Organizational and Team Onboarding

A case study of in-house consultants and consultants working in client offices

Bjørn Henrik Harr



Thesis submitted for the degree of Master in Informatics: Programming and System Architecture 60 credits

Department of Informatics Faculty of mathematics and natural sciences

UNIVERSITY OF OSLO

Spring 2022

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http://www.duo.uio.no/

Printed: Reprosentralen, University of Oslo

Abstract

Background: Organizational and team onboarding processes have been extensively researched, yet there was a lack of research explicitly looking into the onboarding of consultants working as software developers. As there is a widespread use of consultants in the IT sector, the lack of research on this specific area should be rectified.

Aim: This thesis aimed to look into organizational and team onboarding processes and discover differences and similarities between (1) internal and (2) external consultants. Additionally, it aimed to (3) create a model for onboarding of internal and external consultants that may be used in a organizational and team setting.

Method: A case study consisting of interviews was conducted with a sample of five internal and three external consultants.

Findings: (1) My findings suggest that the social integration of internal consultants was better than the social integration of external consultants. External consultants are dependent on being brought back to the office, whereas internal consultants are there all the time. (2) Team social integration of external consultants was found to depend on the client. Some clients were good at accommodating newcomers, but some were found to exclude them. My findings also suggest that mentors generally made themselves available to answer questions from newcomers. Pair programming and code reviews had positive impacts on training and social integration. (3) I was able to create a model for organizational and team onboarding of internal and external consultants.

Conclusions: Findings from this thesis contributes by bringing the difficulties of the consultants' onboarding processes to light. For practitioners, this thesis can benefit the industry by providing insight into onboarding of consultants in different settings. For researchers, this thesis contributes by building on pre-existing knowledge of onboarding but in a new direction and could provide a foundation for future research.

Acknowledgements

This thesis is my biggest accomplishment thus far in my life, and will likely remain so for many years. As a result of the lockdown issued due to the covid-19 pandemic, it proved immensely difficult to maintain my motivation. Therefore I am incredibly thankful for both of my supervisors, Viktoria Stray and Tor Sporsem, who have provided me with invaluable insights into the field of software engineering, and checked in with me regularly. I would also like to thank Informant 1 for providing key insights regarding NorCon, and aiding me in finding informants.

Finally, a huge thanks to Gunnar Rye Bergersen for support and interesting conversations regarding research and thesis structure. Although I did not implement every suggestion, these conversations helped to keep me motivated the last few months.

Bjørn Henrik Harr May 2022, Oslo

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Chapter 1

Introduction

Onboarding to organizations and teams have been thoroughly covered in literature with articles from the 70's still being relevant today, such as Van Maanen and Schein (1977). A lot of work has gone into understanding onboarding to organizations (Bauer & Erdogan, 2011; Ostroff, 1993). Within the field of Software Engineering, onboarding to development teams has also been researched extensively (Gregory, Strode, AlQaisi, Sharp, & Barroca, 2020; Moe, Stray, & Goplen, 2020). However, most of this research has been focused on developers working in-house, and not developers who are consultants. As consultants are placed in teams that create value for a client, and not the company they are working for, the dynamic was hypothesized to be different. There exists no literature that specifically looks into onboarding processes for software development consultants. Thus, this paper became a way to rectify this missing aspect of onboarding by gathering the experiences of consultants from two divisions of a consultancy firm.

1.1 Motivation

During my time as a board member of student organizations, I noticed that members who became better adjusted were more probable to remain for more semesters. I realized how incredibly important it is for newcomers to be included into organizations. In my mind this had to be a challenge in the workplace as well, thus I wanted to gain a deeper understanding of onboarding processes in the workplace. As I was going to start working as a consultant myself, I was eager to have a consultancy firm as the research site, and look into how onboarding processes are experienced by consultants.

1.2 Research questions

Bauer (2010) presented "a research based model of onboarding". This was aimed at an organization level onboarding processes. Gregory, Strode, Sharp, and Barroca (2022) further adapted this model to fit onboarding processes to teams. The latter may therefore be argued to explain organizational and team onboarding processes. Thus, it was deemed a good fit as a model of onboarding for consultants to both their own organizations, and in-house and client teams. Using these models, this study aims to answer the following research questions:

- **RQ1:** What are the differences and similarities in organizational onboarding processes for in-house consultants and consultants working in client offices?
- **RQ2:** What are the differences and similarities in team onboarding processes for in-house consultants and consultants working in client offices?
- **RQ3:** Create a model for internal and external consultants' organizational and team onboarding processes.

1.3 Thesis structure

- Section 2: Background provides contextual information about onboarding processes and technologies used by development teams that facilitate onboarding.
- Section 3: Method presents research methodology and methods of data collection used in this study, followed by a description of the process of analysis.
- Section 4 Results elicits the findings from data collection and subsequent thematic analysis. Onboarding to organizations was found to be more intertwined for internal consultants than external consultants. Social integration is tightly intertwined with the success of onboarding processes to teams, yet some clients do not prioritize social integration of consultants in their teams.
- Section 5: Discussion goes through the major findings and discuss them with previous research. A model for organizational and team onboarding of internal and external consultants is proposed. Finally there is a discussion of validity and reliability of his study.
- Section 6: Conclusion summarizes and concludes the thesis. Lastly, possibilities for future research is presented.

Chapter 2

Relevant research

This section describes research on onboarding that is relevant for this thesis. The chapter starts with a description of the onboarding in general before going into two models for onboarding by describing *onboarding activities*, *workplace adjustments*, and *newcomer adjustments*. Followed by definitions of *onboarding success* and *impostor syndrome*. The chapter finishes with a presentation of important terms and tools used by development teams.

2.1 Onboarding

Onboarding, also referred to as *organizational socialization*, refers to the process where one or multiple persons find their place in an organization and/or its divisions (departments, teams, etc.) (Van Maanen & Schein, 1977). It can also be explained as the process where a newcomer goes from being an *organizational outsider* to becoming an *organizational insider* (Bauer & Erdogan, 2011). Onboarding in not only relevant in an organizational perspective however, and is also important in team settings (Gregory et al., 2020; Moe et al., 2020). Thus, it may be argued that onboarding is the process of including outsiders into something pre-existing, be that teams, organizations, or other entities.

2.1.1 Newcomer

As aforementioned, onboarding is the process when a person goes from being an (either organizational or team) outsider to become an insider. The term *newcomer* is widely used in onboarding literature (Van Maanen & Schein, 1977; Bauer, 2010; Britto, Cruzes, Smite, & Sablis, 2018; Buchan, MacDonell, & Yang, 2019; Gregory et al., 2022), and refers to the person that goes through this process. The general term *newcomer* works well in both settings (organizational and team onboarding), and will therefore be used in this thesis. The setting in which the word is used defines what the person is being included into.

2.1.2 Onboarding activities

An onboarding process consists of a set of activities that are meant to make newcomers a part of their new company or team, and teach them what they need to know in order to do their job (Bauer, 2010). Onboarding activities (hopefully) lead to *onboarding success* (see Section 2.1.4). Table 2.1 contains descriptions of onboarding activities used in the relevant models.

Onboarding activities	Description
Recruiting process	The process that provides information to newcomers and helps them form realistic expectations of the organisation and their role. The recruiting process can be separate from the onboarding process but has been shown to be more effective if integrated into onboarding.
Orientation	The process of helping newcomers to understand the important as- pects of their jobs and of the organisation including the organisa- tion's culture, values, goals, history, and power structure. Orienta- tion includes formal face-to-face, written guidelines, and online pro- grammes for providing key information to newcomers. Orientation includes socialization, which involves making newcomers feel wel- come by introducing them to co-workers and other people in the organisation.
Support tools and processes	Support tools includes a written onboarding plan for newcomers that includes timelines, goals, responsibilities, support systems, and how to access assistance. Attending regular meetings with a variety of stakeholders within the organisation is a mechanism for support of newcomers. Online support tools are another mechanism for on- boarding but have been shown to be somewhat less effective than regular face-to-face orientation sessions.
Coaching and support	Coaching, mentoring, and having role models are mechanisms for helping newcomers learn about the organisation and their role, and to navigate the social and political aspects of the organisation. Coaching and mentoring is shown to improve newcomer knowledge of the organisation.
Training	Training includes learning hard, soft, and onboarding skills. Training can be informal (learning-on-the-job) or formal (mandatory sched- uled courses).
Feedback tools	Feedback and guidance provide newcomers with information on pro- gress, strengths, and weaknesses. Feedback can be formal (e.g. per- formance appraisals) and informal (e.g. the newcomer is proactive in asking questions about the expectations and evaluations of co- workers and supervisors).

Table 2.1: Bauer (2010)'s onboarding activities, as presented by Gregory et al. (2022, page 3)

2.1.3 Adjustments

Newcomer adjustments (referred to as employee adjustments by Bauer (2010)) may be defined as how a newcomer adjusts to an organization or team. Bauer (2010) presented self-efficacy, role clarity, social integration and knowledge of [organizational] culture, and Gregory et al. (2022) added mindset change (defined in Table 2.2).

Newcomer adjustments	Description		
Self-efficacy	Self-confidence in performing the job role. More confident new employees will be more motivated and successful than less confid- ent counterparts.		
Role clarity	How well a newcomer understands his or her role and the expectations of the role.		
Social integration	Integrating socially into the organisation involves forming effective working relation- ships with co-workers.		
Knowledge of [organisational] culture	Understanding the organisation's values, goals, politics, and unique language.		
Mindset change*	Someone's attitudes or ways of thinking.		

Table 2.2: Bauer (2010)'s new employee adjustments, as presented by Gregory et al. (2022, page 3). * indicates newcomer adjustment found by Gregory et al. (2022)

Workplace adjustments (added by Gregory et al. (2022)) refer to how the workplace adjusts to the newcomer. Adjustments made by the workplace are typically not meant to last, but make the onboarding process easier for all parties involved. Gregory et al. (2022) found the following workplace adjustments; *team composition, team communication,* and *communities of practice* (defined in Table 2.3).

2.1.4 Onboarding success

It is relevant to discuss the degree to which the onboarding process was successful, rather than viewing it as something that is not measured as true or false. This becomes evident through definitions of onboarding success. Sharma and Stol (2020) define *onboarding success* as "the extent to which a newcomer feels they are comfortable in their new position". This definition can be extended with *the four C's* (see Table 2.4), defined by Bauer (2010), which are building blocks of a successful onboarding.

Furthermore; Bauer (2010) argues that the degree to which the four C's are covered determines

Workplace adjustments	Description
Team composition	When a newcomer arrives, the team is changed because it's composition no longer the same. As a result, the whole team needs to adjust to accommodate the new team configuration.
Team communication	When a newcomer joins an agile team, ex- perienced team members may temporarily need to change the way they communicate to explain to the newcomer aspects of the work that are normally taken for granted.
Communities of practice	Groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regu- larly.

Table 2.3: Workplace adjustments as defined by Gregory et al. (2022)

The four C's	Description
Connection	Refers to the vital interpersonal relation- ships and information networks that new employees must establish.
Culture	A broad category that includes providing employees with a sense of organizational norms - both formal and informal.
Clarification	Refers to ensuring that employees under- stand their new jobs and all related expect- ations.
Compliance	The lowest level and includes teaching em- ployees basic legal and policy-related rules and regulations.

Table 2.4: Building blocks of successful onboarding as presented by Bauer (2010)

which of three categories (or levels) of onboarding organizations fall in under. These levels are *passive onboarding* (level 1), *high potential onboarding* (level 2), and *proactive onboarding* (level 3) - where a higher level is deemed as favourable. Passive onboarding can be viewed as an unsystematic approach to onboarding, where the newcomer is given formal insight into *compliance* and maybe some *clarification*. When formal onboarding practices cover (to a satisfactory extent) both *compliance* and *clarification*, and to some extent covers *culture* and *connection*, the organization practices high potential onboarding. It is not until all four C's are properly covered by formal onboarding practices that an organization practices proactive onboarding, which only approximately 20% of organizations achieve (Bauer, 2010).

2.2 Terms and tools often used in development teams

2.2.1 Impostor syndrome

This refers to a fear where people, to a varying degree, feel like one or more significant persons will uncover that they are an intellectual impostor (i.e. should have more knowledge than they do) (Clance & Imes, 1979). This is a wide spread phenomenon in for example software development.

2.2.2 Soft and hard skills

Hard skills, also known as technical skills (Sánchez-Gordón, Rijal, & Colomo-Palacios, 2020), may be argued to be *"the factual knowledge needed to do the job"* (Matturro & Raschetti, 2019). Thus it refers to the knowledge a person has acquired about technical aspects or processes.

Soft skills are also known as non-technical skills (Sánchez-Gordón et al., 2020). Matturro and Raschetti (2019) present four components of soft skills; *Abilities, Attitude, Habits, and Personality traits.* Furthermore they go on to define approximately 20 definitions of soft skills from other papers, including *Fast learner, Team work, and Interpersonal skills.* Thus, soft skills refer to social, interpersonal skills.

2.2.3 Information radiator

A way to keep track of task allocation and priority for the entire team, in addition to contain user stories, project issues, and information regarding the status of the project (Gregory et al., 2022). Thus, it is not only a kanban board (as defined by Ahmad, Markkula, and Oivo (2013)), but a kanban board is likely a part of a teams information radiator.

2.2.4 Pull request

When changes are made to the code base they are normally sent in as *pull requests*. This pull request will then be reviewed by another team member. If the change is accepted it is included into the code base. If it is not accepted, the change is not included into the code base. In these instances the reviewer will provide feedback to the one who sent in the pull request on what has to change. In this way pull requests are a vital part of quality assurance in software development (Stray, Moe, Mikalsen, & Hagen, 2021).

2.2.5 Slack

Slack is thoroughly defined by Stray, Moe, and Noroozi (2019). To summarize it is a messaging service based on *rooms* that are owned by organizations, teams, or groups of people that wish to communicate. Within each room the members may message each other one-to-one, or use theme-specific channels that may be public (all members in the room may join) or private (invitation

only). Users from one room may be invited into specific channels in other rooms. Additionally there exists an abundance of applications that may be added to channels or entire rooms (e.g. Azure, GitHub, Jira, Zoom) (Slack, n.d.), which further expand functionality.

Chapter 3

Research method

This chapter provides insight into how this study was conducted. The first section describes how I gained an understanding of research and the importance of building upon what already existed, followed by a presentation of the research site. In Section 3.3 the choice of methodology is presented and Section 3.4 describes how data was collected. The chapter rounds off with a description of the analysis process.

3.1 Understanding research

When I first worked to gain insight into the theme for this thesis, I learned about how the researchers built upon previous articles, and that that work would then be improved slightly by someone else. By using previous research and expanding that knowledge through your own research, a better foundation for new research is created.

Mathiassen (2017) presents a model (Figure 3.1) that shows this process in more detail. The problem setting (P) describes problems that people experience. The area of concern (A) is previous research related to P. Framing (F) aids with data collection and analysis from P to answer the research question (RQ) and is divided into F_A and F_I . The subscript defines the origin of the framing. In other words, F_A is framing that stems from A, and F_I is framing that is independent of A. Finally, the research question. A well-formulated research question should help guide the research to result in a contribution (C). This contribution should affect P and A, and sometimes F or M. This is the model I have chosen for using previous research to create a contribution.



Figure 3.1: "A Generic Structure for Engaged Scholarship Study" (Mathiassen, 2017)

3.1.1 This models effect on this thesis

This model has helped me understand how my thesis relates to previous research. By building upon existing research (F) with my case study (M related to A and P), I create a new contribution (C) that other researchers may build upon. To do this, a pre-requisite was to gain deeper understanding of the problem area, which was gained through a meeting with a company representative. During this meeting I gained insight into areas of concern that the research community within NorCon had found. I used this information to structure my data collection in what I deemed was a good way. I further aimed to understand onboarding in the context of consultants before formulating the initial research questions. In this way the model was used as a basis during the early stages.

Furthermore, the model by Mathiassen (2017) shows how pre-existing factors affect what research should be done, and furthermore how that research affects new research. How the research was conducted, and what the researcher learned, could be argued to be of less interest. However, it is important to present sufficient information in order to 'prove' that the research was conducted properly. Therefore the research method should be presented in such a way that the reader may get familiar with what was done in order to reach that specific conclusion and thereby the contribution.

3.2 Research site

The research site hereby referred to as NorCon, describes itself as a consultancy firm that supports companies and organizations in the digital transformation. They are separated into multiple semiindependent divisions. This study looked into two of these divisions, referred to as Alpha and Beta, which were located in two different cities in Norway. The sample from Alpha consisted of developers who worked in their own offices as consultants (referred to as 'internal consultants'). In contrast, the sample from Beta were developers who were stationed in their clients' offices (referred to as 'external consultants').

3.3 Methodology: Case study

Much of software engineering research is concerned with *actors* (e.g. software engineers, managers), *behaviour* (e.g. behaviour, productivity, motivation), and *context* (e.g. organizations, development teams) (Stol & Fitzgerald, 2018). This study aimed to gain insight into how software developers (actors) in Alpha and Beta (context) were affected (behaviour) by onboarding processes to the organization and their respective teams. It was therefore necessary to gather information about the natural context of NorCon to understand these phenomena. This thesis uses *knowledge seeking research*, which "aim [is] to learn something about the world around us" (Stol & Fitzgerald, 2018).

The context of Alpha and Beta was rather specific, and since the aim was to gather data about a natural setting, it was evident that the field study was most fitting research strategy. *"Field studies are conducted in natural settings [...] that pre-exist the design of the research study"* (Stol & Fitzgerald, 2020). Furthermore, they lead to exploratory of descriptive insights (empirical evidence) of *how things work*, which was deemed favourable.

Thus, I had limited the choice of research methodology to *case study, ethnography*, and *archival study*, as suggested by Stol and Fitzgerald (2018, 2020). As the point was to gain insight into experiences of employees, and not facts that may be found in an archive, the archival study did not fit this setting. Ethnography studies use a combination of interviews, observations, and participation in deep immersion in specific contexts to gain insights not otherwise achievable. This would have been an interesting approach (Lazar, Feng, & Hochheiser, 2010), but as it requires participation and deep immersion, ethnography was deemed too time consuming. Case studies, however, are in-depth studies of specific cases in real-life contexts (Lazar et al., 2010), and are useful for improving theories either by debunking them, by bringing new variables to light, or by providing evidence for a theory (O'Leary, 2004). Additionally a strength of the case study was it's intrinsic value, where each case is deemed unique and interesting. Finally, with enough cases it may be used to generate a new theory inductively. Therefore, I chose *case study* as the methodology for this study, as this would provide descriptions of specific cases, and allow for further exploration of those.

Using Figure 3.2 (by Yin (2018)), I defined the company (NorCon) as context, and each division (Alpha and Beta) as separate embedded units of analysis. This case study was therefore an *embedded single-case design*.

3.4 Data collection

Typical methods used in case studies are interviews and observations. It would have been interesting to observe the initial weeks of onboarding to one or both of the divisions, or onboarding



Figure 3.2: "Basic Types of Designs for Case Studies (Source: COSMOS Corporation)" by Yin (2018)

processes to teams, but as data collections started as late as it did, this was not prioritized. As the purpose of this study was to test whether a model worked in new settings, I wanted to understand the experiences of each informant. Interviews were a good fit as I wanted informants to reflect on their answers, and how and why something happened. Thus, I chose to conduct *semi-structured interviews*, as these help maintain some structure during the interview, while at the same time leaves the possibility of asking follow-up questions (Lazar et al., 2010).

A company representative (Informant 1), who had deep insight into onboarding processes, agreed to be interviewed. The results from this interview made a knowledge foundation that would further help me create an interview guide tailored to NorCon. In order to gather as information regarding the model of Gregory et al. (2022), their interview guide was also used as inspiration. The resulting interview guide contained questions regarding the onboarding processes to the relevant divisions (i.e. organizational onboarding) and the teams the informants were assigned to (i.e. team onboarding).

The population relevant this study was all software developers in Alpha and Beta, but I wanted to interview someone who had changed either joined the organization in the past year, or changed team in the same period. These were the *requirements* I defined when I asked company representatives

Informant	Division	Experience	Date	Duration
Informant 1 (I1)	Alpha	Veteran	28.10.2021	$51 \min$
Informant 2 (I2)	Beta	Veteran	08.02.2022	$69 \min$
Informant 3 (I3)	Alpha	Junior	23.02.2022	$54 \min$
Informant 4 (I4)	Alpha	Junior	24.02.2022	$82 \min$
Informant 5 (I5)	Beta	Veteran	02.03.2022	$76 \min$
Informant 6 (I6)	Alpha	Junior	04.03.2022	$72 \min$
Informant 7 (I7)	Beta	Junior	05.03.2022	$76 \min$
Informant 8 (I8)	Alpha	Junior	11.03.2022	$70 \min$
Average time per interview				69 min

Table 3.1: Overview of interviews



Figure 3.3: How codes were deductively (dotted boarder) and inductively (filled boarder) found

from Alpha and Beta to put me in contact with possible informants. The ones they provided me with made up the sample for this study (see Table 3.1).

Due to the geographical distance between me and some informants, in addition to the covid-19 pandemic, the interviews were held digitally over the video conferencing tool - Zoom. As advised by (Stol & Fitzgerald, 2020), the interviews were recorded for later transcription, which helped capture more details in later analysis of the qualitative data.

3.4.1 Additional data sources

The company representative from Alpha (Informant 1) replied to all questions I had during this study. Additionally, they sent a document describing in detail the communities of practice in NorCon.

3.5 Analysis

I started out with a purely deductive approach to thematic analysis by inserting the codes used by Gregory et al. (2022) into NVivo12. As the interviews were coded with these codes it became apparent that coding onboarding processes to NorCon and client organizations, in addition to two fundamentally different types of teams in the same codes did not provide clear results. I therefore started from scratch. By splitting the codes between onboarding to NorCon and onboarding to clients of NorCon, the categorization was more easily understood. However, because of differences between my case and that of Gregory et al. (2022), not all codes were found, and quite a few important quotes did not fit in any codes. I therefore started from scratch again. The third and final way of coding was a mix of an inductive and deductive approach. By starting of with the codes from Gregory et al. (2022) as a framework, codes were supplemented deductively when needed. The result was separating onboarding to NorCon from onboarding to teams. In this way the differences between the onboarding processes also became apparent. This formed the basis for the model presented in 5.3.

When quotes were transferred from NVivo12 and into this thesis, they were translated from Norwegian to English. During this process they were slightly altered to keep the same meaning. Some inaccuracies may have been introduced as a result of this process.

Chapter 4

Results

This chapter presents findings related to NorCon's organizational onboarding process, as well as findings related to how NorCon employees are onboarded to internal and client teams. The chapter is divided into two main sections in order to differentiate between NorCon's organizational onboarding process and the onboarding process the consultants go through in teams.

Employees at Alpha and Beta are both consultants, but Alpha mainly consists of internal consultants located in-house while Beta mainly consists of external consultants located in client offices (see Section 3.2). The organizational onboarding processes consultants go through is different to that of "regular" in-house developers, who are not consultants. For "regular" developers the onboarding process to an organization is more intertwined with the onboarding process to teams. In the case of Alpha, the organizational and team onboarding process is quite similar to "regular" ones. The main difference being that that which they are working on is owned by another company. For the consultants in Beta, the onboarding process to the organization (NorCon) is similar, but not equal, to the "regular" ones. However, onboarding to teams is vastly different to that of Alpha. Teams may be composed of consultants from Beta, but also consultants from other firms or in-house developers working for the client.

4.1 Organizational onboarding to NorCon

This section will present findings regarding the organizational onboarding process to both Alpha (internal consultants) and Beta (external consultants). An important note here is that the informants did not start simultaneously, so the onboarding process they experienced may therefore differ from each other. This will be further discussed in Section 5.6. Figure 4.1 present what organizational onboarding activities run in parallel for newcomers to Alpha and Beta, respectively.

Section	Theme	Alpha	Beta
Recruiting	Summer internship	Yes	Yes
Pre-boarding	Invited to social gatherings	Yes	Yes
	Email regarding practical issues	Yes	Yes
First week	Orientation presentation	Yes	Yes
	Training presentations	Yes	No
	Formal onboarding plan	Yes	No
Organizational mentor	Assigned organizational mentor	Yes	Yes
	Socializing with group of organizational mentor	No	Some, but not all
Social integration	Located in same office as other newcomers in the same division	Yes	No
	Informal social activities in own office	Yes	No
	Communities of practice	Yes	Yes
Other	Meetings with other newcomers	No	Yes

Table 4.1: Overview of organizational onboarding efforts in both divisions

4.1.1 Recruiting

Some employees had a summer internship before signing on to work full time. When these employees showed up to work full time, they already had basic knowledge of the organization, knew a handful of employees, and already had highly relevant work experience. "I had a summer internship, so I've felt like a part of the organization since then" (I7). The summer interns who were offered full-time position, typically signed a contract not long after the internship ended. In this way, some newcomers felt like they were already a part of the company when they came to work on their first day. In one instance, a newcomer was placed on the same team they worked on during their summer internship. This previous experience provided useful knowledge of the system and team culture.

4.1.2 Pre-boarding

Some onboarding activities were reported in the period from when full-time contracts were signed until informants started their first day. The informants reported being invited to social gatherings with the company. "I received an invitation to a trip to Hemsedal with [NorCon]" (I5). However, those that were onboarded during the first stages of the pandemic received varying forms of onboarding during this phase, with some receiving only that which is strictly necessary. One informant signed a contract "... and then I did not hear anything from them until the middle of the summer" (I3). Another informant was invited to digital festivities with NorCon.



Figure 4.1: Organizational onboarding activities that occur in parallel in Alpha and Beta (green arrow indicates time). Thus, time is not portrayed accurately

Regardless of division, all newcomers received an email a few weeks before they started. This email was reported to fulfill the purpose of gathering information from the newcomers. Photos for ID-cards as well as questions regarding wishes for equipment (work machine, keyboard, mouse, etc.).

4.1.3 First week on the job

The first week on the job in Alpha and Beta had fundamental differences, and the findings will therefore be presented separately.

First week in Alpha

In August 2021 the newcomers to Alpha followed a written onboarding plan. In this plan the newcomers would find a welcome message, a list of important names, a course plan for the week, as well as a description of different communities of practice within NorCon. The very first day all newcomers to Alpha attended an introductory orientation. "[...] we were welcomed in an auditorium where leaders and key persons from the organizations introduced themselves. Those that worked with payment, head of the design department, and so forth" (I8). This presentation

provided important information, and let them know who to ask if they had any questions. The course plan consisted of 11 presentations that the newcomers attended. These varied in content from important aspects of being a consultant, impostor syndrome and psychological safety, to being centered around practical aspects of the job such as testing, technical debt, C#, and Scrum. These presentations provided the newcomers with relevant information in addition to a predictable first week on the job. "[...] it was nice to have a calm start" (I3). Additionally, the internal consultants in Alpha received an info-dump, which was a long document containing everything the newcomers needed to know.

First week in Beta

The first week of onboarding to Beta was not as extensive as that of Alpha, with informants reporting a half to a full day of presentations and getting equipment before heading out to a client. "There was half a day with an introduction to what it means to be a consultant" (I5). Through the interviews it seemed as if the focus was placed less on immediate training and orientation through presentations for all newcomers, and that this process is completed in a somewhat different manner in Beta. In Beta these aforementioned processes are completed through meetings with other newcomers (see Section 4.1.4) and the use of ones organizational mentor (see Section 4.1.5).

4.1.4 Meetings with other newcomers

Only found in Beta, the meetings between newcomers served as a socialization and discussion platform for the newcomers. They would bring up important aspects of being a consultants. For example: Be honest with regard to actual time spent on the project, psychological safety, and impostor syndrome. The meetings also enabled knowledge sharing between newcomers that started in Beta at the same time. "It was not intensive because they did not want it to be one thing we did for an entire week, and then we were done. We had bi-weekly meetings that were held in the office" (I5). In this way the newcomers also got to know their offices over a longer period of time, which was important for the external consultants, who did not have that many reasons to visit the offices of Beta.

4.1.5 Organizational mentor

All employees in Alpha and Beta were assigned a contact person who had the general personnel responsibilities for them. In Alpha this role entailed more responsibilities, and they were generally responsible for more employees than those in Beta. This role did not have the same title in both locations, but since the core function are the same, they will both be referred to as an organizational mentor in this thesis. The organizational mentor served as "a person that there is a low threshold to ask questions" (I7), and is "the one I go to for all the practical stuff" (I3). In other words it was someone that all full-time staff used to help them with questions that could arise related to

NorCon and in some instances also the client. Typical uses for newcomers were how to register hours or, as this informant said, "I needed a certificate for computer glasses, so I went to [my organizational mentor]" (I4). A senior reported a different pattern however. As his organizational knowledge was so good he said that his organizational mentor served as a "sparring partner in every sense [and] someone I can bring up unfiltered meanings to" (I5).

For newcomers with little to no work experience as a consultant, the organizational mentor served as an intermediary between the newcomer and other actors, like NorCon. These situations were typically during wage negotiations or when the newcomer wanted a different project. "It is [my organizational mentor] that facilitates the change if I want a new project" (I6). Furthermore, the organizational mentor was the one newcomers discussed career options with. "If I want to work with front-end I tell [my organizational mentor], who then tries to facilitate this change for me" (I3).

Both seniors and juniors agreed that the organizational mentor was someone who was there for them, and that having an organizational mentor can "contribute to making sure you feel as a part of the organization" (I7). In addition to this, some organizational mentors asked how it was going, and checked up with "their newcomers". In this way the role was quite important for the integration into the organization. Informant 3 was told that "the door is always open", and that they could come by and talk whenever they wanted to. In this way the organizational mentor also served as someone an employee could talk to about their personal problems.

The organizational mentors perspective

Informant 2, an external consultant, working as a front-end developer, has 20% of their position allocated to being an organizational mentor in Beta. They described this position as "personnel responsibilities for 4 other consultants in [Beta]" (I2), and that "The biggest and most important part is following up with them" (I2). In this is a responsibility to help them set goals and sub-goals in order to make sure that they have a good personal growth within NorCon. The role of the organizational mentor exceeded that of just answering questions, being available for questions, and facilitating growth, however. Some organisational mentors in Beta, like Informant 2, voluntarily invited their group to social gatherings. This is not a part of the job description, but some choose to do it nevertheless. "We are a group of people that become a sort of team, even though we do not work towards any other goal than having a good time at work" (I2). This was found to help with social integration of newcomers.

4.1.6 Social integration

This subsection will present how newcomers were socially integrated into Alpha and Beta. First the organizational social integration in Alpha and Beta will be presented separately, followed by a description of communities of practice that are used in both divisions.

Social integration into Alpha

Given the covid-19 situation as of August 2021, employees mainly worked from home. However, the group of newcomers to Alpha were allowed to be seated close to one another in the office. As a result of this, they formed a group that could socialize physically rather than digitally. "It felt safe to have someone that had the exact same feeling as you did. We were all new - together" (I8). In addition to this all newcomers received a buddy that brought them to lunch breaks, coffee breaks, and more. Breaks such as these were reported to serve as good opportunities for newcomers to meet new colleagues and create a larger network.

Consultants in Alpha had the opportunity to play video games at work. Newcomers reported that this was a good tool for both socializing and having a break. "We typically had one to two sessions throughout the day, and we still do" (I8). Newcomers could also attend a digital events where the employees drank beer after receiving their paycheck. *"The first or second week [...] we were* allowed to gather all of the newcomers so that we could be together" (I3). In this way they would form informal connections to the group of newcomers as well as their colleagues.

Since most consultants from Alpha work in the same office, (almost) regardless of project, the border between social integration into the organization and teams is unclear. The informants in this study reported to know their colleagues quite well from informal social interactions in the office, such as playing video games, drinking beers, coffee breaks. On the day I interviewed one of the informants the weather was nice in their location, and because of that they chose to ask around and see who wanted to go outside and have a beer. One person would then be asked, and that person asked someone they were close with, which asked a colleague they knew. It was made clear that "everyone can join" (I8), regardless of the project they were working on.

Social integration into Beta

These external consultants, who started in august (although not the same year), reported starting in groups. This helped them to get to know other newcomers. The social integration, and making newcomers feel welcome, was deemed to be high. *"Feeling as a part of the organization, and the comfort you get. I've had that the whole way"* (I7).

As aforementioned the consultants from Beta are external consultants. Some received their first project and headed out to a client on their first day, while it took longer for others. While out on a project these consultants typically have little reason to visit the offices of Beta. Therefore in order to be socially integrated with a larger portion of the organization, it was found that they were more dependent on meetings with other newcomers (see Section 4.1.4), communities of practice (see Section 4.1.7), and activities with organizational mentors (see Section 4.1.5).



Figure 4.2: The two axis for communities of practice in NorCon (with examples)

4.1.7 Communities of practice in NorCon

Communities of practice in NorCon may be placed on the two axis: *open* versus *closed* and *global* versus *local* (as shown in Figure 4.2). These axis help define how each community fits into the larger organization. All employees with affiliation to a community may join if it is *Open*. *Closed* communities typically have some knowledge or experience requirements. Specific permissions are needed to participate in these communities. *local* communities are only relevant for one division as they do not need any cooperation between divisions. *Global* communities however, do require a higher level of cooperation.

Communities of practice in NorCon served a specific purpose. Some were theoretically focused, and some were focused on socializing or recruiting. Employees could contact these communities and ask questions. *"Each community of practice has it's own Slack channel where employees may ask questions. In these channels there are a bunch of people that are interested in that specific technology"* (I2). Additionally, for the members of these communities, they serve as a way to keep updated on for example technologies you like. The social aspects of these communities should not be underestimated, however. As *Knitting nights* and other social events may be held these communities serve as a good way to socialize and network. This is true both for Alpha and Beta.

4.2 Team onboarding to in-house and client teams

The external consultants from Beta were onboarded to client teams, and were therefore only subject to the clients onboarding process. Beta had no direct impact on this process. In Alpha, where the internal consultants worked in-house, Alpha was responsible for the onboarding process, and not their clients. This section presents the onboarding process as experienced by external consultants and internal consultants.

The first important aspect to bring up is the informal onboarding processes to teams in Alpha. Here there were big differences between the informants' experienced onboarding to teams. This was quite fascinating, as the same organization (Alpha) was responsible for the onboarding process. However, a representative from Alpha confirmed that there is no formal onboarding process to teams, and that it was an adhoc process.

Section	Theme	Alpha	Beta
Initial orientation	New staff meeting	No	Yes
Tackling problems	Easy to ask team members	Yes	Yes
	Tries to find answer first	Yes	Yes
	Non team members ask to help	Yes	No
Pair programming	Pair programming is done	Yes	Yes
Code reviews	Pull requests	Yes	Yes
	Slack channel to comment on pull requests	No	Some, but not all
Task allocation	Information radiator	Yes	Yes
	Could affect what tasks were assigned	Yes	Yes
	Chooses not to affect tasks assigned	Yes	Yes

Table 4.2: Overview of team onboarding efforts found in Alpha and Beta

4.2.1 Initial orientation

Consultants from Beta reported the new staff meeting as the initial orientation to their new team. "We had a start-up meeting where the project was presented .. and then a new meeting where we talked about the teams role and such" (I5). What these meetings typically contained varied between "A 20 minute meeting with a quick explanation, but nothing big" (I7) and a more thorough walkthrough. "My team lead explained how things worked using models. How everything is connected" (I2). These meetings served as an introduction to the technical aspects of the project, in addition to give the newcomer an introduction into how the team operated.

4.2.2 Social integration to teams

One of the most important aspects of getting to know a team was participation and not being afraid of socializing. "I am pretty social, which has helped me since I join in on everything that happens" (I3). By joining in on activities, be that formal or informal, the newcomers that were not afraid of but enjoyed socializing reported the process of being socially integrated into their teams as easier.

As aforementioned, teams in Alpha consisted of consultants from their own company even though they worked for clients. In addition to this, teams were located in the offices of Alpha rather than those of the clients. Therefore employees from Alpha ate lunch, drank coffee, and saw their colleagues every day - even though they were not working for the same client. Therefore, veteran employees were likely to already know their new team members when changing teams. Two of the newcomers reported participating in daily stand-up meetings before starting on the team. "I came in and said hi to everyone and introduced myself, and they introduced themselves" (I6). Another newcomer reported that their summer internship was vital to getting to know their team. They had a summer internship the year prior to starting full-time in NorCon. When they started working full time, they were placed on the same project and therefore already knew most of the team members.

The consultants at Beta reported a slight contrast by having a bigger personal responsibility for getting to know their team. "There were some meetings at the beginning where we who were going to work together met. This was very social" (I5). Furthermore, they took the initiative to socialize with the team instead of colleagues from Beta. "I believe that opening up about one's private life shows that we are all human" (I2)

The newcomers at Alpha reported feeling like a part of their teams quite quickly. Factors that helped were one-to-one conversations with all team members and informal feedback like "Ask him; he knows a lot about that". In contrast, others said they never felt like no one wanted to talk to them. "We can joke around with each other and don't need to be serious all the time" (I3). Surprisingly, Informant 4 reported that the tasks given to a newcomer on their team were to create new functionality rather than work on the same as the rest of the team. The reasoning behind it was that the newcomer would learn more about the system's foundation this way. During daily stand-up meetings the newcomer would sit and wait until it was their turn to talk as they were working on something completely different.

At Beta, the consultants reported a different pattern than the consultants in Alpha. One consultant said that they felt more like part of the team when they felt like they were contributing and adding value. As it did not take them long to feel like they were providing value, they quickly felt like a part of the team. Informant 2 also said that they used ice breakers at the beginning of meetings to have some fun and get started on a good note. Informant 5 reported to not like that the team was so professional that they could not have informal social events.

Consultants from Alpha (Internal consultants) reported that their physical location, and location with regard to their team members, affected socialization. They strongly preferred to sit with their team because this allowed for more informal discussion. "I prefer to be in the office, so I'm there more or less every workday" (I8). Furthermore, these informal discussions made getting to know the other team members easier. "I haven't gotten to know my colleagues that are working from home. Not properly at least" (I3). Some informants said that as more restrictions due to the pandemic were removed, social activities in the office, like lunch, would happen more often. These social activities would, in turn, facilitate the process of social integration in Alpha.

These findings are partially aligned with those I found in Beta. However, the flip side became more apparent. Informant 7 worked for a client based in a different city, and this client did not wish to pay for travel. Therefore he worked in the offices of Beta, where he sat with no one from his team. When he needed help with specific coding problems, he reported asking Beta-colleagues who sat next to him when he thought that they would be able to solve the issues. This kind of situation depended heavily on the client and their budget, however. Another informant reported the following regarding his first client project "Us from Beta sat in the clients' offices and had our own department on one floor. It felt safe because it was like I was in Beta-land in the clients' office" (I5). Because they were so many from Beta, he had the safety of working with colleagues from Beta in a "closed space" while still being in the clients' office.

Findings related to informal social gatherings in Alpha were divided. Socialization solely within a team was found to be low. "Except the daily meeting and one developer meeting, we don't have any social activities beyond that" (I3). However, due to the fact that these employees worked in the offices of Alpha, informal social gatherings were typically done with colleagues working on other projects as well. These types of social gatherings happened daily and would vary from getting a beer, or playing video games, to being introduced to colleagues while getting a cup of coffee with your assigned buddy. "When you go and get coffee, you meet other persons on the way. The person you went to go get coffee with (for example a buddy or team member) then introduce you to them" (I8). Consultants at Alpha built larger social networks this way.

The informants from Beta reported different levels of socialization, and attributed it to differences in team feeling amongst other things. "In an earlier project we had beer-nights where we drank beer after work on our own initiative. We've never done this in my current project because it was never informal enough to do so. [..] I think that the communication flow has taken a hit because of this" (I5). To build good connections with team members it was reported that having an informal connection to them was essential. In addition to this, being able too meet in an informal setting was reported to be a good way for newcomers to get to know their new colleagues through doing something not work-related. "For me it's really about team building. It's about being able to meet up and talk in an informal setting" (I2). The flip-side of this is what informant 7, who was sitting alone in the offices of Beta, reported. "I don't think that we have any plans of doing something social" (I7).

Impostor syndrome was found to be hard on newcomers to both divisions of NorCon. "It can be difficult to see for yourself if it is impostor syndrome, and that it isn't just you who is [...] yeah" (I3). As developers became more experienced, and were more comfortable in their role, it was surprising to find that one informant did not think the feeling of impostor syndrome disappeared. "I thought that impostor syndrome would get easier the first time you change teams, and become more experienced. But it's not like that [...] Even though you're more experienced, you don't know whether you're good enough, or stand up to the team leads expectations" (I2).

4.2.3 Mentor availability

A mentor in a team setting was an available learning resource that answered the questions of newcomers. In this context the role was usually filled by a more experienced team member. Informant 2, an experienced employee, reported that when it came to helping others *"it's about being available. Always say yes if someone has a question"* (I2). Newcomers would greatly benefit from available mentors, as their questions would get answered more quickly. Some newcomers, however, reported that they had to wait for long periods of time to receive an answer. *"He who was supposed to help me with those tasks was really busy most of the time, so I had to wait a lot"* (I3). Team members were mostly found to be readily available to help out in both Alpha and Beta, with some even asking newcomers how they were doing. Not all mentors would be available though. Informant 4 reported asking whether someone had worked on what he was currently working on. He who had worked on it before was on a leave of absence, and the person who wrote most of the code-base was not available for months. The mentor availability was generally found to be high, although there were a few discrepancies.

4.2.4 Tackling problems

Informants reported that when they faced a problem, they would generally try to solve it by themselves first. Should this take too long, they would ask for help from someone more experienced. "If you've tried to solve a task for so long that you feel like from now on it's just a waste of time, then it's better to ask someone with more experience" (I2). This process of trying for one self, was reported to be a big part of the learning process (learning-by-doing). Informants reported different approaches "First i try to find similar code in the project" (I8), "It is a possibility to search the

internet [...] I do that a lot" (I3), and "[I] Google it" (I5) were typical responses.

"Everyone asks for help, and everyone gets help when it is needed. No questions are dumb" (I2). Although some informants mentioned issues regarding the availability of mentors, no informants reported bad experiences when receiving help. Thus, it became easier for newcomers to ask when they needed to.

Whom the informants posed their questions to was found to vary between divisions, but also between experience levels. In Alpha it was more common to ask colleagues that were not working on the same project, while in Beta, they mostly asked team members or others on the same project, but in a different team. Experienced developers reported asking key persons. *"Some persons always present themselves, and I always ask them questions directly"* (I5). The experienced Informant 5 reported that when he had a question regarding infrastructure, he would ask the "infra-guy" directly instead of an intermediary. Newcomers, however, tended to ask all their questions to specific persons. Typically someone with more experience.

Informant 8, an internal consultant from Alpha, reported being asked how she was doing by a colleague not working on the same project. She replied that she had no idea what she was doing. Then the colleague said "Oh, I have five minutes. Do you want some help?". In this way she was provided with help by someone who was not obligated to do so, which further showed that when experienced developers made themselves available to help, the newcomers would benefit greatly.

4.2.5 Pair-programming

Pair programming was found to affect mainly three aspects of the onboarding process: training, social integration, and mindset change. A good example of this was informant 4. When asked what he thought was the best way to include newcomers, informant 4 smiled and replied '*'pair programming*". He explained how this was a great way to get to know team members, and also helped him understand more parts of the system. Eventually, because of his knowledge of it, others started asking him questions about the system he previously knew little about. More inexperienced newcomers reported that pair programming with veteran employees was a soft start. "[A veteran team member] asked me to do something that I did not understand. He needed it quickly and therefore suggested that we could pair program. [...] He walked me through his thought process. I liked that a lot" (I8). This experience helped the newcomer gain knowledge through informal training and feedback.

4.2.6 Code reviews

Feedback was found to be important for newcomer and veteran consultants in both divisions of NorCon, and was reported to help provide insight into coding related issues as well as increase the social integration of newcomers. With regards to gaining domain knowledge of the system this was said: *"Beyond screen share and pair programming, I think that reviews are important"* (I5).

Code reviews were found to be done mainly through reviewing pull requests. This was true for teams in both divisions. "We create pull requests, which have to be approved by someone else, when we make changes to the code" (I6). Feedback on pull requests varied from a thumbs up if everything was fine, to more detailed descriptions of what needed to be changed. Informants also reported that some team members would give more detailed code reviews than others. Whereas some would provide feedback on necessary aspects, such as version numbers, others would give feedback on the naming of functions or the structure of the code. The detailed feedback was reported to help newcomers learn more by making them aware of best practices.

Feedback through code reviews was found to be done in teams from both divisions. Beta reported a more technical approach than Alpha by involving Slack to a larger degree. Informant 5 reported a detailed explanation of how Slack was used in the projects he had been a part of thus far in his career. When the consultants were able to create their own Slack channels they could create one for the sole purpose of discussing pull requests. This was reported to help team members keep track of what was going on, and make feedback on pull requests easier and more accessible. However; informant 5 reported that when their NorCon-Slack-account was invited into the clients Slack, he would only have access to the rooms provided by the client. Because the client did not set up a designated pull request channel, the team did not have access to this functionality.

4.2.7 Task acquisition for newcomers

All informants reported the use of a kanban board in Jira or Azure. These information radiators served as an additional resource to daily stand-up meetings and let team members know what the team was doing. "We use kanban boards [...] to keep track of and see the progression of all tasks" (I3). Additionally, team members would be able to see to whom each task was assigned. Newcomers reported that they were provided with tasks from the kanban-board, and that they had a say in which tasks they would like to be assigned. However, newcomers reported not wanting to what choose the task to be assigned to them as they did not feel they had sufficient insight and domain knowledge. "In my opinion it is better that someone who understands what we need provides me with a task instead of me choosing whichever looks most fun" (I8). This was also reported to help the newcomers learn the important aspects of the system quickly.

These tasks tended to be simple and easy to solve. "When I started they had created four or five tasks for me. For example set up the project in visual studio [..], do these simple things that have to be done" (I4). This was the same in both divisions of NorCon. Some newcomers were provided similar tasks for some time, which reportedly was monotonous for them. "If both motivation and progress are low, it is challenging to work. But with simple tasks that are finished quickly, you at least feel like there is progress" (I5).

Chapter 5

Discussion

The three first sections answer one research question each. This is followed by a description of implications of practice. The chapter finished with a discussion of validity and limitations of the study.

5.1 Organizational onboarding process (RQ1)

Differences and similarities between the organizational onboarding process to the two divisions of NorCon, Alpha and Beta, were presented in Section 4.1. This section takes those results and discuss them with previous literature. The section as a whole answers the first research question "What are the differences and similarities in organizational onboarding processes for in-house consultants and consultants working in client offices?".

5.1.1 Recruiting

Summer internships were found to provide experience and information, in addition to provide the newcomers with highly relevant work experience, which helped set realistic expectations. This is in line with the findings of Gregory et al. (2022), who pointed out that newcomers who experienced this would also require minimal onboarding upon starting their full-time job. Gregory et al. (2022) also found that newcomers' knowledge gaps were identified when onboarding during recruitment. It should be argued that summer internships also fulfill this role, as management will get a deeper understanding of what the newcomers actually know. *"The entire goal of the recruitment should be to get candidates to the next step - selection - and then to help them fit into the organizational environment and get to know organizational insiders and stakeholders"* (Bauer, 2010). Summer internships were found to do exactly this. Thus, summer internships are an important part providing the newcomer with realistic expectations of the job, while also aiding NorCon with selecting

the ones they feel are a good fit.

5.1.2 Pre-boarding

The importance of onboarding activities during *recruitment* is thoroughly covered in literature (Bauer, 2010; Moe et al., 2020; Gregory et al., 2020). Literature does not describe onboarding activities before the first day. However, my findings suggest that newcomers were subject to onboarding activities from the day they signed their contract until their first day of work. Newcomers from both Alpha and Beta reported being invited to social gatherings (although some were cancelled due to the pandemic) and were given the option to choose their own equipment. This was found to better social integration and help the newcomer feel welcome when they arrive on their first day of work. Keeping in touch with newcomers may be seen as obvious or 'a must'. In addition to this, pre-boarding was reported to be a good way to build a relationship between organization and newcomer, I would further argue it's importance.

5.1.3 Organizational mentor

Buchan et al. (2019), Ju, Sajnani, Kelly, and Herzig (2021), Bauer (2010), and , Ostroff (1993) presents the importance of mentors in an onboarding setting yet focus primarily on two aspects of mentors; learning how to do the job and learning about the organization. My research suggests that consultants need another type of mentor, not described in research, referred to as an organizational mentor in this thesis. This type of mentor helps newcomers learn about the organization, in line with the research mentioned above, but takes on additional responsibilities. Administratively their responsibilities are to make sure newcomers are comfortable and have someone to talk to if needed, map out what they want to work with (career guidance), and generally help when needed. Either when a problem arises in a client project or the employee needs someone to talk to about personal issues. In addition to this, the organizational mentors typically negotiate wage on behalf of employees and *shield* newcomers from difficult choices, like choosing a project. By taking on larger social responsibilities, the organizational mentors in Beta directly affect newcomers' social integration to Beta. The fact that organizational mentors in Alpha affect social integration less than those in Beta I would argue not to be a problem, as the social integration in Alpha is already reported to be high. Beta also has a larger need to facilitate social gatherings as their consultants work in client offices, and therefore rarely meet colleagues from Beta.

5.1.4 Social integration

Bauer (2010) states that "[Newcomers] must facilitate their own onboarding by actively building strong relationships". I argue that newcomers to both Alpha and Beta do this to a large degree. In addition to this, they receive help with their social integration through formal onboarding activities (buddies, communities of practice, and meetings with other newcomers). This is important as

newcomers need to feel accepted by their peers, and be comfortable in social interactions (Bauer, 2010). The differences between the two divisions in NorCon are however quite prominent. Bauer (2010) list four tactics of building relationships; (1) make time for small talk, (2) informal social interactions (lunch or coffee breaks), (3) participating in voluntary company functions, and (4) try to build a relationship with a supervisor through new responsibilities and completing assignments. If company functions may be defined as organization-wide activities for everyone, data regarding 3 is not collected in this study. Considering the results of this study regarding social integration of consultants into their organization (see Table 5.1), 1 and 2 were found in Alpha and Beta, although in different ways.

In Alpha, the newcomers were seated close to each other and took breaks to play video games, which allowed for more small talk. Additionally the assigned buddy would "force" the newcomers (in a friendly manner) to take breaks, by inviting them to coffee breaks and to eat lunch. Thus, 1 and 2 are fulfilled in Alpha. In Beta these two are not that easily fulfilled as these consultants are assigned to client projects, and therefore are not co-located with their peers. Informal social interactions were mostly found when the newcomers "returned" to the office to participate in meetings with other newcomers, communities of practice, or socialized with their "organizational mentor group".

Alpha	Beta
Communities of practice	Communities of practice
Everyone can join social activities (during and after work)	Activities with organizational mentor group
"Easy access" to colleagues, as they are located in the same offices	Meetings with other newcomers
Assigned a buddy	
Can take initiative to host social events	
Newcomers seated together	

Table 5.1: How newcomers socialize with coworkers in both divisions of NorCon

5.1.5 Communities of practice

Wenger (2011) define communities of practice as "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly". Thus, they help with knowledge sharing across divisions in NorCon, and are not limited to a persons networking skills or geographical boundaries. This is very much aligned with my findings in Alpha and Beta. All full-time employees may join open communities of practice they are affiliated to (e.g. not local to a division the person does not work in). These communities of practice enabled knowledge sharing to a large degree, and also made it available to non-members. As additional platforms for socializing with coworkers, they serve an important role in NorCon not only because of the function they provide.

5.2 Team onboarding process (RQ2)

Differences and similarities between team onboarding processes of internal (in-house) and external (client based) consultants were presented in Section 4.2. This section discusses those results with previous literature. The section as a whole answers the research question "What are the differences and similarities in team onboarding processes for in-house consultants and consultants working in client offices?".

5.2.1 Pre-boarding

(Gregory et al., 2020) pointed out that, in a team onboarding setting, meeting the team before joining will benefit the newcomer. This is in line with my findings at Alpha, where newcomers reported to meet their teams before their first day, but not in Beta where the newcomers meet their team on the first day. The newcomers in Alpha reported that it was easier to join teams when they knew key figures as a result of pre-boarding.

5.2.2 Orientation

Gregory et al. (2022) identified four information packs that were part of the formal onboarding program; (1) "New staff" pack, (2) "How our team works" pack, (3) "How our team works with the client" pack, and (4) "Agile method" pack. These were meant to provide newcomers with written information, and make sure that the information provided remained the same over multiple years. Informants from Alpha and Beta did not report such packs. However, newcomers in Beta had meetings that served to fill this role instead. Although not a written resource, these meetings did introduce the newcomers to the project and the team, and contained the same information as packs 1-3.

Formal orientation helps newcomers define their role and understand goals, values, and power

structures (Bauer, 2010). This is in line with my findings in Beta, where the newcomers were provided this information. The initial orientation to teams may therefore be said to be high in Beta. As there is no formal orientation to Alpha, it may be argued that their initial orientation to teams is weak.

5.2.3 Social integration

Team feeling

"New employees need to feel socially accepted by their peers" (Bauer, 2010). The internal consultants in Alpha reported that informal discussions made getting to know the team easier, and that they felt as part of their teams quite quickly. Additionally, one-to-one conversations and informal feedback were reported as important for building a team feeling. The external consultants from Beta reported a more technical perspective for building their team feeling. They felt more part of their team as they started to contribute and add value towards the team goals. Klein, Polin, and Sutton (2015) argued that organizations should offer more practices, as it helps facilitate socialization. This is in line with findings from Alpha, and to an extent in Beta. There is likely a third variable present, so more research is required to fully understand this dynamic.

Location

The internal consultants in Alpha reported their physical location and location with regards to their team to be an important factor for social integration, with one informant saying that she only knew the ones that were in the office. This is backed up by findings in Beta where the external consultants reported to either feel safe in NorCon-land in their client offices, or be geographically separated from their team and not have any social connection to the team. As social integration *"helps newcomers become part of an agile team because team members work so closely together"* (Gregory et al., 2022), it may therefore be argued that being co-located will greatly benefit social integration to teams.

Social interactions with the team

The internal consultants in Alpha placed less focus on team socialization, and more on the division as a whole. As the colleagues they were closer with were located in the same office spaces, they could take breaks with them instead. Gaming, coffee, and lunch breaks were the most reported situations. The team would not necessarily be excluded from these activities however, as mentioned in Section 4.1.6, "everyone can join" (I3).

In Beta, teams were "forced" to socialize with their teams as they were in client offices. Team feeling and having good relationships with team members was deemed to be important for good social integration. In order to build relationships through social activities it was important for the informants to already have an informal relationship their team members. When the relationships were too formal, informal social activities like going out for a beer, did not happen. It was also deemed favorable to open up about ones private life, as it may be difficult to get to know someone by discussing pull-requests, one informant said. How the informants from Beta interacted with their team seemed to be dependent on clients and team structure, but other variables may affect this as well.

"High-quality relationships with [...] team members undoubtedly are related to favourable onboarding outcomes, including performance and job satisfaction" (Bauer, 2010). As good relationships to team members were related to favourable onboarding outcomes, Beta should consider working on social integration of their external consultants. It may be argued that Alpha had a high level of social integration, as aforementioned, and therefore reaped more benefits in the form of favourable onboarding outcomes.

5.2.4 Asking for help

I was surprised to find that no informants reported feeling hesitant to pose questions to veteran employees or team members. It appeared obvious that asking questions were a necessity, and that they were comfortable in doing so. The fact that no newcomers were afraid to ask questions is important. Ju et al. (2021) found that as help-seeking decreases, so does social interactions. Bauer and Erdogan (2011) found that seeking feedback is important for newcomers in order to fit better in with the company culture and expectations. Thus, help-seeking was arguably vital for new employees as it affects knowledge of culture, role clarity, social integration, mindset change, and self-efficacy. As help-seeking affects all newcomer adjustments, I concur with Sharma and Stol (2020) who found that "Not embarrassed asking for help" was connected to support (cross loading of 0.741). Additionally, they found support to be the "most significant factor associated with onboarding success", which further emphasized the importance of making sure that newcomers were not afraid to ask questions. It was therefore vital that mentors made themselves available to newcomers.

5.2.5 The role of pair-programming

Smite, Mikalsen, Moe, Stray, and Klotins (2021) found that the success of remote pair programming *"highly depends on the existing social connections"*. In both divisions, pair programming was found to better pre-existing social connections, and could actually be used as a way to integrate newcomers. This was true especially for newcomers who had little experience as developers. Pair programming gave them a soft start, and a way to acquire programming experience and domain knowledge. In Beta, one informant reported that the tone may be perceived as more rough when he did remote pair programming, as they were not able to see each others body language.

5.2.6 Code reviews

Gregory et al. (2022) defined code reviews as an activity where "a group of developers read and talk through a section of code [...] used for providing feedback to aid learning for everyone, including newcomers". However, code reviews in Alpha and Beta were reported to be more informal. When developers made a pull request, another developer would have to look over it and either accept it or respond with changes that would have to be made. This is the code review. The developer that made the pull request would then make these changes, if there were any, and get a new code review. Thus, only one other developer needed to look over the code, and not an entire group, as found by Gregory et al. (2022). Although, in Beta some teams used Slack-channels as a way to discuss pull requests. In these instances team members could give feedback on all pull requests, regardless of whether it was them who were supposed to review the code. Code reviews in both Alpha and Beta varied between a thumbs up, and accepted, to in depth descriptions of what needed to be changed, and what should be changed. More detailed feedback was found to help newcomers learn best practices.

5.2.7 Task acquisition

Gregory et al. (2022) found that "it was useful for teams to be able to give newcomers smaller, simpler tasks at first", and that newcomers were often assigned minor bug fixes. This is in line the with findings in Alpha and Beta, where newcomers with little experience were assigned small, simple tasks by more experienced team members. When they were provided a task, the expected time to complete it was reported to be increased. Newcomers could therefore spend more time, which they often needed, and feel fine in doing so. Additionally, the tasks given required little coordination with others. This is in line with Ju et al. (2021), who found that some new developers prefer less socially complex tasks.

Small tasks made it easier for newcomers to deliver more often, and gain a feeling of progress, even though progress may have been small in comparison to the other team members. This may be argued to increase their self-efficacy, as the feeling of adding value could increase. These small tasks also helped the newcomers build insight and domain knowledge. As they gained experience, they were provided with increasingly difficult tasks, until they trusted themselves enough to pick tasks themselves.

5.3 Proposition for model of onboarding (RQ3)

The initial model, presented by Bauer (2010), was used to measure the success of newcomers. Gregory et al. (2022) expanded on the model by Bauer (2010) and used it in a team setting. My findings indicate that these models can be combined to explain onboarding processes consultants go through to teams and organizations. Some adjustments were made however, to create a model that would fit this case (see Figure 5.1). Additionally, I wanted to clarify how *onboarding activities*, *continuous efforts*, and *workplace adjustments* affect *newcomer adjustments*, which in turn affects the degree to which the onboarding was successful.



Figure 5.1: An onboarding model for onboarding of consultants to teams and organizations (adapted from Gregory et al. (2022) and Bauer (2010))

5.3.1 Separated into themes

By defining the three main themes *Efforts by company*, *Adjustments*, and *Result of onboarding*, I argue that the efforts of the company will be more clearly separated from adjustments that happen as a result of those efforts. Furthermore, highlight that, the degree to which a newcomer is adjusted, has a direct impact on how successful the onboarding process was.

5.3.2 Moved selection under recruitment

In the model by Bauer (2010), *selection* is placed next to newcomer adjustments, and it seems like they together lead to onboarding success. According to Goplen (2019), Bauer (2010) never explained exactly how *Selection* affects the degree to which it is a successful onboarding. In addition

to this, Britto et al. (2018) did not include *selection* in their study. I concur with Goplen (2019) in that *selection* should be placed under *Recruitment*, and not as it's own "box".

5.3.3 Renamed Team composition to Team accommodation

This change was done to avoid the ambiguous meaning of the workplace adjustment, *Team composition*. According to Cambridge Dictionary the word *composition* means "*The parts, substances, etc. that something is made of*" (Form) or "*the mixture of things or people that are combined to form something*" (Mixture). Gregory et al. (2022) yet describe this *Team composition* as the result of the change in team composition (newcomer joined), the team needs to adjust to accommodate for this change. As the word composition refers to a mixture that makes up a whole, and Team composition is supposed to refer to ways the team adjusts to accommodate the newcomer, I argue that the wording should be changed in order to decrease ambiguity.

My proposition, as seen in the model, is to rename *Team composition* to *Organizational/Team accommodation*. This is to highlight that both organizations and teams need to adjust in order to facilitate the onboarding of newcomers, depending on what the person is a newcomer to. If the newcomer is joining a team, it would be *Team accommodation*. If the newcomer is joining an organization, it would be *Organizational accommodation*.

5.3.4 New onboarding activity: *Pre-boarding*

Recruitment has previously been defined as an onboarding activity (Bauer, 2010; Gregory et al., 2022), and consists of activities that take place during recruitment. This phase stops when the person being recruited has signed their contract. From the time a person has signed the contract until they start their first day, they should meet their new colleagues, be that in an organizational (see Sections 5.1.2) or team setting (see Section 5.2.1). In addition to the socialization aspect there is also that of making sure everything is ready for the first day, like preparing equipment.

5.3.5 New category: Continuous workplace efforts

Bauer (2010) defined onboarding activities and newcomer adjustments. Gregory et al. (2022) added workplace adjustments, and the newcomer adjustment, *mindset change*. During this study I found that efforts such as communities of practice and the organizational mentor have a large impact on the onboarding process. In addition to this, they also affect veteran employees. The effort is continuous during employment. Therefore *Communities of practice* has been moved from *workplace adjustments* to *Continuous workplace efforts*. In addition to this, as the organizational mentor was found to have such a profound impact on social integration, self-efficacy, knowledge of culture, and more, I argue that this should be created as it's own "box". This box belongs in *Continuous workplace* efforts as the organizational mentor was a resource found to be available to

all employees at NorCon.

5.3.6 Added arrows to clarify what affects what

Onboarding activities were argued by Bauer (2010) to have direct impact on newcomer adjustments. I concur with this, as the onboarding activities may be argued to be activities meant to adjust the newcomer to the organization or team.

Continuous workplace efforts may be argued to be resources that are available to all employees and serve an organizational purpose. For newcomers, especially those that need training and to connect with colleagues, these efforts may be argued to work as onboarding activities. Thus, continuous efforts affect how newcomers adjust to the organization to a large degree.

Workplace adjustments, as defined by Gregory et al. (2022), may be argued to also affect newcomer adjustments. The team or organization adjusts to the newcomer in order to make it easier for them to fit in (e.g. adjust). Team or organizational communication also adjusts to some extent in order to facilitate newcomers. Although this was more prevalent for team onboarding processes than organizational onboarding processes, it is still done to make sure that the newcomer adjusts to their new situation. Thus, the aim of workplace adjustments is to help facilitate for and ensure that the newcomer adjusts.

Bauer (2010) describes how *newcomer adjustments* (self-efficacy, role clarity, social integration, and knowledge of culture) is what leads to a successful onboarding. This is in line with my findings that suggest that the degree to which newcomers are adjusted, determines the success of the onboarding process. It is worth emphasizing that this is true both for onboarding to teams and organizations. During a team onboarding process however, the newcomer adjustment *mindset change* is also relevant. As this refers to how newcomers think while solving problems, it was in this case not relevant in an organizational onboarding setting.

5.4 Implications of practise

5.4.1 Increase client focus on social integration

Onboarding is known as *organizational socialization*, and according to (Bauer, 2010), Connection is the most important of the four C's (see Section 2.4). Bauer (2010) described that onboarding help employees establish better relationships, which in turn increase satisfaction, and help clarify expectations and objectives to improve performance. Psychological safety, informal relationships, and socializing are tightly connected with support, as defined by (Sharma & Stol, 2020), which was found to be the largest and most significant factor associated with onboarding success. I concur with aforementioned literature, as my findings also points toward the importance of social integration in teams.

Some clients of Beta appeared to go to great lengths to aid in social integration, with one client having a specific floor for the consultants from Beta. An external consultant who had a different client reported a completely different pattern however. *"The client should feel responsibility for you, but it's not a prerequisite"* (I5). He went on to explain that he did not feel like the client did anything to integrate him socially, or help him gain technical or domain knowledge. Developers that worked on the same team as Informant 5, but were in-house developers and not consultants, received training and were invited to attend meetings. Informant 5, however, was not invited, and was not told what happened there. Thus, it may be argued that he was being excluded from the team.

5.5 Validity

This section will discuss the construct-, internal-, and external validity and reliability of this study.

5.5.1 Construct validity

Construct validity was increased with data source triangulation, which is when multiple, independent data sources or types point to the same result (Lazar et al., 2010). In this study information was gathered from multiple data sources (e.g. informants and a company representative) and types (interviews, a written onboarding plan, and an email describing communities of practice). Additionally chains of evidence were established through the use of a database (NVivo12), which helped link findings to the raw data. Additionally, I tried my best not to introduce confirmation bias by following up what I thought was correct instead of what I wanted to be correct. Therefore I argue that the construct validity, as defined by Yin (2018), is high, but with some weaknesses.

5.5.2 Internal validity

Internal validity is concerned with the validity internally in a study, and therefore not with other research. In other words, it tests whether relationships and causes found are actually correct. This is why internal validity mainly is relevant in case studies that seek to establish a causal relationship between two points (Yin, 2018). When a third point is not known, the internal validity becomes lower. Time is in that regard an important aspect of internal validity, as events discussed in interviews have already transpired. It then becomes more difficult to confirm that all possibilities have been considered (Yin, 2018). A possible threat to the internal validity of this study is the fact that informants did not go through their onboarding process at the same time. The onboarding processes were likely not equal every year, especially considering the covid-19 pandemic. Since the organizational onboarding processes informants have gone through were at such different times, they have thus reported on different processes.

5.5.3 External validity

External validity, also known as generalizability, and is concerned with "showing whether and how a case study's findings can be generalized" (Yin, 2018). In the field of software engineering it is difficult to argue for generalizability, considering the inherent differences in organizations. In order to have as high generalizability as possible this study was conducted in two different divisions of NorCon, with informants from different context and experience levels within both. As Gregory et al. (2020), I acknowledge that the findings in this study may have limited transferability to other organizations, and therefore generalizability is limited.

5.5.4 Reliability

Reliability refers to the operations of a study, and whether it may be repeated with equal results (Yin, 2018). By using a *case study database*, as proposed by Yin (2018), the reliability of this study is increased. However, because onboarding practices change regularly and the covid-19 pandemic was an irregular time period, the results may still vary to some degree, even if conducted in the same divisions of NorCon.

5.6 Limitations

In this study the most relevant limitations are context, time, sample, and the inexperience of the researcher. The time in which the research was conducted was abnormal. The world had more or less been in lockdown due to the covid-19 pandemic for 18-24 months. This had a major impact on this study. The onboarding process was therefore not the same as before the pandemic. Additionally, the onboarding program in NorCon was under constant revisions the past years, and will therefore not have been the same for all informants. Thus, discrepancies will likely have occurred.

The inexperience of the researcher must also be mentioned, as it has had an affect on the study. When the results were sent to a representative from NorCon, an error was pointed out that likely occurred due to the structure or wording of questions in interviews. The error was promptly fixed after it was pointed out. There may very well be other errors like this one, but none have been discovered.

It may also be argued that 3 informants from Beta and 5 from Alpha were an insufficient amount of informants. However, I argue that since the objective of this thesis was not to generalize, but to explore differences between two situations, the number of informants is adequate. More informants would without a doubt have strengthened the validity of this study.

5.6.1 Sampling bias

The sample for this study was provided by one representative from each division in NorCon. In other words, the sample was not random. This will most likely have affected the data. For example, if the company representatives that provided informants for this study wanted to skew findings in some direction, they may have provided informants that will support their wishes. Sampling bias may have been introduced in another way as well. If the informants may have been under the impression that someone may be able to identify them in the future, and feared reporting bad aspects of in NorCon that could lead to negative consequences for them.

Chapter 6

Conclusion

To sum up the thesis, I conducted a case study consisting of interviews of internal and external consultants in two divisions of the same consultancy firm. I pointed out similarities and differences between organizational and team onboarding processes these two types of consultants go through (RQ1 and RQ2). Additionally, I was able to identify differences and similarities between my case and that of Gregory et al. (2022), and point out ambiguities in their model. I used this information and proposed a model for organizational and team onboarding of internal and external consultants (RQ3).

My findings suggest that factors that positively affected social integration were similar in Alpha and Beta. The main differences were that newcomers in Alpha were co-located, and through frequent informal social interactions, they got to know other newcomers and colleagues more quickly. Newcomers in Beta were more dependent on having a reason to go back to the office to meet colleagues (communities of practice, meetings with other newcomers). Organizational mentors worked as both an intermediate and as someone newcomers and veterans could confide in both in Alpha and Beta. My findings suggest that the role of the organizational mentor could be vital for a more successful onboarding, and further job satisfaction, but more research is needed.

With regards to onboarding to teams my findings suggest that when internal consultants from Alpha were newcomers to their in-house teams, they were socially integrated quickly. For the external consultants from Beta, the social integration was dependent on the client. Some clients were found to define special areas in their offices for the consultants, whereas other clients excluded the consultant from meetings and other activities. Mentor availability and how newcomers tackled problems were more or less the same for both divisions, except in one instance. A newcomer in Alpha experienced receiving help from veteran employees who did not work on the same project, which is an example of the high social integration in Alpha. Pair programming and code reviews increased feedback, served as training, and also aided further in social integration.

Future work could use the model proposed in this study in either an organizational or a team onboarding process in another context, and revise it in order to increase generalizability. Additionally, it would be interesting to take a deep dive into social integration of external consultants in order to gain a better understanding of mechanics that aid this process. I would also propose that future work look into how organizational mentors are used by newcomers and veteran employees, in order to further understand the impact of this role.

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Appendix A

Interview guide

The following interview guide is the final interview guide that was used for this thesis. As described in chapter 3 the interview guide was changed iteratively as I progressed with the interviews. Please note that this interview guide has been translated from Norwegian to English.

Introduction

- Thank the interview object for their participation.
- Present yourself (Name, background, etc.)
- Inform about the project
- Inform about what it means to participate, privacy, ownership of data, and voluntary participation.
- Ask permission to record the interview.
- Ask the interview object if they have any questions before the interview.

Start the recording

The candidate

• Can you tell me about yourself and previous work experience?

Onboarding to NorCon

- Can you tell me about the phase from when you signed the contract until your first day at work?
- What was it like to be new to the organization?

- What happened during the first few weeks?
- Did you follow a fixed program?
- Did you participate in any individual or collective training?
- How long time did it take before did not feel like "the new guy" anymore?
- In NorCon, everyone has a contact person with personnel responsibilities for you. Tell me about what this role helps you with.
- How many teams have you been a part of before the one you're on now?

The team

- What is your role in your current team?
- When did you start in the team?
- Can you tell me about your team?
 - What do you do? (domain)
 - How many in the team?
 - Are there only employees from NorCon in your team?
- Does the team have any joint activities?
 - What do you do?
 - Who is responsible for arranging them?
 - What do you get out of it?
- How do you know what the other team members are doing?
- How do you interact with your team every day?
 - Programs Slack, teams, etc.
 - Meetings Standup, retro
 - Physically or digitally?

Their onboarding

- Think back to when you were new. What was it like?
 - Tell me about one or more of your personality traits that made it easier for you to be new.
 - Tell me about one or more of your personality traits that made it harder for you to be new.
- What did the team do to include you socially?
- How long time did it take before you felt as a part of the team?
 - What contributed to this?
- What contributed to you understanding the team culture?

• Did you receive any training when you were new?

- Do you feel like you still need training? If so; in what?

- What has contributed to you finding your role in you team?
- How do you know that you are doing what is expected of you?
- Since you started in your current team what has contributed to you getting to know more colleagues'outside of your team?

Agile

- What is the teams current work methodology?
- What experience did you have with agile before you started in your current team?
- How did you learn about your teams adaptation of agile?
 - Do you think that the current adaptation of agile works for the team? Please explain why.
- In what ways have you been able to influence the current methodology?

Learning

- What makes you learn?
 - What has been important for your professional development since you started in you current team?
- In what way does the way you learn affect the way you work?
- Is there a person in the team you have a close connection with in terms of asking questions?
- What domain does your team work in?
- How have you gained knowledge of this domain?
- Tell me about how you get feedback from the others in the team.
 - What do you get feedback on, and how does it happen?
- Tell me about the trust within the team.
 - Why do you think it is the way it is?

Tasks

- Can you tell me about how you received tasks when you were new?
 - Could you choose yourself, or did someone choose for you?
- What kinds of tasks did you most enjoy working with when you were new?
 - If experienced: Do you think that the tasks you are comfortable with when you are new to a team change as you gain more experience and become more confident in your role,

or because you have more experience being onboarded?

- What tasks did you not enjoy working with when you were new?
- If you are stuck on a task. What do you do?
 - Ask someone or find it our by yourself?
 - How long time does it take before you ask someone for help?

Onboard others

- Have you ever included someone into a team that you were a part of?
- Imagine that a new person was to be included into your team. In your opinion, what would have been the best way to ensure that this person learns about how the team operates?
- What do you think helps newcomers learn what they need to solve tasks in the team?
- Tell me about one time a new team member was included successfully.
 - And then a time when it did not go well.
- Based on your experiences. What kinds of techniques or approaches do you think improve how a newcomer learns your teams approach to agile?

Other questions

- As a consultant you are employed by one company, yet work for another. Tell me about this dynamic.
- Who is responsible for you? NorCon or your client?

Finally

- Is there anything else that I should know about, that we have not discussed thus far?
- Is there anything you feel that you have not gotten to say during this interview?