the future is relevant for understanding the development of boundaries, they are not applicable in order to comprehend the currently existing ones and will thus not be further elaborated.

5.2.3 EXPERIENCING CURRENT BOUNDARIES

In general, the respondents have a positive attitude towards the cross-functional interactions within the teams, while still raising some issues. One aspect mentioned by several Technical Professionals is the desire to dissolve the existing boundaries between roles, as exemplified by the following quote:

Me as a [TP] don't have as much control over how things should be done, which often creates clashes. Because people are making decisions without me and those aren't always so good. /.../ They sometimes say, "oh you will not understand how we work here /.../ because its more business related". /.../ [You] have to understand [the business] in order to build a system that meets business expectations, I understand that. I know the HR part of it. But over here, the majority of people see me as a tech-[nerd] /.../. But what I'm doing in the system is not that complicated. /.../ They shouldn't be splitting the team like this, we should all be working together – Technical Professional

The participant quoted above explain being viewed as “only a tech-[nerd]” whose competencies are not fully utilised. In contrast to this, one TP express the potential benefits of working with more BA related tasks. However, the same TP does not currently perceive there to be a need for taking on such work. A general perception among respondents when explaining the possibility for flexibility between roles, is that they find it beneficial for TPs to take on a BA role, but only a few express a need for BAs to take on a TP role. Moreover, most TPs believe that they have the competence needed in order to work with business related tasks and regard this as *beneficial* for the team's work. On the contrary, most BAs explain that they could work with more TP related tasks, but *only if necessary*.

The described conflict emerging as a result of the separated roles can be analysed through the notion of boundary work (Langley et al., 2019). The findings indicate that Business Analysts raise boundaries around themselves and thereby exclude Technical Professionals. These actions are equal to what Langley et al. (2019) identifies as *competitive* boundary work, where people work *for* boundaries. By not letting the Technical Professionals into all conversations and dismissing their competence as “only tech-[nerds]”, boundaries are raised between the two groups and the opportunities to cross them are minimised. Despite the possibly occurring competitive boundary work, some still argue for the opportunities with the flexibility between roles, hence describing a *collaborative* boundary work (Langley et al., 2019). However, this flexibility is seldom used. The *need* for crossing boundaries is perceived differently by Business Analysts and Technical Professionals. This could indicate that the general wish for *negotiating* boundaries is hindered because the flexibility between roles is not reciprocal and due to that the BAs boundaries seem to have more legitimacy than the TPs. One could thus question if the Business Analysts are generally more prone to *defend* their boundaries than the Technical Professionals, referring to the fact that the TPs experience it as difficult to negotiate boundaries, due to the *competitive* boundary work of BAs. From a sensemaking perspective (Weick 1995), it is also noticeable that the team members previous work experiences are influencing their current actions in *competing for-* or *collaborating at* boundaries. Some of the participants with the role of a Technical Professional have previous experience of working with both business-related tasks, as well as technical ones. One could thus reflect upon if the TPs previous experience in both areas, is an aspect potentially explaining why their boundaries are perceived as less distinct than the BAs boundaries.

Several of the interviewees highlight that the agile way of working allows the teams to be self-organised, rather than being given clear directions from one leader. However, a majority confirms that the PO is the one taking most initiative for action and has the final say when there are discussions or disagreements. Therefore, several respondents experience that problems occur when the Product Owner does not have adequate leadership skills and knowledge of both the business- and technical field. As exemplified in the quote below, one TP experience that the Product Owners’ inadequate technical knowledge and leadership, has a negative impact on two main aspects. One being the division of tasks between BAs and TPs. And, the second one being that the PO does not support the TPs decisions as much as the BAs. This makes it difficult for the PO to make decisions that the BAs may not agree with.

Whatever [the BAs] want to do, [our PO] is not gonna [sic] stand up to them and say “no”. These [BAs] are almost like dictating things and [our PO] doesn't have enough to stand up, to tell them “no” or to tell them how things are. [Our PO] is checking a lot of things with them instead of making these decisions. - Technical Professional

Many agree that the ideal situation would be to have Product Owners with expert knowledge in both areas. While some argue that this should be a requirement for having a PO role, others express that people with that specific experience are difficult to find. Therefore, the close interaction between the team members is essential in order to be able to make good decisions and keep promises to stakeholders.

The Langley et al. (2019) framework of boundary work demonstrate how leaders and managers often work actively to reshape boundaries by designing or *configuring* them with the purpose of changing interactions between, often very different, groups. Many respondents perceive that the Product Owners intervene a lot, which could be an attempt towards *arranging* boundaries (Langley et al., 2019). This for the purpose of later having the team *negotiate* the boundaries independently. As the Product Owners attempt to *configure* boundaries, some participants express that problems emerge since some POs do not have enough knowledge in both the business- and technical area of expertise. Thereby, while the POs aim to arrange boundaries in a way that allows *collaborative* boundary work, they instead occasionally end up *buffering* (Langley et al., 2019) the boundaries. This indicate that the POs rather tend to mediate between the professionals, who “speak different languages”.

5.2.4 DEPENDENCY BETWEEN ROLES

To understand the boundaries between roles, various dependency-related questions were asked to the participants. In this section, some already presented information is consciously repeated as it is needed for one to understand the dependency between roles.

All respondents working as Business Analysts express that there is a mutual dependency between TPs and BAs. Some also state that this dependency is based on the two roles having different areas of expertise which are equally needed. This perception on dependency is also shared by the Additional Functions. One of the AFs specifically emphasize that problems arise if the BAs and TPs are not willing to compromise, which may happen when they do not understand that they are dependent on each other's competence. Another AF highlight that the

roles are useful in different ways, and that dependency is something the team needs to benefit from.

Most participants, regardless of role, express that even though the team members enter the work process in different stages, they are constantly dependent on one another. Although TPs and BAs share a similar understanding of the dependency as varying throughout the process, the Technical Professionals in general have a different perception on dependency. Most TPs experience that the BAs competence and especially their experience within the company, is valuable. This while also arguing that the team *could* manage without the BAs expertise. However, as quoted below, one AF is more hesitant towards whether the TPs could take on the tasks of BAs, while still saying that it is possible.

Well... yes, we would probably manage without our BAs, but over time it would probably not... well it depends... I do think that if you get into the work, I do have the time I feel but I do not have the knowledge regarding the processes but that is possible to learn. - Additional Function

In further describing why the TPs could manage without the BAs, some TPs say that they themselves could learn the business-oriented areas and/or that they already have TPs with previous experience of working in both areas. While the TPs in general believes that they could do BA-work, one TP specifically express that the BAs on the other hand cannot do the work of a TP. The BAs in general have a rather different perception than the TPs on the dependency between roles, believing that there is a mutual dependency between them. Only two BAs express that they could have taken on the tasks of the Technical Professionals while at the same time also believe that they could have conducted *some* technical tasks even better than the TPs, as quoted below.

No, we cannot configure systems. However, I think that they at many times are performing tasks that we could have done. The solution that we have are probably better than what they can. Sometimes we have done [some technical tasks] ourselves and then it went faster. - Business Analyst

When analysing the boundaries existing within teams (Langley et al., 2019), the dependency between roles can be of importance. Since most respondents recognise a dependency between roles when it comes to work tasks, the boundaries are arguably of *collaborative* or *configurational* kind, rather than *competitive* (Langley et al., 2019), as the professionals

together try to coordinate their work. Yet, the boundaries could also be of competitive kind (Langley et al., 2019), but this would indicate that the two professions are describing that there is a dependency of one another, while also actively trying to raise boundaries between them. Acting upon competitive boundary work while stating that dependencies exist, would most likely mean that individuals are aware of the problems of raising boundaries, whilst still being willing to do so in order to protect their own territory. However, since this study have presented some examples of tensions occurring between BAs and TPs, one cannot dismiss the possibility of the above. When separating the work tasks, from the individual's professional identity, the findings rather indicate competitive boundary work. This is specifically noticeable when it comes to the TPs, as they explicitly say that they would most likely manage the teams work without BAs. This reasoning indicate signs of *contesting* mode, where the BAs try to *defend* boundaries in order to protect their legitimacy, while TPs blur the boundaries in accordance to the mode of contesting boundaries, in order to justify their position as competent within both the business- and technical area.

5.3 Difficulties in Crossing Boundaries

The following section aims to answer the third research question by problematising the opportunities and challenges for the team members to move between- or reconstruct their roles. The following chapter includes three different areas of problematisation, beginning with analysing the impact of competence. Thereafter, the findings on how competence is borrowed between teams will be analysed. Lastly, the problematisation of boundaries between departments will be raised.

5.3.1 CROSSING BOUNDARIES – THE ROLE OF COMPETENCE

A crucial aspect when describing the difference between BAs and TPs is naturally, competence. As explained by both some Additional Functions, BAs, TPs and POs, one part of their agile work structure involves having *T-shape competence*. This means that one should have expert knowledge in a certain area as well as more general knowledge in another. In the case of the analysed organisation, this would mean that a Business Analyst would also have some general technical skills. As explained by several respondents, having T-shape competence is a goal,

rather than a current priority. The time aspect was highlighted by several as an explanation for why they have not reached this goal yet.

The strive for T-shape competence within the cross-functional teams, could be interpreted as a tool for moving towards more *collaborative* boundary work (Langley et al., 2019). This since the development of competence could aid the achievement of shared goals within the team and minimise the occasions where the team members are inhibited by their lack of knowledge. However, the time aspect is explained as a limitation for developing competence in both areas of expertise. Undoubtedly, the challenge of crossing boundaries and rearranging roles will most likely remain as long as the professionals experience that there are limited possibilities to gain the other competence needed in order to reshape boundaries.

All participants express that having both BA and TP competence would be positive. While some participants wish to *broaden* their competence, most rather stress the importance of having team members *interested* in both technical- and business aspects. Additionally, also the willingness to expand their knowledge is explained as important since this would make the team collaborate better, come to solutions faster and develop products with better quality. The quote below is an example of one participant viewing separate roles as positive, whilst still understanding the need for team members to have an interest in each other's professional roles, which could be achieved through competence development.

I think the boundaries between BA/[TP] are good, I think our BA would just find it annoying if somebody would demand [this person] to be developing [the system]. /.../ For me to do more BA work, I would probably need to be forced into doing it, not that I don't want to do it, but because today there is no need for me doing it. But I think it's important for us to even out the competencies a little bit. – Technical Professional

The findings indicate that the *interest* for both business and tech is more important than actually broadening one's competencies. This further indicate an outspoken strive for reshaping boundaries towards *negotiating* boundary work (Langley et al., 2019). However, as this is not a current priority, the teams rather show signs of *downplaying* existing boundaries. What the interviewees instead highlight is that there needs to be a change in professional identity where all team members have a greater understanding and interest in how their team members make sense of their surroundings. The teams seem to want to learn what social *cues* (Weick, 1995) to pick up together i.e. not as individuals, but through sensemaking processes as a united team.

While some express the division in competence as partly positive by focusing on having an interest for each other's competence, some TPs argue for the negative sides of having team members only possessing either BA or TP competence. This as having business competence is perceived as a necessity in order to develop the system in accordance with the organisational HR-needs. Furthermore, all BAs interviewed perceived a rather large difference in competence between roles, while some TPs and AFs perceive that many TPs have the competence to take on more BA oriented tasks, if only given the opportunity.

I do not feel like my business competence is used fully today. And I have talked to [our Product Owner] about that I wish to be more involved in the process, but I'm not. /.../ We have very different competencies between BA and [TP] /.../. You separate BA and [TP] a lot but I think you should work more with merging them together. – Technical Professional

I don't think my potential is being fully used, absolutely not. But this is the role I have been assigned. /.../ I really personally don't feel like I'm being challenged, you know? - Technical Professional.

Both TPs quoted above, experience their business competence as not being fully utilised. Additionally, these team members also mention that they believe that BAs and TPs should be merged, rather than separated. Worth mentioning is that several believe that TPs are competent enough to take on business-related tasks, but the issue of gaining organisational trust is mentioned as an obstacle for the Technical Professionals. The BAs are generally perceived to be more legitimate for representing the business, from the perspective of the internal end-customer.

The organisational perception of which profession is the most suited for representing the business, can be analysed as a difficulty for the professionals to cross boundaries. Since the Business Analysts are perceived as having a more legitimate role in the organisation when it comes to business-related work, it seems as if the organisational structure does not “allow” the Technical Professionals to work with more BA-related tasks. Thus, the actors external to the team seem to have an impact on the internal group processes. The *configurational* type of boundary work describe how agency from outside the boundaries, in this case the organisation, can influence activities between groups both in a negative and positive direction (Langley et al., 2019). One can therefore argue that the effort to *negotiate* boundaries and strive towards *collective* boundary work within the teams, may not be considered valuable as long as the end-customer is not willing to accept the reshaping of boundaries within the cross-functional teams.

A second challenge in crossing boundaries is simply that some participants experience that their potential is not being fully utilised as they are not involved in all matters that they could have been with reference to their competence and previous experience. Other TPs perceive that they could develop more within the business area but due to strict boundaries this does not seem to be possible. In connection to the framework of boundary work (Langley et al., 2019), the aspect of not having team members utilise their already existing competencies in both areas, is yet another sign of the challenges to cross boundaries.

5.3.2 BORROWING COMPETENCE OR RESHAPING BOUNDARIES?

Although the focus of this report is on the roles *within* cross-functional teams, understanding some external aspects regarding how competence is being “borrowed” between teams, can be an important part of comprehending the roles and boundaries within the teams.

When asking the participants how they perceive the interaction with other teams, the majority express an interdependence between them. One Product Owner emphasizes that the team members normally do not move between teams, but when a specific competence is needed, they can borrow that competence from each other. However, most interviewees regardless of their role, express a desire towards a more casual interaction, making it easier for team members to work across team boundaries. This is emphasized by the BAs as they perceive themselves to be encouraged to interact between teams, without having the opportunity to do so.

In the previous section, the aim of having T-shape competence was presented, as well as the fact that the development towards T-shape competence is not prioritised. Here, on the contrary, the participants describe that competence is sometimes borrowed between teams. Although this may be perceived as positive and the participants describe themselves being encouraged to do so, one could also argue for this being a form of hindrance for crossing boundaries. If the teams easily can borrow competence from each other, this could potentially make the teams less likely to develop competence within the team. Subsequently, not being able to develop one's competence creates challenges for team members to cross existing boundaries.

5.3.3 REPRODUCING BOUNDARIES – THE ROLE OF DEPARTMENTS

This section will present and analyse aspects connected to the team members department belonging. The participants who are external consultants are not included in this analysis as

they describe to only belong to a department when it comes to organisational budget and not when it comes to any activities or meetings organised by the department. However, it is important to note that at least one consultant expressed the lack of department belonging as negative. As already mentioned, the team members belong to either a HR- or IT department. Important to note is that being a Technical Professional does not automatically indicate a belonging to the IT department. However, all Business Analysts belong to the HR-department.

Regardless of the department belonging, most participants initial feeling is that they spend nearly no time within their departments and some participants express a desire to spend more time with the department-team. Most commonly, the department meetings are explained to be of informational kind, with the purpose of finding dependencies and highlight areas where the team needs help from each other. A few participants also mention that the department meetings provide a possibility to be a part of another social context than the team, developing new relations and brainstorming with others outside the team. Among the POs, as well as most team members, it is evident that the department structure and purpose is perceived as inadequate. None of the POs believe that the departments are crucial for them personally or the teams work processes. With only one exception, all participants including the POs, feel more belonging to their team, than their department. Still, most participants express some belonging to the department and they mostly perceive this belonging to be positive, although they may not find it ideal as structured today.

The department belonging as it is currently structured, can be argued to be influencing the boundaries between roles within the team. As concluded, all participants, no matter if they agree upon the following or not, describe that the vision of their agile teams is to have T-shape competence and a high level of flexibility between roles. It can thus be interesting to question whether the department belonging hinders the team members to cross existing boundaries. The participants experience of their department belonging can be understood as rather static, where no one seems to have any relation to the department that they do not belong to. Arguably, this is interesting from the perspective of crossing boundaries (Langley et al., 2019), as the team members are expected to be willing to expand their competence and roles within their team, but not between departments. The strict belonging to one specific department could make it conflicting for team members to cross boundaries between roles, as the crossing of boundaries within the team does not change the individuals belonging to a certain department.

In some interviews other departments were also discussed, whereupon most explain that they do not have any connection to the department(s) they do not belong to, while also not expressing a need for it. Noticeable is also that those TPs who belong to the HR department, express a feeling of “misplacement” in their department-team. When reflecting upon their identity in relation to the HR department, one Technical Professional express a feeling of being “an IT-[nerd] at the HR department”, identifying 90 percent with IT and 10 percent with HR.

When the organisation created these agile cross-functional teams, it seems as if the impact of department belonging on a team- and individual level has not been considered. One could argue that the individuals’ sensemaking (Weick, 1995) of their own professional identity and the social context they must adapt to within their departments could, unconsciously, lead to a personal conflict for the team members. Within the team, the employees are expected to have an interest of both areas of expertise and perhaps even broaden their competence with the purpose of reshaping boundaries (Langley et al., 2019). However, they are also expected to belong to a team where most people are either BAs or TPs, with some exceptions. So, while their professional identity is being purposely and organisationally reinforced within the department, it is also being reshaped within the team. One could thereby argue that this somewhat contradictory organisational structure hinders the crossing of boundaries (Langley et a., 2019) within the teams, which could also explain why some participants experience the department belonging as either unnecessary or inadequate.

From a boundary work perspective (Langley et al., 2019), it is also important to understand the ability to cross boundaries between department belongings. For example, if a person does not have the opportunity to interact with another department than the one they are assigned to, they may find it difficult to develop new competencies and thus cross the existing boundaries. Some of the positive aspects mentioned about the department belonging are that the employees can socialise with, and learn from, other colleagues with similar roles. Consequently, if there is no possibility to cross the boundaries between departments, there is also no possibility to gain the needed learning experiences within them, when team members broaden their roles. Concludingly, one could argue that the boundaries within the teams that are not matching the boundaries on a department level, could make it difficult for team members to broaden their competence and cross the existing boundaries.

6 Concluding Discussion

In this final chapter, the empirical findings will be reconnected to the purpose of understanding HR- and IT-interaction in cross-functional teams. Therefore, the Business Analysts and Technical Professionals will mainly be referred to as HR- and IT-professionals. The following chapter will begin with a conclusion of the theoretically analysed empirical findings. Thereafter, some aspects of the findings will further be discussed based on previous research and the overall contribution of the present study. Finally, some practical implications will be presented as well as limitations of the study and suggestions for further research.

6.1 HR and IT in Cross-Functional Teams

In this first section, the three research questions will be answered through a concluding summary of the empirical analysis understood by the use of the theoretical framework.

Regarding the first research questions, concerning the team members professional identity, the empirical analysis demonstrates that both Business Analysts and Technical Professional perceive their professional identity highly connected to their previous work experiences within the HR- and/or IT field. The findings further demonstrate that the team members professional identity is partly shaped by their new environment, as the slowly emerging collective sensemaking processes (Weick, 1995; Brown et al., 2015), shows to have an impact on the individual's perception of their professional identity.

The second research question concerns the experienced boundaries within the cross-functional teams. The findings show several types of boundary work to occur simultaneously, one clear distinction being the boundaries concerning the perceived professional identity and those regarding collective work tasks of the team. For example, the boundary work within the teams connected to professional identity seems to be more of *competitive* kind. However, the boundary work connected to work tasks differ between teams. Some teams demonstrate signs of *collaborative downplaying* boundary work (Langley et al., 2019) as they try to collaborate and understand each other while keeping their roles separated. Other teams show signs of *competitive* boundary work (Langley et al., 2019) as HR-professionals are using their status as a way of excluding the IT-professionals, while the IT-professionals mainly try *negotiating* boundaries by referring to the importance of their competence. Concludingly, the closed

boundaries do not necessarily indicate a lack of collaboration, but rather they may exist to contribute to social order and agreed upon collaboration. Correspondingly, open boundaries do not automatically indicate collaboration, as one group's aim to reshape boundaries, must be followed by the other group's willingness to do the same.

Finally, the third research question refers to whether it is difficult to expand roles within existing cross-functional teams. Although the findings show competence development as a central tool for crossing boundaries, the findings also demonstrate several aspects hindering competence development, and consequently prohibiting team members to cross boundaries. These factors are e.g. the lack of time, the non-prioritisation of competence development and the action of borrowing competence between teams instead of developing their own. Another difficulty for expanding roles is the pressure of external organisational sensemaking (Weick, 1995) on the Business Analysts and Technical Professionals, as there seems to be clear expectations of what each role is to contribute with. Finally, the department belonging indicate a difficulty to cross boundaries (Langley et al., 2019) within the teams. This as individuals are expected to adjust to conflicting boundary expectations, making it difficult for them to expand their roles within the cross-functional teams. Concludingly, the organisation chosen for data collection was relevant for the aim of the study. Furthermore, we also argue that the purpose has been reached through the presented answers of the three research questions.

6.2 Boundaries Occurring Simultaneously and Interdependently

The present study demonstrates how the teams exert different types of boundary work at the same time, as the boundaries are negotiated differently depending on what the team-members are trying to influence. The findings of the present study thus show similar results as the findings made by Comeau-Vallée & Langley (2019), that different types of boundary work often occur *simultaneously*.

While multiple types of boundary work are argued to occur simultaneously, Comeau-Vallée & Langley (2019) also present that boundary work used within e.g. one team, could impact the boundary work of other teams as well. The present study finds the *competitive* boundary work (Langley et al., 2019) of HR-professionals to at times affect the team's overall possibility to collaborate and thus also the boundary work of IT-professionals. While this is one example of how the boundary work of one group can affect others, yet another example is the department

belonging and its impact on the boundary work within teams and furthermore individual's possibility to broaden their roles. In conclusion, the findings indicate that the strict belonging to departments, is likely to affect the boundaries within the teams. This as the team members are expected to be willing to cross boundaries within the teams but are not expected to do so within their assigned departments. An example of how this could affect the team's boundaries, is that participants are said to gain knowledge from interacting with their department colleagues with similar roles. Consequently, one could argue that the lack of opportunity to belong to another department is also a lack of opportunity in learning experience and consequently to cross boundaries. Our findings resemble those of Comeau-Vallée and Langley (2019), by showing the interdependence of boundary work between professional groups and organisational belongings, regardless of individuals' professional role.

Concludingly, as argued by Ungureanu et al. (2020), simultaneously occurring boundaries often lead to collaborative strains. This is specifically found to occur when the expectations on how to collaborate do not match the experienced boundaries. The present study likewise found that simultaneously occurring boundary work hinder team members to cross boundaries and reshape their roles, hence, to *negotiate collaborative* boundary work.

6.3 How Boundaries and Sensemaking Processes Contribute to Social Order

Although this research present challenges in reshaping boundaries for cross-functional teams and that conflicts may occur while doing so, similarly to Comeau-Vallée and Langley (2019), we also conclude that boundary negotiations could contribute to *social order* within groups. Additionally, Weick (1995) suggest that the sensemaking process of individuals and groups is a progress towards stabilising one's context and making it more predictable. When connecting these two theoretical frameworks, one could argue that the process of sensemaking goes hand in hand with the process of boundary work and that the boundary negotiations happening is also a tactic for team members to continuously make sense of the changes in their environment. Equivalently to Comeau-Vallées' & Langleys' (2019) claims that boundary negotiations can contribute to social order, the findings of the present study show some boundary actions used as a tool towards establishing collaboration. For example, agreed work

processes have been established, dividing the professionals through diverse work tasks. This could be interpreted as a boundary work action for contributing to social order.

Akgün et al. (2012) demonstrate how sensemaking process could increase trust and make teams improve their knowledge implementation faster, if the team members believe that their colleagues are competent within their area of expertise. The fact that the team members acknowledge that there is dependency between the two professions, could be a sign of trust and according to Akgün et al. (2012) thus a positive factor important for the progress of collaboration. However, the teams do experience some conflicts as a result of the difficulties in understanding each other because of their diverse mindsets and perspective, even though they recognise their dependencies towards each other. One could thus conclude that the team members seem to be more focused on preserving their legitimacy and protect their professional identity, by not letting each other enter their separate spheres of competence. The consequence is that collective sensemaking processes are hindered as well as shared knowledge implementation in the teams.

6.4 Status and Boundary Work

Previous studies demonstrate that there is a strong connection between one's *status* and the benefits of interprofessional relations. The findings are that those of high-status are more likely to benefit from interprofessional collaboration while also being the ones more prone to defend their boundaries as these actions enhances their status (Bucher et al., 2016; Comeau-Vallée & Langley, 2019). Furthermore, previous research present a connection between boundary tactics and professional status (Bucher et al., 2016; Sanders & Harrison, 2008; Comeau-Vallée & Langley, 2019).

Our findings indicate that within the studied cross-functional teams, the HR-professionals currently are perceived to have a higher-level of status which could be connected to their ability to retain the boundaries (Langley et al., 2019) within the teams. Important to note is that status is not static, but rather constantly negotiated between different social actors (Bucher et al., 2016; Sanders & Harrison, 2008; Comeau-Vallée & Langley, 2019). This means that the current status levels may change over time. While the HR-professionals use status to legitimise their boundary needs, the IT-professionals use their competence to remain legitimate when motivating their boundary needs. These findings can be connected to previous

research suggesting that those of lower status often use more evidence-based arguments when negotiating boundaries (Bucher et al., 2016; Sanders & Harrison, 2008), such as arguing for their competence and skills being adequate for performing certain tasks (Sanders & Harrison, 2008). Higher-status professionals on the other hand state their expertise and authority as a way of motivating their professional legitimacy and making boundary claims (Bucher et al., 2016; Sanders & Harrison, 2008). In this case, the teams' purpose to create products for the internal end-customer, which the HR-professionals represent, could explain the BAs higher status. This while the IT-professionals are instead expected to adapt to the HR-colleagues and in extent, the customers' demands.

As suggested by Bucher et al. (2016) and Comeau-Vallée & Langley (2019), those of higher status usually benefit the most from interprofessional collaborations. Our findings show that the IT-professionals, as argued to be of lower status within the organisation, do sometimes feel negatively affected by the boundary tactics used by the HR-professionals. An example of this is when the IT-professionals are not included in what they perceive to be important conversations concerning them, and their competencies are being neglected. Yet another aspect acknowledging the HR-professionals higher status is that they tend to be more prone to *defend* their own boundaries, which is common by high-status professionals (Bucher et al., 2016; Comeau-Vallée & Langley, 2019). The HR-professionals defending of boundaries could also indicate that they have something to defend, most likely their organisational status. Another aspect contradicting to what was found by Bucher et al. (2016) and Comeau-Vallée & Langley (2019) which can explain why the HR-professionals are more prone to defend their boundaries, is that those IT-colleagues who are willing to work with both business- and technical tasks, are also the ones who have previous experience within both occupational areas, which is rare amongst the HR-professionals.

Previous studies (Comeau-Vallée & Langley, 2019; Bucher et al., 2016; Sanders & Harrison, 2008) demonstrate that there is a connection between status and rather static roles in the health sector, characterised by several regulated professions. In this context, professionals are *allowed* to perform certain tasks depending on their role, often strictly connected to a certain educational background or a specific license. As status in the above-mentioned setting is highly connected to one's professional role, the negotiable aspects of status differ between the studies conducted in a health care setting (Comeau-Vallée & Langley, 2019;

Bucher et al., 2016; Sanders & Harrison, 2008) and the context of the present study. Since the studied cross-functional teams do not consist of regulated professions, the status negotiation is not restricted to any formal work task regulations connected to their professional role. However, since the HR-professionals currently seem to have higher status in the cross-functional teams, the findings of the present study can still benefit from an analysis connected to these previous studies, since the current status relations are not static and may therefore be negotiated. Concludingly, despite the differences in context between the previous studies (Comeau-Vallée & Langley, 2019; Bucher et al., 2016; Sanders & Harrison, 2008) and the present one, we argue that the results demonstrate another example of the impact status has on how professionals negotiates boundaries, similarly to the previous research within the health sector. Thereby, this study further contributes with knowledge about the impact status has on boundary negotiations even in settings not consisting of regulated professions, but rather more flexible roles. One could thus also argue that the possible change of status between roles, would also change the individuals' arguments when negotiating boundaries, thus using either competence or status to legitimise one's boundary need.

6.5 The Impact of Contrasting Sensemaking Processes and Leadership

The findings made by Beverland et al. (2016) indicate how new challenges emerge when professionals are supposed to collaborate in cross-functional teams. The challenges for the teams analysed in this study, seems to be the difficulties in understanding each other due to diverse sensemaking processes. This since both the HR- and IT-professionals experience a clash as they need to hold on to their own sensemaking processes, while at the same time trying to create new ways of making sense of their reality as one team. Therefore, one could argue, with reference to the conclusion made by Beverland et al. (2016), that challenges naturally occur if the team members are not willing to take the views of the other professionals into consideration, in order to make room for the development of collective sensemaking processes (Weick, 1995). This was also an issue found among interprofessional teams of design- and marketing experts in the study made by Beverland et al. (2016), which indicate that this might be a challenge not only for teams consisting of HR- and IT-professionals, but also other professions coming together in cross-functional constellations.

Kitzmilller et al. (2013) explain that team leaders are important actors within cross-functional teams, as they often have an impact on the social interactions and sensemaking processes. The present study further demonstrates how actors, other than team leaders, can impact the interaction between team members. These actors are those taking on the role of *boundary subjects* (Langley et al., 2019), or as they call themselves, *translators*, trying to facilitate the collaboration within the cross-functional teams. The effort of being boundary subjects, could be understood as a way of helping team members to pick up the same, or understand, diverse social *cues* (Weick, 1995). This could arguably be important when trying to change sensemaking processes from being a solely individual process to also being a collective phenomenon (Brown et al., 2015). Translating between professionals may aid collaboration, but perhaps mostly short-term or in specific situations where the boundary subjects can be present. Alike how Kitzmilller et al. (2013) argues for the team leaders' effects on teams sensemaking processes, the present study indicates that the Product Owners vision regarding boundaries also affect the team members vision of how the team's boundary work should be exerted. However, since the current boundaries do not match the POs vision and they do not actively work towards changing this, their leadership also has an impact on the current boundaries. Thus, this indicate that the Product Owners could be perceived as passive leaders in relation to the configuration of boundaries with the vision of designing collaborative boundaries. This while still being active in communicating their vision of the boundaries.

Beverland et al. (2016) conclude that there at times are conflicting sensemaking processes occurring in cross-functional teams. This study further demonstrates how sensemaking processes outside the teams can have an impact on the sensemaking within them. The findings of the present study demonstrate how team-external actors, in this case end-users from the organisation, may interfere with the teams' sensemaking process. The HR-professionals are commonly perceived to have a more legitimate role for representing the end-customer and the IT-professionals in turn experience that they are not "trusted" with business-related questions by other organisational functions. Therefore, it seems as though the organisational sensemaking of what is believed to be typical competence for Business Analysts versus Technical Professionals, is affecting the teams' ability to reshape their boundaries and consequently their collective sensemaking processes. However, important to note is that

although the external sensemaking gives legitimacy to the HR-professionals, they are also part of creating and/or maintaining this legitimacy themselves, consciously or unconsciously.

6.6 The Industrial Revolutions Impact on the HR Field

Bissola and Imperatori (2019) discuss the labour market as entering the fourth industrial revolution where industrial processes, business and social opportunities are becoming digitalised, affecting all areas of the labour market including the field of HR. Meanwhile, Ulrich and Dulebohn (2015) describe that the fourth wave of HR is changing the HR role towards a larger focus on driving the overall business value. The aim of HR-professionals will thus be to serve the final customer (the end market), as well as employees and managers (the internal market). There are many similarities in what Ulrich and Dulebohn (2015) describe as the fourth wave of HR and how HR-professionals are expected to work in the studied cross-functional teams. These HR-professionals are representatives for the business and internal end-customer, meaning that they no longer are just a support function but rather serves, an internal market. Within the current agile teams, the HR-professionals are the ones bringing demands to the IT-professionals, as an extension of the organisation. The teams were initially constructed, through *configurational* boundary work, with the aim of changing the roles of traditional HR- and IT-professionals. The cross-functional teams of the present study are thus certainly an example of the fourth industrial revolution, where new teams are created with the purpose of digitalising organisational processes (Bissola & Imperatori, 2019).

Ulrich and Dulebohn (2015) predict that the HR field will move towards becoming more business oriented. Concludingly, the present study offers an empirical example presenting possibilities and challenges that may arise when HR- and IT-professionals are expected to collaborate in new ways, possibly due to the fourth industrial revolution where social and technological aspects are becoming inseparable (Bissola & Imperatori, 2019). These new forms of collaboration may be the result of the fourth HR wave, where HR professionals work more business-related (Ulrich & Dulebohn, 2015), demanding new collaborations with other functions, changing the HR field as we know it. In further reflection upon how HR-professionals are expected to become representatives for business, this could also mean that HR must collaborate with different functions depending on what the business currently needs. Subsequently, we argue that HR will have a more central organisational role, not supporting

specific employees, leaders or functions, but instead representing the organisation on a higher strategic level.

6.7 Contributions and Practical Implications

In this study, we have demonstrated how sensemaking processes and boundary work can be crucial aspects to consider when understanding the interaction between HR- and IT-professionals coming together in cross-functional teams. Thus, this is a contribution to the existing HR-literature where the studies concerning the interaction between HR- and IT-professionals seems to be a rather unexplored area. This study acknowledges the connection between sensemaking processes and the emergence of boundary work, since both processes seems to be affecting each other simultaneously on an individual- as well as a team level. Another contribution to the research field, are the findings suggesting that teams are interdependent of the boundaries and thus affected by sensemaking processes coming from outside of the team, which here refers to the department belonging and the organisational expectations of HR- and IT-professionals.

This study provides some practical implications that could be of relevance for organisations that consider creating- or is already managing, cross-functional teams. These implications could be of importance for anyone managing cross-functional teams, such as, top-management, HR strategists or others in a managerial position. More specifically, these practical implications are most likely to be of importance for larger organisations with the resources of creating cross-functional teams. The discussion suggests that individual sensemaking processes need to take a step back for social sensemaking processes to be developed and thus aid cross-functional collaborations. This could potentially be one aspect for organisations to consider when making strategic decisions regarding which activities and/or procedures to implement to foster dialogue and collective sensemaking processes. Akgün et al. (2012) demonstrate how the absence of management involvement in teams work processes leads to the improvement of collective sensemaking processes. The results in this study suggest that even though the management is present, inadequate leadership skills, -competence and the de-prioritisation of competence development, could hinder collaboration between cross-functional team members. Arguably, the management in organisations should intervene by making it possible for team members to prioritise competence development.

Another practical implication that this study demonstrate is the importance of having an overall organisational structure that allows team members to expand their roles in agile cross-functional teams. An example of this described in the present study is the challenge for team members to reshape their role as intended due to their strict departmental belonging, hindering them to cross boundaries outside of the team. Our findings indicate that the structure in the departments in relation to the team context can be perceived as contradicting, incomprehensible and furthermore the value of the department is perceived as inadequate as a result of this. Therefore, organisations should consider that an employees' boundary work within one context, most likely has an impact on their ability to expand their boundaries in another.

Lastly, as this study shows a practical example of the impact of the fourth HR wave (Ulrich & Dulebohn, 2015), one could argue for the importance of adjusting the current educational content for HR(M)-programs. By changing the syllabus so that students learn more about business-related aspects and perhaps even digital HR tools, graduates might be more prepared for working in the HR field impacted by the fourth industrial revolution and HR wave. Since the HR function is becoming more business-oriented, most likely indicating an increased collaboration with other organisational functions, one could argue for the importance of this being reflected in the academic context as well. An example of this would be to consider a higher level of collaboration between the disciplinary domains of HR and IT. Additionally, as the labour market changes, there may be a need for further collaboration with other disciplinary domains as well.

6.8 Limitations and Further Research

Since this is a qualitative study, the findings are limited when it comes to generalisation (Bryman, 2011). Since the data was collected from 15 participants within one specific company, we acknowledge that the generalisability is limited outside of the studied context. However, we do not strive for generalisability, but rather for providing interesting information that could be beneficial for organisational leaders and HR strategists, specifically for those managing similar cross-functional-/multi-professional teams. Therefore, we call for further research in settings which are either similar- or different from the one in the present study.

Since the present study is of qualitative kind, one could question if the empirical data would reveal the same findings if conducted during another point in time. Since the study is based on

individuals' own perceptions of their experiences, the narratives could possibly vary over time depending on new team compositions or new experiences gained through individuals' organisational and/or personal environment. Therefore, we suggest that further research is conducted in a similar setting in order to confirm the findings of the present study and/or contribute with additional insight. Furthermore, it could also be beneficial to conduct a longitudinal study in order to understand whether time aspects and team compositions have an impact on the results.

We have observed that the majority of previous research concerning boundary work is conducted in the health care sector, with several regulated professions (Comeau-Vallée & Langley, 2019; Bucher et al., 2016; Sanders & Harrison, 2008). This study, on the contrary, is conducted in a setting where educational background or specific licenses are not commonly a claim for creating boundaries regarding what tasks employees are allowed to perform. Nevertheless, the present study found that boundary tactics, connected to status, are used similarly in the context of this study as compared to those within the health sector (Comeau-Vallée & Langley, 2019; Bucher et al., 2016; Sanders & Harrison, 2008). Thus, we argue for the importance of continue to study boundary work in connection to status within several labour market sectors, in order to understand whether sector-specific characteristics have an impact on status as connected to boundary work.

When conducting this study through an abductive methodology approach, other areas of interest emerged during the process. Firstly, since the internal end-customers seem to have an impact on the boundary work in the studied teams, we emphasize the importance of further studying the impact of various internal and external factors on cross-functional boundary work. Secondly, as the studied teams are relatively new, it could be of interest to conduct studies within a similar context where the cross-functional structure has been ongoing for a longer period of time. This as the maturity of the team may potentially have an impact on the teams' boundary work and sensemaking processes. Thirdly and finally, the present study shows the great impact competence has on cross-functional boundary work. Therefore, we argue that it is of importance to study boundary work with a focus on competence development as a tool for crossing boundaries, within teams aiming to merge two professional groups such as HR and IT.

7 References

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