

Aalto University
School of Science
Degree Programme in Information Networks

Juuso Koskinen

Managing emerging subgroup dynamics in key decision-making events in software startups

Master's Thesis
Helsinki, May 22, 2017
Supervisor: Prof. Eila Järvenpää
Instructor: Patrik Backman M.Sc. (Tech)

Author:	Juuso Koskinen		
Title:	Managing emerging subgroup dynamics on key decision-making events in software startups		
Date:	May 22, 2017	Pages:	52 + 9
Professorship:	Leadership and Knowledge Management	Code:	SCI3048
Supervisor:	Prof. Eila Järvenpää		
Advisor:	Patrik Backman, M.Sc. (Tech.)		
<p>Startups have been a growing subject both in the academia and industrial world in the past years. More and more focus has been given to them, not least in terms of venture capital funding. The hype can be argued, but startups are, nevertheless, gaining a foothold both in employing talent and having an economic impact.</p> <p>Compared to large and established corporations, startups operate on an immensely faster and iterative cycle. Globally distributed teams are, today, the de facto modus operandi for large corporations to stay competitive in the globalizing markets. Similarly, startups also need to operate on a global level but have to do so much earlier in their lifecycle. Existing research has studied the effect and conflicts of globally distributed teams, and how they relate to subgroups. However, there is a gap in the literature on how the unique context of startups adopts to such circumstances.</p> <p>This thesis is focusing on studying what effects globally distributed teams, or in this case, the opening of the first offices abroad, have on fast-growing software startups and, in particular, what impact does the emerging subgroup dynamics have on key decision-making processes. The study relates its theory to social identity theory (Tajfel & Turner 1979). In addition, theory on entrepreneurship research and globally distributed teams is used.</p> <p>The study was conducted as a qualitative research, and it was based on three case studies. The case companies were selected based on their fit to the defined scope. The selected companies were all software companies that had raised venture capital and had recently established offices abroad from their home country. Two employees or founders per company were interviewed by a theme interview for the data gathering.</p> <p>The data analysis of the empirical research provided various different sets of generalized statements and direct quotes that were used in the findings. The chosen method was used because the respondents were agreed to be kept anonymous throughout the research. After conducting the analysis, the findings were discussed at a more general level to develop a framework for knowledge sharing and proposal on underlying subgroup dynamics.</p> <p>The findings propose that emerging subgroups do not have such a strong identity within employees or founders as compared to the startup company as a whole or to the team they are assigned to work in. However, when in significant decision-making events, there does arise interactions and behaviors within individuals that have attributes to social identity groups.</p>			
Keywords:	Software startup, globally distributed teams, subgroup dynamics, group decision making, social identity theory		
Language:	English		

Tekijä:	Juuso Koskinen		
Työn nimi:	Syntyvien alaryhmädynamiikkojen johtaminen merkittävässä päätöksentekotapahtumissa tietotekniikka-alan kasvuyrityksissä		
Päiväys:	22. toukokuuta 2017	Sivumäärä:	52 + 9
Professorship:	Leadership and Knowledge Management	Koodi:	SCI3048
Valvoja:	Prof. Eila Järvenpää		
Ohjaaja:	Patrik Backman, DI		
<p>Startupit, eli aikaisen vaiheen kasvuyritykset, ovat viime aikoina kasvattaneet kiinnostusta niin tieteellisen tutkimuksen kuin teollisuuden puolella. Kasvuyrityksiin kiinnitetään yhä enemmän huomiota, ei vähiten riskisijoitusrahan muodossa. Tätä niin kutsuttua hypeä voidaan luonnehtia ja argumentoida monin tavoin. Voidaan myös sanoa varmaksi, että kasvuyritykset ovat merkittäviä sekä työpaikkojen luomisen että talouskasvun kannalta.</p> <p>Suuriin ja vakiintuneisiin yrityksiin verrattuna kasvuyritykset toimivat huomattavasti nopeammin ja iteratiivisemmin. Globaalit hajautetut tiimit ovat isoille yrityksille nykyään vakiintunut tapa toimia globaaleilla markkinoilla säilyttääkseen kilpailukykyä. Myös kasvuyritysten on toimittava kansainvälisesti, mutta niiden on tehtävä tämä huomattavasti aikaisemmassa vaiheessa elinkaartaan. Nykyinen tutkimuskirjallisuus on tutkinut hajautettujen tiimien vaikutuksia ja niiden synnyttämiä konflikteja sekä sitä, kuinka ne vaikuttavat alaryhmien muodostumiseen. Kirjallisuudesta löytyy kuitenkin puutteita siitä, kuinka kasvuyritysten ainutlaatuinen konteksti vaikuttaa näihin tilanteisiin.</p> <p>Tämä diplomityö keskittyy tutkimaan mitä vaikutuksia globaaleilla hajautetuilla tiimeillä tai tässä tapauksessa ensimmäisten toimistojen avaamisella oman kotimaan ulkopuolelle on tietotekniikka-alan kasvuyritykselle. Erityisesti tutkitaan, miten alaryhmien dynamiikka (subgroup dynamics) vaikuttaa tärkeissä päätöksentekoprosesseissa. Tutkimus pohjautuu sosiaalisen identiteetin teorialle (social identity theory, Tajfel & Turner 1979), jonka lisäksi teoriaosuudessa käsitellään yrittäjyyttä sekä hajautettuja tiimejä.</p> <p>Tutkimusaineisto kerättiin laadullisilla teemahaastatteluilla ja se pohjautui kolmeen tapaustutkimukseen. Kohdeyritykset valittiin tutkimuksessa määriteltujen kriteerien mukaisesti. Yritykset olivat tietotekniikka-alan kasvuyrityksiä, jotka olivat keränneet riskisijoitusrahaa ja avanneet viime aikoina toimistoja kotimaansa ulkopuolelle. Kustakin kohdeyrityksestä haastateltiin kahta työntekijää tai yrityksen perustajaa.</p> <p>Empiirisen osuuden data-analyysi tuotti useita eri joukkoja yleistettyjä toteamuksia sekä suoria lainauksia, joita käytettiin tuloksissa. Näin meneteltiin, koska vastaajat haluttiin pitää anonyymeinä. Tulokset esiteltiin yleisemmällä tasolla ja luotiin viitekehys tiedon jakamiselle ja ehdotelmia piilevien alaryhmien dynamiikoille.</p> <p>Tulosten mukaan alaryhmiin ei identifioiduta yhtä voimakkaasti kuin itse yritykseen tai ryhmään, johon henkilö on määrätty työskentelemään. On kuitenkin huomattava, että tärkeiden päätöksentekoprosessien aikana henkilöillä on vuorovaikutusta, joka osoittaa identifioitumista sosiaalisiin alaryhmiin.</p>			
Avainsanat:	Tietotekniikka-alan yritys, hajautetut tiimit, alaryhmien dynamiikka, ryhmäpäätöksen teko, sosiaalisen identiteetin teoria.		
Kieli:	Englanti		

Alkusanat

Tynnyrissä wappuviikolla,

Konjakkia! Myönnettäköön, että diplomityö ei valmistunut aivan ajallaan, mutta viimeisen vuoden aikana on ollut ilo seurata, kuinka niin monet muutkin ”projektit” ovat noudattaneet tätä tuttua kaavaa. Siitä huolimatta, kuluneet vuodet yliopistolla ja opiskelijaelämässä ovat olleet minulle ikimuistoisimmat ikinä.

Vaikka diplomityössä lukeekin oma nimeni, ei tämä olisi ikinä valmistunut ilman tiettyjen henkilöiden apua. Ensiksi haluan kiittää valvojaani, *Eila Järvenpäättä*. Hänen rauhallisuutensa ja uskomaton kiinnostus aiheita kohtaan saivat minutkin rauhoittumaan ja kiinnostumaan aina vain enemmän. Toinen suuri kiitos kuuluu työnantajalleni ja ohjaajalleni *Patrik Backmanille*. Patrikin ja koko OpenOceanin kautta alun perin syntyi idea tälle työlle, ja he myös mahdollistivat sen toteutumisen. Sen lisäksi he ovat tarjonneet minulle uskomattoman tilaisuuden aloittaa opiskelujen jälkeinen elämä työpaikassa, joka inspiroi ja opettaa minulle päivä päivältä enemmän.

Pitkien päivien ja iltojen puurtaminen vaatii kuitenkin tasapainoa. Kiitos *Aino*. Si(n)un kanssasi jokainen hetki muuttuu kiirettömäksi, ylitsevuotava rakkautemme muistuttaa kuinka paljon meillä onkaan vielä edessä. Kiitos myös *Äidille, Isälle ja Joonakselle* – perheelleni, joka on antanut minun kulkea omia polkujani, luottanut siihen mitä teen ja ennen kaikkea rakastanut.

Opiskelijavuoteni ovat täynnä mitä rikkaimpia kokemuksia, jotka ovat muokanneet minusta ihmisen, jota kehtaa katsoa peiliin. Kiitos *Athene*, että opetit minulle teekkariuden alkuaskeleet; kiitos *Hissin konehuone*, että pidit ja pidät huolen ystäväistäni ja hauskanpidosta; kiitos *PTK-12*, että sain osallistua tekkarikulttuuriin; kiitos *48-2*, etten jäänyt yksin; kiitos *Aaltoes et Co.*, että sain kantaa tuoleja; kiitos *Äpy ja Tamppi*, pysykää vieraanvaraisina; kiitos *Pellingin dippaleiri* loputtomasta tuesta ja loputtomista häiriöistä; kiitos *Juho ja Lauri*, kun pyritte vähentämään.

Kaiholla muistelen menneitä, innolla odotan tulevaa. Erään viisaan henkilön sanoin, jatkan matkaani eteenpäin ja säilytän optimistisen mielen lopun elämääni.

Otaniemessä, Espoossa 28.4.2017,

Juuso Koskinen

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1 Introduction

1.1 Background

Growing international competition and globalization, in general, have driven organizations to face completely new and dynamic environments, forcing them to make more effective use of their human capital (Stagl et al. 2007) and to adopt organizational structures that use teams in increasing amounts in their operations (Gordon 1992, cited in Zellmer-Bruhn 2003). Especially in multinational organizations teams are given more and more responsibility and are assigned tasks that are strategically important for the organization and highly complex in nature (Maznevski & Chudoba 2000).

Globally distributed teams (GDT) have become a standard mode of operating for organizations. They are typically performing critical and knowledge intensive work (Mattarelli & Gupta 2009) and are important in exercising the core activities of the organization (Hinds & Kiesler 2002, cited in Polzer et al. 2006). In addition, the advancements in information and communication technologies have greatly reduced the friction of using GDTs and made possible for people within and outside the organization to cross both physical, social and psychological boundaries (e.g. Huber 1990; Kiesler & Sproull 1992). While the technology has facilitated the use of GDTs, both the organization and teams themselves face multiple challenges. Huber (1990) proposes that advanced information technologies have an effect on organizational design, intelligence and decision making and Kiesler and Sproull (1992) continue that computer-aided communication change how people can meet and make group decisions. On the other hand, the reliance on technology along with geographical distribution are seen as the two factors that create conflicts (Hinds & Bailey 2003).

Simultaneously, as globalization has become an everyday context for organizations, startups have become a vital part of the economic development of any country (Veeramani 2015). While there are varying definitions of a startup company, in general, a startup can be defined as a young company with little operating history, working on finding a product-market fit with limited resources (Sutton 2000), and is backed by venture capital (Stimel 2012). As presented by Paternoster et al. (2014) startups move from building a product through a stabilization phase to growth phase, with an aim to gain market share. The scaling of operations typically includes an internationalization

phase, especially for startup companies that do not have their main operations in their home country. As can be noted from the case studies presented further in this paper, the phase usually requires founding a new offsite office and, hence, adopting an organization model of using globally distributed teams. This argument is also noted by Carmel (1999), who argues that software development teams have been increasingly spreading across multiple countries. Because of the fast pace of the market and the uncertain conditions, the established processes can quickly become irrelevant for software startups (Sutton 2000).

The use of globally distributed teams can create faultlines as described by Polzer et al. (2006). According to the authors, the geographical separation can act as an attribute that creates hypothetical subgroups within the organization. Co-located team members have more chances for social contact compared to their team members at different sites creating unique subgroup dynamics (Polzer et al. 2006). Extensive research has been done on how successful GDTs utilize different mechanisms to share information and knowledge over geographical and temporal boundaries (Cramton 2001). Therefore, it is important to acknowledge that often the challenges that emerge within GDTs is because of subgroup dynamics in the organization (Kotlarsky & Oshri 2005; Metiu 2006).

The subgroup dynamics, group processes, and intergroup relations has been especially studied by Tajfel and Turner (1979), who have presented the social identity theory to the public. Shared identities can create subgroups by giving the members a sense of distinctiveness and, thus, creating subgroups and dynamics that can have an impact on the operations of a startup establishing new offices.

1.2 Motivation of study

This research will be studying the effects that emerging subgroup dynamics have on the quality of the decision-making process of a company. In particular, the focus will be on software startup companies that have recently begun internationalizing their operations. The majority of existing literature has been written about traditional teams that have all their members co-located and the communication happens face-to-face (Hinds & Bailey 2003). In addition, while research on team dynamics and use of communication media have been explored for years (Maznevski & Chudoba 2000), the rapid development of advanced information technologies may require revision of established theories and processes (Huber 1990) and it remains unclear how well the dynamics of distributed teams

can be predicted using the models that already exist (Hinds & Mortensen 2005). This research will attempt to fill the gap by studying subgroup dynamics from a perspective of a technology startup facing challenges that are very particular to its stage.

1.3 Research objectives and scope

While geographically distributed teams are becoming standard practice instead of an exception, they face a number of unique challenges (Hinds & Bailey 2003). Compared to large corporations, startup companies typically have no previous experience in internationalization and establishing a new office. In fact, early stage companies rarely have any established processes in place, but must create them simultaneously as new problems and incidents occur.

This research identifies the challenges that emerge from subgroup dynamics as described earlier. Moreover, the event of founding the first office and team outside of the main office raises a host of problems, of which the four major ones are described below. First, the company will face the challenge of being geographically distributed, possibly creating even a temporal difference (Hinds & Mortensen 2005). No longer can all employees work at the same time and in the same place. Second, the company must rely more heavily on technology as face-to-face meetings become impossible (Hinds & Mortensen 2005). This has a significant effect on the nature of team dynamics as spontaneous, and ad hoc communication is lost between the teams. Third, early stage companies usually tend to recruit aggressively, and especially a small company may quickly double its size in head count once a new office is founded. Lastly, the lack of established ways of working creates a problem for not knowing how to act when conflicts or problems emerge for the first time.

The main research question this thesis is answering is:

RQ: How do emerging subgroup dynamics impact key decision-making process in fast growing software startups?

The objective of this research is to find what are some of the best practices startup companies use when beginning their internationalization phase. Moreover, the purpose is to find any critical actions that can be identified during the decision-making process, and how they relate to the perceived organizational structure. The objective contributes to

existing research by taking a particular perspective in early stage companies as most research has been focused on larger corporations. Especially distinctive for startups is the organizational culture that keeps evolving due to constant changes in organization and processes.

The scope of this study will be on early stage companies that have recently founded their first remote office. While the study does not take a strict restriction on the industry of the companies, it will focus purely on companies developing software products. The reasoning for this criterion is to be able to focus on companies that have no other limitations for internationalization than their own team dynamics, compared to product companies that would have to take into account also production, logistics and supply chain management.

Furthermore, this study will focus purely on subgroup dynamics that are formed in the organization. While the use of communication technology is acknowledged as crucial for distributed teams to share information and knowledge, the research will not focus on the type of technology used. Also, any cultural issues have been left out of the scope as it would broaden too much the research area.

1.4 Structure of the thesis

The thesis consists of six chapters and an Appendix. The first chapter presents the subject of research and the background and motivation of the study. It also describes the objective and defines the scope of the whole research. The second chapter presents the academic research that is done on the subject. Firstly, entrepreneurship and startups are addressed and defined what are meant by the terms in this study. Secondly, the chapter presents literature in subgroups dynamics and the characteristics of globally distributed teams. Finally, the chapter presents group processes and in particular decision-making processes in groups. The methodology of the research including research questions, design, data collection, and analysis is described in the third chapter. In the fourth chapter, the results of the research are presented. The fifth chapter includes the discussion of the findings and how they reflect to the posed research questions. In addition, both theoretical and practical implications are discussed in the fifth chapter, as are suggestions for future work and research, and conclusion in the sixth chapter. Lastly, the thesis contains the Appendix that presents the interview structure and full results of the research.

2 Theoretical framework

This chapter presents the existing literature that is seen as relevant for the thesis. It comprises of three subchapters, namely, entrepreneurship research, research on group and decision-making processes, and research on globally distributed teams. The first subchapter focuses on presenting how entrepreneurship and startups are defined in the sense that is appropriate for this research. The second subchapter presents the literature on group processes and intergroup relations used in multi-group environments. Finally, the last subchapter discusses the definitions on globally distributed teams and subgroup dynamics.

2.1 Entrepreneurship research

Entrepreneurship as a field of research has been a growing subject, especially with regards to a raised interest in startups, and entrepreneurship in general, during the past years. As mentioned earlier, startups play a vital role in the economic development of any country (Veeramani 2015) and are a key factor in creating both jobs and innovations, and generating societal wealth for nations (Van Praag & Versloot 2007). Past research has been to a large extent trying to explain entrepreneurship using economic and strategy theories, and, on the other hand, the most focus of the research has been on the entrepreneurial individuals (Frese & Gielnik 2014). This has also been noted by Venkataraman (1997), who argued that scholars have traditionally been focusing on who the entrepreneur is and what does he or she do. He continues that this is one of the main reasons entrepreneurship has not been defined with a prevailing definition to date. Having said that, Shane and Venkataraman (2000) argue that “entrepreneurship is concerned with the discovery and exploitation of profitable opportunities” (2000:217). The authors created a conceptual framework based on earlier research for entrepreneurship as a field of research. With the help of the framework, key empirical phenomena are explained, and some of the common outcomes are predicted.

Venkataraman (1997) argues that entrepreneurship is comprised of two phenomena that are present simultaneously, namely, the presence of a lucrative opportunity and the presence of entrepreneurial individuals. He presents two premises, a weak and a strong one, based on which entrepreneurship is possible. The weak premise of entrepreneurship argues that the inefficiencies found in most markets, and in most societies, provide opportunities to individuals to exploit them. The strong premise argues that even if there

were equilibriums in the markets, human nature and the lure of profits would destroy the equilibrium sooner or later.

Therefore, research on entrepreneurship consists of studying the sources of opportunities, the process of discovering, evaluating and exploiting the opportunities, and the individuals who are part of that process (Shane & Venkataraman 2000). Entrepreneurship can be defined to start once there are entrepreneurial opportunities. In brief, this means that there is a possibility to sell raw material, products or services at a price that is higher than the production costs and people are willing to pay it (Casson 1982, cited in Shane & Venkataraman 2000). After an opportunity has emerged, it is up to the entrepreneurial individual to recognize its existence and discover its value (Shane & Venkataraman 2000). Finally, the individual needs to make a decision on whether he or she is willing to go forward with the opportunity and exploit it (Shane & Venkataraman 2000).

Shane and Venkataraman (2000) argue that entrepreneurship is not restricted into only the creation of a new organization, but entrepreneurship can happen in established companies. However, as Cohen and Levin (1989) note, entrepreneurship is more likely when scale economies and first mover position don't give an advantage to existing companies and, on the other hand, when industries have a low barrier to entry (Acs & Audretsch 1987). These arguments speak for the fact that entrepreneurship is very tightly connected to new companies, and as this paper focuses on startups, entrepreneurship will be treated with respect to new company creation. Startups will be discussed in more detail in the subsequent chapter.

2.1.1 Software startups

As stated already earlier, entrepreneurship is linked to individuals creating new companies. A very specific kind of a new company is a technology startup, which has grown to be the de facto term for a young company aiming extremely high growth by selling products instead of services such as consulting. The focus of this thesis is in software startups, which acts as a good homogenous foundation for the research. It is, however, appropriate to define what is meant with a startup based on existing literature. Moreover, the notion of software startup is discussed and what characteristics are distinguishable for them.

As with entrepreneurship, the term startup has been defined in various ways with no single variation being the de facto definition. However, some common arguments can

be found from recent literature (e.g. Sutton 2000; Stimmel 2012; Paternoster et al. 2014). Paternoster et al. (2014) have defined that a startup typically has an ambition to create high-tech and innovative products, with an aim to grow rapidly in markets that provide an opportunity to scale aggressively. In addition, as previously mentioned, startups are most often backed by venture capital (Stimmel 2012), which also is the focus of this research.

Software startups form a very specific, yet a substantial, part of startups. Startups like Supercell, Uber, Snapchat, Spotify and many others have become multi-billion companies in only a few years from inception, growing rapidly and originally starting as a very small company. The previous era of startups started in the middle of nineties that ended in the bursting of the dot-com bubble in 2000 (Perkins & Perkins 1999, cited in Paternoster et al. 2014). The burst resulted in the crash of multiple consumer Internet companies, but also giving birth to tech giants such as Amazon and eBay that are part of everyday life today.

Paternoster et al. (2014) argue that software startups operate in markets that typically are fast-moving and uncertain at times and the companies usually have very limited resources. Software has become rather ubiquitous in the modern economy (MacCormack 2001), and the nature of it forces startups to face tough competition and time pressure from the markets (MacCormack 2001; Eisenhardt & Brown 1998). These observations have been taken into account by Sutton (2000), who has described four characteristics that are common of software startups: youth and immaturity, limited resources, multiple influences, and dynamic technologies and markets. Startups are relatively young with little operating experience or history and can lack any established processes. Young companies also have to operate with very limited resources, which usually means raising capital from external investors, most often from venture capitalists. Limited resources require the companies to be innovative to get their product to the market and acquire attention. When the company has recently begun their operations, they remain susceptible to external influences, such as investors and competitors. Finally, software startups operate in dynamic markets that require them to keep developing cutting-edge technology (Sutton 2000), but on the other hand, easy access to potential markets and low cost of services appeal to the entrepreneurs (Marmer et al. 2011).

The aforementioned characteristics have a strong effect on the daily operations and the way of working. Startups with little common experience or history tend not to have much of process or structure established. In addition, the companies prefer staying

creative and innovative even for the cost of lacking the structure to steer away from bureaucratic procedures that may slow them down (Sutton 2000). Sutton continues that especially companies operating in dynamic commercial marketplaces, speed and staying agile may be vital for surviving, and in such cases, as argued by Coleman and O'Connor (2008), companies will be more concerned about staying alive than establishing procedures.

2.1.2 Startup lifecycle

Compared to large, established organizations, startups are categorized into different stages based on how far they are in their product development. Stimel (2012) defines the different stages as startup stage, early stage, expansion stage, and later stage. According to Stimel, the company is in a startup phase when it has existed for less than 18 months and is still developing the product, but has raised already venture capital. The company moves into early stage, once the product has been developed and being piloted with real customers, but not necessarily generating any revenue yet. At expansion stage the company has commercialized the product and is generating revenue, however, it may still be unprofitable. Finally, the company becomes later stage when it has a positive cash flow.

Crowne (2002) has almost identically defined the stages of a startup into startup phase, stabilization, growth phase, and mature organization. He proposes that a company in startup phase has gone through the phase of conceptualizing the product but missing its first sale. The company enters the stabilization phase after once the product is ready to be sold to a new customer. At growth phase, the company is able to sell the product without requiring overhead from the development team. The company becomes a mature organization once they have established a growth rate and most of their development and business functions are in place. While both authors define the first stage as 'startup,' it should not be confused with the similar term that refers to a high-growth company that is going through all the stages, before it becomes a mature organization. A comparison of the definition of the startup lifecycle is provided in Figure 2.1.

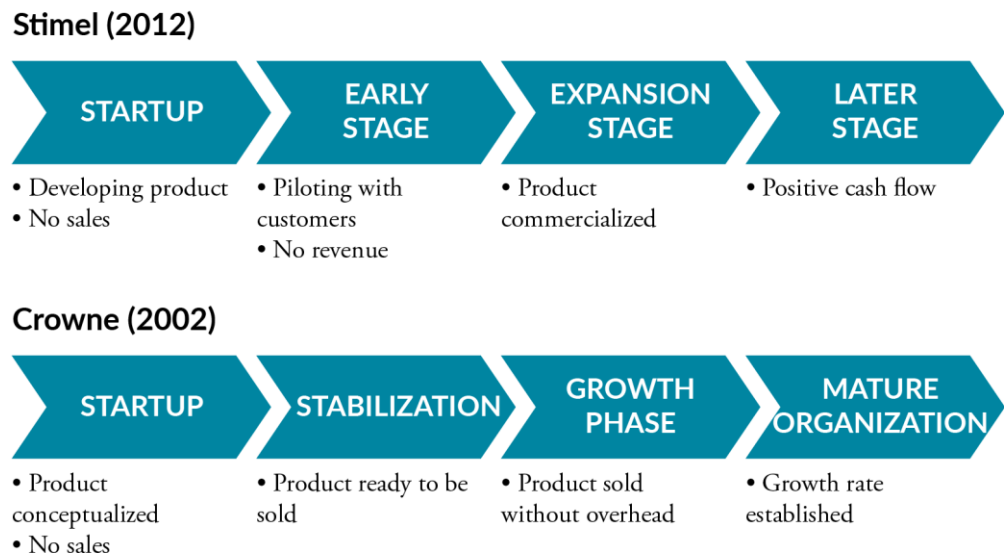


Figure 2.1: Comparison of startup lifecycles, adapted from Stimel (2012) and Crowne (2002)

2.1.3 Internationalization phase

Bailetti (2012) identifies three major reasons for a company to internationalize: i) increase the value of a startup, ii) reduce revenue source risks, and iii) increase the size of the addressable market. Pursuing international markets is important both for small and large companies, and as the world continues to be globally more and more integrated, growth by internationalization will only increase its importance (Lu & Beamish 2001). Regardless whether the startup decides to develop the product in their home market during the early stages, geographic expansion acts as one of the key strategies for firm growth (Lu & Beamish 2001). The necessity to go global becomes even more ubiquitous within companies, whose domestic markets are too small, are born global from inception, or their business scope is geographically confined (Barringer & Greening 1998, cited in Lu & Beamish 2001).

In this research internationalization is referred to as defined by Bailetti (2012:6): “it’s a process by which a company increases its involvement in cross-border markets.” With regards to the research subject, special interest is given to establishing a subsidiary to another country as the knowledge and capabilities that have been developed in original markets, typically are not fully suitable for entering new markets (Lu & Beamish 2001).

This thesis takes into particular consideration growth-oriented technology startups. Bailetti (2012) noted that these types of companies need to operate in global markets either from the very inception or shortly after it. He continues that the startup has stronger capabilities to exploit opportunities the earlier it decides to internationalize. This has also been argued by Sapienza et al. (2006, cited in Bailetti 2012), companies are better adapted to changing and uncertain environments the earlier they globalize. On the other hand, to successfully globalize operations a company needs to have enough resources and competitive advantage that outweigh the cost of entering new markets (Dunning 2000, cited in Fernhaber & Mcdougall-Covin 2009) and cope with its limited resources that create new challenges (Lu & Beamish 2001).

2.1.4 Summary

The subchapter reviewed research that has been done around entrepreneurship research. In addition, definitions for entrepreneurship and software startups were given. Finally, the subchapter discussed the phases a startup goes through from inception to maturity, with particular attention to the internationalization phase.

While there are many definitions, entrepreneurship is understood in this thesis as presented by Shane and Venkataraman (2000). Entrepreneurship is a process where entrepreneurial individuals discover and exploit opportunities. Entrepreneurship can happen within established corporations, but most often the case revolves around new company creation. Software startups, which are the focus of this thesis, are young companies aiming for high growth by developing cutting-edge technology to stay ahead of the competition. Depending on the development phase of the product they can be classified into different stages as presented by Stimel (2012) and Crowne (2002). In particular, these types of companies are typically either born-global or start internationalizing early in their lifecycle (Bailetti 2012). This creates a unique setting and environment that distinguishes startups from mature corporations and creates special dynamics within the teams as described in the following sections.

2.2 Group processes

This subchapter takes a look at the basic theories regarding groups and group processes. Today, much of the work done in organizations is accomplished by teams and teamwork. Organizations are forced to face increasingly dynamic environments, and they use teams that are assigned tasks that are of high strategic importance, and usually complex, to the operations of the organization (Zellmer-Bruhn 2003). It is generally thought that people are put together in teams to work on tasks to achieve something that would not be possible by individuals working alone (Marks et al. 2001). In terms of this thesis, the terms team and group are used interchangeably, as defined in the following paragraph. Secondly, as the focus of the study is on subgroups, it is important to discuss the theory of group processes that emerge internally in groups to understand outputs the group may produce. Thirdly, and possibly most importantly, the subchapter presents the social identity theory as defined by Tajfel and Turner (1979), as the actions between subgroups are in essence linked to intergroup relations between members that feel a belonging to a group based on a social factor. Lastly, group decision making is discussed briefly for an understanding of what processes are experienced when a group is forced to make a joint decision and in what ways can the process be distinguished to be of good quality.

Guzzo and Shea (1992) argue that to understand the behavior of the individual it is important to understand the context of the group. They continue that the group context can be defined as the part in which the individual works. The group itself can be considered as any construct that takes into consideration two or more individuals that consider themselves as being of the same social category and the existence of the group is recognized by other individuals (Brown 2000). While the group definition is very ample and can include anything from a pair to a crowd, the focus is on real groups that have a task to accomplish in an organization as defined by Guzzo and Shea (1992). The authors refer to McGrath (1984) on distinguishing a real or natural group as a group that exists independently, that is, without the purpose of a researcher. Finally, as the thesis looks at group tasks that require a decision-making process, group tasks are referred to as an assignment from the organization where group members are responsible for the output, that is measurable, as a group instead of at an individual level (Guzzo & Shea 1992). Furthermore, it is important to distinguish taskwork from teamwork: taskwork is what the team is doing, and teamwork, or group process, refers to how the team is accomplishing the task together (Marks et al. 2001).

typically referred to as the resources individuals bring to the group such as expertise and abilities. Process is defined as the interactions within the group aiming to accomplish the task including knowledge sharing and leadership efforts. Generally, the process yields outputs that are the product of the group. Guzzo and Shea (1992) distinguish two variations used in research (Figure 2.3). In the first variation (B), inputs have a direct effect on the outputs. In the other (C), inputs also have an effect on the outputs, but group interactions are not necessarily critical for the outputs, and in this case, a reason why some groups outperform others.

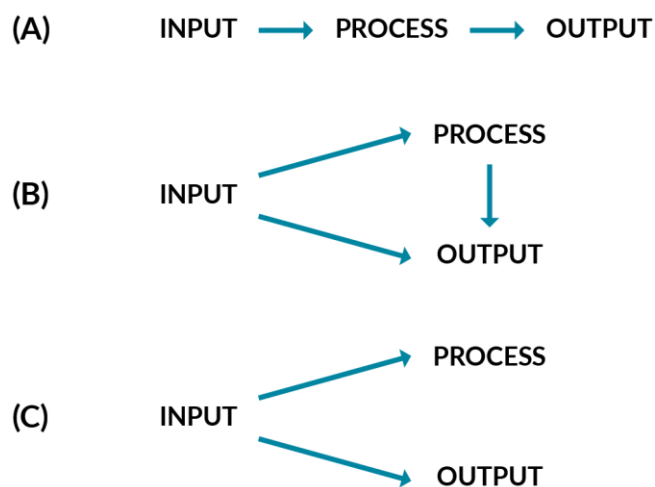


Figure 2.3: Possible roles of group process, adapted from Guzzo and Shea (1992)

Brown (2000) continues that linked closely to group process is the group's productivity. He cites Steiner (1972) in presenting a formula for actual productivity being the potential productivity of the group subtracting any losses that arise during the process. Such losses result typically from not using optimally members' resources, which in turn, usually means a lack in communication or low levels of motivation (Brown 2000). While there are cases where such formula can be developed even mathematically, in the scope of this thesis they are left out, but mentioned here to understand the fundamentals of group productivity and effectiveness.

Guzzo and Shea (1992) reviewed and presented in their studies some recent models explaining the group effectiveness founding on the IPO model. The first model developed by Hackman and Morris (1975), acknowledges that inputs have a clear effect on the interactions, but they found very little evidence on the differentiating role of

interaction processes in regards to the group outcome. Hackman and Morris distinguished the inputs types as group composition, norms, and task design. They viewed the task both as a mediating factor between the interaction and performance effectiveness and as an initiating factor that leads to performance effectiveness. Gladstein (1984) on the other hand, categorized group inputs into group composition, structure, available resources and organizational structure. These inputs then had a direct effect on group effectiveness, but also indirectly through the group interaction process.

2.2.2 Intergroup relations

When examining the processes and relations that are done in the context of two or more groups, social identity theory as presented by Tajfel and Turner (1979) is one of the fundamental theories in explaining intergroup relations. This theory will also act as a basis for this thesis when discussing subgroups. With intergroup relations, it is meant the interactions, attitudes, and behavior that happen between two groups. As defined in the previous subchapter, interactions are defined either by interpersonal relationships and characteristics or through belonging to a specific social group (Tajfel & Turner 1979). The authors point that intergroup relations can at worst raise a host of conflicts when competing groups try to obtain scarce resources, but on the other hand, in positive contexts can facilitate cooperation. The main characteristic of the theory is, therefore, that an individual will not interact based on his personal relationships in intergroup relations, but as a member of a group. Following the lines of Sherif (1966) Tajfel and Turner (1979:40) define intergroup behavior as “Any behavior displayed by one or more actors toward one or more others that is based on the actors’ identification of themselves and the others as belonging to different social categories.”

Social identity begins with acknowledging the person’s sense of who he or she is (Brown 2000). By carrying a specific social identity, the individual will perceive him or herself as belonging to one or multiple groups. Alderfer (1987, cited in Guzzo & Shea 1992) distinguished two types of groups: organizationally and non-organizationally based groups. Organizationally based groups are predefined while the latter Alderfer calls as identity groups, based on their dependence in social identity. Tajfel and Turner (1979) recognize three purposes affecting the individual’s self-image. First, the individuals strive for a positive self-concept. Second, different social groups or categories are associated with positive or negative value connotations, and lastly, the individual evaluates his or her

own group through social comparison to other groups. The authors derive three theoretical principles based on the previous: the individuals strive to maintain positive social identity, the social identity is based on favorable comparisons between in-group and out-groups, and if the social identity is unsatisfactory, individuals will either leave their existing group or attempt to change the group more positively distinct.

For intergroup behavior to happen there has to be an external consensus that such a group exists (Tajfel 1982). Furthermore, intergroup behavior requires social categorization done by the individuals toward the in-group and out-groups. Because social identity can be triggered by various factors such as location, age or discipline, individuals can carry multiple memberships (Guzzo & Shea 1992). Tajfel (1982) continues that the importance of one's group is largely dependent on the awareness of membership and the emotional investment of the individual.

2.2.3 Group decision making

There has been countless discussions regarding whether groups outperform better than a same amount of persons individually. Brown (2000) posed a question regarding group decision making as what is the relationship between individual opinions and the consensual view of the group. The approach to modeling group decision-making processes has proven to be difficult as it is hard to evaluate if the made decision was the best out of all the possibilities. Davis and Restel (1963, cited in Brown 2000) developed the first attempts in modeling. They argued that two models existed: a hierarchical one, where the highest ranking and most able individuals dominate the decision making, and an equalitarian model where all members interact.

Kameda and Sugimori (1995) have researched collective decision making in multiple-subgroup context. They argue that decision making done collectively is often a mixture of formal procedures, such as voting methods, and informal procedures like a social convention. In their research, they have identified that these multiple-subgroup structures are occasionally hierarchical. This leads to each member having one or even two roles at the event of decision making. On the local level, the role is defined by the member's subgroup, and on a global level, the member has another role. Therefore, two types of consensus-formation processes can be identified (Kameda & Sugimori 1995): single-stage procedure, where the decision is made globally initially; two-stage procedure, where the decision is initially made in the subgroups and afterward discussed collectively

on a global level. As the authors have illustrated, the chosen procedure may influence the final outcome (Figure 2.4), if examined purely from a majority-minority point of view.

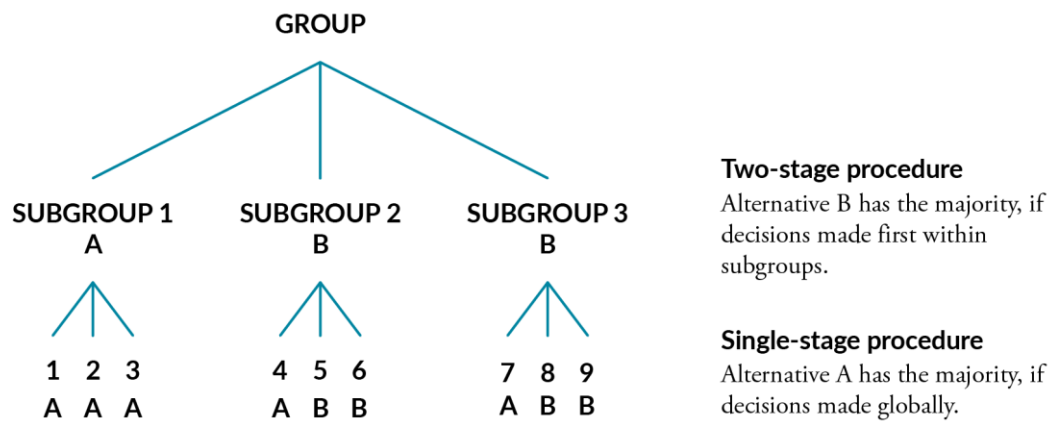


Figure 2.4: Illustration of single-stage and two-stage procedures in group decision-making, adapted from Kameda and Sugimori (1995)

One event that has been to a large extent researched is polarization in group decision making (Brown 2000). Briefly, the phenomenon means that a group may come up with a decision that is more extreme than the average, if asked from individuals. One particular explanation for polarization is presented based on Turner's (1987, in Brown 2000) self-categorization theory. In the event, group members seek to find conformity within their in-group as opposed to out-groups, which on the one hand polarizes the group.

While the outcomes of decision making are typically difficult to evaluate, attempts have been made in the literature to analyze the quality of decision-making process itself. Janis (1982, cited in Brown 2000) argues that there are clear symptoms that lead to poorer decision making, or a term he has coined as 'groupthink.' In retrospect to the IPO model, Janis argued that process alone might not alone effect the output, as there is evidence when a 'wrong' decision has been withdrawn or a 'good' decision ignored. Janis (1982) concluded in three factors that appear relevant for effective decision making. The first factor addresses the style of leadership exercised: the leader should not be too strict in promoting his or her own ideas, but also encourage alternative points of view and ideas. Secondly, cohesiveness of the group is mentioned as a relevant factor and, ultimately, the most important factor is knowledge sharing within the group. This has proven to be a challenge as not always group members realize the value of the knowledge they have (Brown 2000).

2.2.4 Summary

This subchapter defined the terms group and group process as they are understood in this thesis. In particular, the subchapter presented the input-process-output model and the social identity theory as defined by Tajfel and Turner (1979). The chapter concluded by discussing briefly group decision making with a special remark on subgroups affecting the end result.

The subchapter takes a look at groups at a more general level, while the subsequent chapter is on a more granular level. Most especially, the social identity theory is used in evaluating the interactions of team members. As Tajfel and Turner (1979) argue, interactions between individuals are determined either by interpersonal relationships or by their membership in different groups. In reality, however, the authors note that such pure extremes do not exist, but the behavior is a mixture of the two ends of the continuum. Furthermore, the roles of group process described by Guzzo and Shea (1992) can be exploited to understand how the inputs and process of the group impact the decisions and the output that follows.

2.3 Globally distributed teams

The following subchapter investigates the literature about globally distributed teams. As stated earlier, the modern computing and telecommunications have redefined drastically the way people meet each other and make group decisions (Kiesler & Sproull 1992). Advanced information technology (AIT) has made communication across team borders and organizations easier, more rapid, and less expensive, and, on the other hand, aids decision making by giving groups access to information and data that can be stored and retrieved in large amounts and more rapidly (Huber 1990).

While many organizations have adopted the use of teams, globally distributed teams (GDT) form a very particular organizational structure with very unique dynamics (Maznevski & Chudoba 2000). The most obvious difference, and challenge, as noted by the literature is the lack of opportunity to communicate face to face with another team, and in extreme cases with own team members (Hinds & Bailey 2003). Despite the fact, GDTs are growing by numbers (Hinds & Bailey 2003), and are even more so important, as mentioned in the previous subchapter, for startups that are born-global or internationalizing their operations. The characteristics and major challenges of GDTs are looked in more depth in the next section.

This thesis focuses especially on the challenges that are associated with emerging subgroup dynamics. While subgroup dynamics can emerge even within a co-located organization, globally distributed teams have a very strong attribute, geographical dispersion, that may split the organization into subgroups (Polzer et al. 2006). The subgroup dynamics and their effects on team dynamics are discussed further on.

2.3.1 Characteristics of globally distributed teams

In order to better understand the subgroup dynamics and challenges that emerge from the decision to have globally distributed teams, it is important to understand the underlying characteristics of GDTs. Usually, these teams are assigned strategically important and complex tasks (Maznevski & Chudoba 2000) and particularly, there is evidence of increasing adoption within software development teams (Carmel 1999).

While Maznevski and Chudoba (2000) use the term global virtual team, this is understood and used in this thesis interchangeably with the term globally distributed team. The authors define the global virtual team as a team that is identified both by its members and the parent organization, is performing tasks that are of strategic importance to its

organization, the team communicates more with technology than face to face, and finally the team members work and live in different countries at least from the parent organization. While the distribution does provide benefits for the organization, the unique characteristics create challenges at all levels from team members to teams and organization (Stagl et al. 2007).

Hinds and Bailey (2003) argue that it is typical for distributed teams to experience conflict and that the conflicts emerge most often of the two most prevalent characteristics: geographical distribution and reliance on technology. The authors classify the conflicts depending on the level in the organization into task-level, affective (team-level) conflicts and process (organizational-level) conflicts. Despite of advancements in technology, research shows that managing globally distributed teams is difficult and perform below expectations (Hinds & Mortensen 2005). In addition, Hinds and Mortensen have noted that teams suffer from coordination problems, crises of trust, and unhealthy subgroup dynamics.

2.3.2 Subgroup dynamics

The team processes and outcomes are influenced by subgroup dynamics that emerge within teams that are assigned key objectives and tasks (Gibson & Vermeulen 2003; Lau & Murnighan 2005) Researchers have studied the field on how subgroups affect different fields such as team learning (Gibson & Vermeulen 2003), team decision making (Kameda & Sugimori 1995), distributed collaboration (Cramton & Hinds 2004), and knowledge sharing (Phillips et al. 2004). Also, the principles of faultlines and how they contribute to the creation of subgroups has been researched by Lau and Murnighan (e.g. 1998; 2005).

To better understand the notion of subgroups in the context of the thesis, the definition given by Carton and Cummings (2012) is used, based on their theory of subgroups. Firstly, a subgroup has to be a set of members working in the same team. Secondly, the subset of members is recognized as a subgroup, if the members share an attribute that is unique to them in comparison to other members. Furthermore, the authors (Carton & Cummings 2012) have noted that work teams typically have at least two subgroups and that it is more informative to study the relationships of subgroups than a particular subgroup itself. This approach is seen as suitable also for this thesis.

In their research, Carton and Cummings (2012) came to a conclusion that subgroups can be categorized into the three different types based on the differentiating

factors: identity, resource and knowledge. The identity-based subgroups are referred to in the social identity theory (Tajfel & Turner 1979), which claims that subgroups can emerge when the members share a common identity. The shared identity gives the subgroup members a sense of distinctiveness that can be beneficial (Brewer 1991), but may also experience threat from other subgroups that have their own unique identity (Carton & Cummings 2012). It is especially difficult this is when the subordinate group, which is the work team, is highly fragmented and subgroup members find it hard to belong to the actual team (Yoon et al. 1994, cited in Carton & Cummings 2012). Subgroups that are based on resource is explained by social dominance theory (Sidanius & Pratto 1999, cited in Carton & Cummings 2012). The theory gives reasoning that a differentiating factor can emerge from hierarchy and power, the differences are based on the ability of a subgroup to claim resources. This type of fragmentation can at its worse create ‘asymmetries in perceptions of fairness’ (Carton & Cummings 2012), but on the other hand, can improve the predictability and structure through the centralization of power (Kiesler 1983, Tiedens & Fragale 2003, cited in Carton & Cummings 2012). The last type of subgroups is differentiated by knowledge. According to Galbraith (1974), organizations develop units that are specialized in specific domains, for example, engineering and marketing teams. At best, the team can benefit from these types of subgroups when they have useful collaboration and share knowledge, however, the differences in the way of thinking can also hinder the communication between subgroups impairing the whole outcome of the team (Carton & Cummings 2012).

Table 2.1: Different types of subgroups, adapted from Carton and Cummings (2012)

TYPE	DIFFERENTIATORS	BENEFITS	CHALLENGES
Identity	Individuals share common identity	Gives a sense of distinctiveness	May experience threat from other identity-based subgroups
Resource	Based on the ability of the subgroup to claim resources	Improves predictability and structure	Can create asymmetries in perception of fairness
Knowledge	Units are specialized based on specific domains	Intergroup collaboration and knowledge sharing	Hinder communication if groups do not understand each other

Lau and Murnighan (1998) have provided a basis theory of the faultline model that discusses how subgroups emerge in work teams. As mentioned earlier, faultlines are a hypothetical way to divide a team into smaller subgroups based on one or more attributes (Lau & Murnighan 1998). However, as argued by Carton and Cummings (2012) faultlines are not subgroups themselves. The subgroups emerge once one or more of the faultline attributes become activated by an external influence (Lau & Murnighan 1998), such as relocating part of the team from the headquarters of a company. Polzer et al. (2006) have noted that a single attribute may be sufficient to activate a faultline and, consequently, the emergence of a subgroup. Moreover, the authors continue that one of the most common faultlines is created between the people that are physically present and those who are not. This claim is supported by Lau and Murnighan (1998) who note that co-located team members are likely to meet also without a formal process strengthening the status of the subgroup.

2.3.3 Summary

The final subchapter in this section presented definitions and existing literature about globally distributed teams, subgroups, and dynamics of subgroups. Compared to the previous subchapter a more granular and in-depth analysis on what is meant with globally distributed teams and how subgroups can emerge according to current research. It is important to note that it is these particular teams or subgroups that are the key actors in this research.

Globally distributed teams have a significant role in modern organizations, in particular in fast-growing technology startups, which provides the context for this thesis. The teams have to very distinct characteristics, geographical distribution and reliance on technology that create their own set of conflicts (Hinds & Bailey 2003). In addition, the subchapter distinguished three subgroup types as argued by Carton and Cummings (2012). This classification is used in examining the organizational structure, both formal and informal, in the case companies. Finally, as Lau and Murnighan (1998) note, there is a linkage between globally distributed teams and subgroups that may emerge through activating faultline attributes. These are taken into consideration when analyzing the results to explore whether distributed teams create subgroups within startups and, furthermore, what is their impact on group decision-making processes.

3 Research methodology

This chapter describes the research methodology used in this thesis. First, the research question is defined in more detail, and the objectives of the thesis are presented. Second, the case study method as discussed by Eisenhardt (1989) is presented and argued on why it is the chosen method for this thesis. Finally, the chapter presents the case companies along with how the data was collected and analyzed.

3.1 Research question

This thesis discusses the effects of subgroup dynamics in the context of fast growing software startups. While there has been extensive research done on subgroup formation and dynamics, the characteristics of globally distributed teams and group processes, the characteristics of early stage companies create a unique context compared to large corporations. This particular context creates challenges that are distinguishable for startups that will be researched in this thesis. The research question has been defined as:

RQ: How do emerging subgroup dynamics impact key decision-making process in fast growing software startups?

Furthermore, two additional research subquestions are defined to support the main question:

RQ1: What type of underlying perceptions organization members have of their organizational structure that creates subgroup types?

RQ2: What type of interactions between individuals are identifiable and what is their relationship, if any, to the underlying subgroup types?

The main research question (RQ) studies the key objective of the research in this thesis. By answering the question, the thesis attempts to explain in what manner emerging subgroup dynamics impact the decision making in a startup company when the decision involves participants from remote locations. The question is based on social identity theory as developed by Tajfel and Turner (1979). The theory is used to reflect how subgroups emerge in the selected cases by exploring how the respondents perceive their

membership in different groups. To develop an understanding of subgroups in the case companies the thesis will use the categorization of subgroup types done by Carton and Cummings (2012) to aid the research, and treat them as globally distributed teams (e.g. (Maznevski & Chudoba 2000; Stagl et al. 2007), if applicable.

The answers to the first supporting research subquestion (RQ1) help the study to examine in what way group members perceive their organizational structure and how it affects the intergroup processes and dynamics. The second supporting research subquestion (RQ2) seeks to distinguish what type of incidents and interactions were present and contributed to reaching a decision during the process. Together, the supporting research subquestions develop an understanding of the behavior of the subgroup members, what happens during the decision-making process, and what role subgroups have in it.

Accordingly, the objective of this study is to understand in what manner do the subgroup dynamics emerge in decision making. In practice, the objective develops a model to identify what are different critical events that affect the decision making, and, in the case of negative events, how to help the team overcome them.

3.2 Case study as a research method

This thesis uses as its main research method the case study method (Yin 1981; Eisenhardt 1989). The former author has described the design of the case study and the latter has described how theory is built from case studies. As Yin (1981) writes, the case study can be distinguished as a research strategy that examines ‘contemporary phenomenon in its real-life context’ (1981:59). Furthermore, he continues that in such cases ‘the boundaries between phenomenon and context are not clearly evident.’ The main reason for choosing the method is based on the aforementioned arguments (Yin 1981; Eisenhardt 1989). In addition, due to the limited resources of the researcher a large-scale analysis was not possible. The following section will discuss in more depth the case study and examine the strengths and weaknesses when using case study to build theories.

The case study uses either single or multiple cases containing qualitative data, quantitative data, or both (Eisenhardt 1989). Compared to traditional research methods such as experiment-hypothesis testing, the cases are single settings and relies highly on an iterative model of data collection and theory building (Eisenhardt 1989). To build a valid theory, real life experiences must be assessed against previous literature as argued by

Glaser and Strauss (1967, cited in Eisenhardt 1989). Eisenhardt (1989) compiled the objectives of a case study method based on previous literature. Namely, the method can especially be used to provide a description or generate new theory.

The benefits of using the case study method derive on its characteristic of providing a manner to examine single cases in depth. The comparison of different cases can provide important insights into the emergent theory, and the theory can be tested and is likely empirically valid (Eisenhardt 1989). However, it must be noted that because the cases are typically few in number, it may be difficult, if not impossible, to draw generalizations. Eisenhardt (1989) alarms, in addition, that the abundance of data that is retrieved in the cases can lead to generating theories that are highly complex. On the one hand, it may be difficult to get an output that would be in accordance to the desired generality, on the other hand, the theorist may build a theory that does not take the most important relationships in consideration. To conclude, the use of case studies to build theory is encouraged when it is required a new perspective to the underlying research topic (Eisenhardt 1989).

In her article, Eisenhardt (1989) built a framework on building theory from case study research. The most important phases in the method are: selecting cases, analyzing within-case data, searching for cross-case patterns, shaping hypotheses, enfolding literature, and reaching closure (1989:533). The case studies of the thesis are done based on this framework and explained in more detail in the data collection and data analysis sections of this chapter.

3.3 Data collection

This subchapter presents the method used to collect the data of the cases, the theme interview method (Hirsjärvi & Hurme 2001). Also, the studied case companies and interviewees are presented in the scope of the business model of the company, its high-level organizational structure, the background and role of the interviewee, and a description of the key decision-event studied.

3.3.1 Theme interview method

The case companies are studied with the theme interview method. Hirsjärvi and Hurme (2001) define key characteristics that are unique for a thematic interview: the discussion is focused on predefined themes instead of predefined and detailed questions that need to be answered; the interview does not require a specific format of an event, but assumes that all events and experiences of the interviewee can be studied; the themed interview takes into account that the manner the interviewees perceive different situations is important; and, finally, the interview does not take a stance on whether the retrieved data is of qualitative or quantitative nature. A semi-structured interview is deemed as appropriate for the research as it enables the interviewee to answer and describe the studied issues freely without the need to answer too strictly predefined questions. This method is in line with Silverman (2005), who argues that open-ended questions should be used whenever the study uses a small size of cases as a sample and the method used is an interview.

The aim of the interview is to discuss with the interviewee about a particular event that has been significant for the development of the case company. The interview was divided into three thematic sections to get a good overview of the background and underlying constructs, and examine the chosen event:

- (i) Background of the company and interviewee
- (ii) Organizational structure of the company
- (iii) Key decision-making event

The first section lets the researcher get an overview of the company and, in particular, the role of the interviewee in the company. The second part examines the structure of the organization to get an understanding of what type of teams, both official and unofficial, are present in the organization. This helps to identify better the dynamics that may have an impact on the decision-making event and analyzed in regards to social

identity theory and intergroup relations as defined by (Tajfel & Turner 1979). Finally, the interview focuses on the main theme, the key decision-making event. The criteria for a key decision-making event is defined as follows:

- **Significant.** The event should be of such nature that it has a large impact on the operations of the case company. Therefore, the made decision should have an effect on most of the personnel, or be critical in a way that the company might not have been able to survive without the made decision.
- **Input required from two teams.** To be able to study the impact of subgroup dynamics, the event must have required input from at least two teams or subgroups to reach a decision.

By examining the key decision-making event, the target is to understand the process the case company went through. In particular, the research attempts to distinguish unique critical incidents, a technique first described by (Flanagan 1954). The critical incident procedure is defined by Flanagan (1954) as collecting observations of the human behavior that have a strong significance in a specific activity. In terms of this research, critical incidents are specific events during the decision-making process that had a high impact on reaching the decision or closure to the process.

From each case company, two persons were interviewed. The first interviewee was contacted through an introduction. The selection of the case companies is presented in the following section. In the first interview, the researcher and the interviewee discussed in more detail the background of the company and chose an appropriate key decision-making event. After the interview, a second interviewee from another team or subgroup was chosen together with the first interviewee. During the second interview, for the sake of efficiency, the background of the company was omitted, and the focus was more on the specific event identified in the first interview. The full interview structure can be studied in Appendix A.

3.3.2 Case companies

The research was conducted by studying 3 case companies, interviewing two persons from each of the companies. The companies were selected based on the scope as defined earlier. The companies should have built their own software and have at least one other office in another country in addition to their headquarters. It should be noted that the researcher works for a venture capital firm (referred as ‘VC Company’) that invests in

European software startups. As the thesis is partly done for the usage of VC Company it was deemed appropriate that the case companies would be in the portfolio of the employer of the researcher. Out of the portfolio, the researcher together with the managing partner of VC Company identified 4 portfolio companies that match the scope. While all the portfolio companies are software startups, some of the companies were too mature and other had yet to establish a second office abroad. Out of the 4 identified companies, 3 of them responded positively to the request to interview them, one company was left out, due to illness event. The researcher had not met any of the interviewees beforehand but due to the relationship between the company and the VC Company, establishing a connection through an introduction by the managing partner was found to be relatively easy.

All the case companies and interviewees will be treated anonymously, but a brief description of the business and offices is described below. The anonymity enabled the interviewees to describe the process, the event, and challenges that are related in more detail and more freely. The companies will be referred in the thesis as Company A, B, and C. At the time of the interviews Company A built software that allowed brands and advertisement platforms to measure mobile usage and had offices in 4 locations. Company B offers a data platform to create predictive analytics models for companies and has 4 offices. Company C provides software that enables online advertising platforms to analyze location-based data and has two offices. The companies, the organizational structure, and the interviewees are described in more detail in Tables 3.1 and 3.2, and full results are presented in Appendix B and C.

Table 3.1: Description of case companies

COMPANY	BUSINESS DESCRIPTION	OFFICES	PERSONNEL
Company A	Technology to monitor consumer behavior on all channels and platforms. Sells its solution as a Software-as-a-Service model.	Finland Office A1 US Office A2 US Office A3 UK Office A4	60
Company B	Data science platform for businesses to create predictive analytics models. Sells its solution as a Software-as-a-Service model.	Germany Office B1 US Office B2 Hungary Office B3 UK Office B4	68
Company C	Proximity data platform, aggregates offline behavior data to online behavior for advertising platforms.	Norway Office C1 US Office C2	18

Table 3.2: Interviewees and their roles in the company

PERSON	TITLE	RESPONSIBILITIES	LOCATION
A1	Co-founder and CEO.	Fundraising and investor relations, organization development and leadership, and sales and marketing.	US office A2, originally from Finland office A1.
A2	Co-founder and Chief Administrative Officer.	Multiple areas of responsibility, primarily finance, HR, brand management, and marketing.	US office A2, however, a large amount of time spent abroad, especially in Finland office A1.
B1	Co-founder and President. Used to be the CEO.	Product management, marketing, and daily operations.	US office B2, originally from Germany office B1.
B2	Product Manager	Main link between developers and customers. Responsible for a particular product within the company and understanding what are the current user requirements	Germany office B1.
C1	Co-founder and CEO.	Oversees main operations, especially strategy and fundraising. Gives insight into the commercial aspect.	US office C2, originally from Norway office C1.
C2	Co-founder and COO.	Responsible for overseeing the daily operations, financial and budgetary operations, and brand and marketing.	Norway office C2.

3.4 Data analysis

To analyze the data collected from the interviews the thesis uses an abductive approach, systematic combining, as presented by Dubois and Gadde (2002). The authors argue that systematic combining acts as a process where the theoretical framework, empirical fieldwork, and case analysis evolve simultaneously.

Using a purely inductive approach that relies on the grounded theory approach, originally developed by Glaser and Strauss (1967, cited in Eisenhardt 1989) would focus on generating new theory systematically from data. Researchers, such as Eisenhardt (1989), and Mäkelä and Turcan (2007) argue that the use of the grounded theory approach is justifiable if the situations lack validation of current perspectives, or if perspectives are in conflict. Eisenhardt (1989) summarizes that building theory from case studies involves one or more cases to create theoretical constructs, propositions and midrange theory. Deductive approach, on the other hand, is concerned with developing

propositions from existing theories and making them testable against reality (Dubois & Gadde 2002).

Instead of strictly focusing on generating new theory, the use of systematic combining ‘builds more on refinement of existing theories than on inventing new ones’ (Dubois & Gadde 2002:559). In accordance with the guidelines presented in the article (Corbin & Strauss 1990), the data were collected and analyzed in an interrelated process. The data collection and the interview questions were reevaluated during and after every interview through the set of questions while keeping the thematic structure similar to be able to compare the data, but flexible to be able to get the most relevant data from the interviewees.

Because of the nature of the research question, it is proposed that there is no fully matching existing theory available, and therefore, the questions are better addressed into inductive theory-building than deductive theory testing research. However, using a semi-deductive approach, the data gathered from the interviews were analyzed with the aid of the classification done by Carton and Cummings (2012). The interviews were broken into short statements and afterward codified into more general concepts that could be applied to all case companies. To answer the RQ1, the codification that is based extant theory, allows the researcher to distinguish the most important concepts, or on the other hand, concepts that varied in the cases to find an understanding of how groups inside the corporation are perceived. Secondly, to answer the RQ2, the statements that rose in the discussions of the decision-making event were also codified and divided according to whether they were identified as inputs or process interactions for the decision-making event. Finally, the answers of RQ2 are reflected against the answers of RQ1, to answer RQ. The results are presented in the following chapter (Chapter 4) in detail, and the research questions are answered in Chapter 5.

4 Results

Following the data collection and analysis method described in Chapter 3, this chapter will present the results in the order of the research questions. First, the results relating to the first supportive research subquestion, RQ1, are presented, and secondly, the results of the second supportive research subquestion, RQ2, are presented. The actual answers to the main research question, the supportive questions, and further discussion are provided in the fifth chapter.

The gathered results were kept anonymous as agreed with the case companies. Anonymity, however, helped the interviews in such way that more sensitive subjects could also be addressed. The statements are generalized from the comments in the interview and presented in tables along with their frequency to get an overview of the most common statements. The detailed results are presented in Appendix B and C, while this chapter focuses on presenting the main findings.

4.1 Organizational structure

This chapter summarizes the results that relate to how the interviews perceive the organizational structure of their company. First, the results are examined through the lens of globally distributed teams (GDT). The case companies are reflected against the common characteristics of GDTs as described by Maznevski and Chudoba (2000) and Stagl et al. (2007). Lastly, the subgroups in the company as perceived by the interviewees are presented based on the categorization of Carton and Cummings (2012).

4.1.1 Globally distributed teams

As stated earlier, Maznevski and Chudoba (2000) state that GDT is typically “(a) identified by their organization; (b) are responsible for making and/or implementing decisions important to the organization’s global strategy; (c) use technology-supported communication substantially more than face-to-face communication; and (d) work and live in different countries.” Using the characteristics as criteria, the following results were obtained and shown in Table 4.1:

Table 4.1: Characteristics of globally distributed teams in case companies

ARGUMENT	COMPANY A	COMPANY B	COMPANY C
Company has personnel working and living in different countries. If yes, a number offices are provided.	Yes, 4 offices in 3 different countries	Yes, 4 offices in 4 different countries	Yes, 2 offices in 2 different countries
Company uses technology supported communication substantially more than face-to-face communication. If yes, most common media is provided.	Yes, Email, video conferences, phone	Yes, Email, video conferences, phone, instant messaging	Yes, Email, video conferences, phone, instant messaging
Teams are responsible for making and/or implementing globally strategic decisions.	Yes, Teams have different and unique functions	Yes, Teams have different and unique functions	Yes, Teams have different and unique functions
Teams are identified by the organization	Yes, Teams are created formally by the organization	Yes, Teams are created formally by the organization	Yes, Teams are created formally by the organization

According to the results, all of the companies seem to be aligned in using GDTs in their organization and every day operations. While the first argument about people working and living in different countries is trivial because of the scope of the thesis, it is noteworthy to mention that this has happened during the early stages of the company. The companies are still relatively young (between 2 and 7 years) and every company has only tens of employees. And one of the companies has only recently begun to make revenue. These point out to the fact that the companies have willingly started to internationalize early on, something that is also argued by Carmel (1999). The second argument was not explicitly part of the research, as communication methods between teams were left out, but the answers came up during the discussions of the process even without asking. The methods seem to be rather trivial for the interviewees and taken for granted to some extent. One interviewee mentioned:

“I don’t remember how it [one of the decisions] was put together. It could have been him [an executive] calling each of us through, maybe it was email, or then in our own Slack [an instant messaging software] channel.” (Informant 2, Company C)

The final two arguments in Table 4.1 – teams are responsible for making and implementing globally strategic decisions, and are identified by the organization – were also identified from the discussions. In general, all the case companies had divided their

offices based on different functions of the company. All companies are originally from Europe and have established their first office in the US, mostly because they want to be closer to their main market, customers, and partners. In all cases, the US office served as a base for the management, marketing, and general and administration teams, while the home office remained as the headquarters for product research and development. Because the functions are so explicitly divided, it can be argued that the different teams are assigned tasks that are important and globally strategic for the company and are identified by the organization as a whole. It must be noted, however, that while most of the management team in all companies is located in the US, the companies also have key managers in their home offices still, such as the COO of Company C. One interesting note on the roles of offices is noted in Company B. The Hungary office was established post an acquisition the company made only after a few years in business. The comment of the interviewee was:

“Having only an office in Germany for engineers was not such a good situation. We acquired XYZ from Hungary mainly for the IP [intellectual property], but we have now the VP of Engineering [a former employee of XYZ] and one full team working on ABC [a very specific component of the product].” (Informant 1, Company B)

4.1.2 Subgroup types

The subgroup types defined by Carton and Cummings (2012) form the basis for the analysis for understanding the underlying structure in the case organizations. Namely, the subgroups can be divided into identity, resource and knowledge-based groups as presented in Table 2.1. The subchapter first presents the results of what subgroups are present in the organization according to the interviewees. Next, the results present what group memberships the interviewees think they have themselves. The main findings are summarized in Tables 4.2 and 4.3, respectively. Finally, the last two tables 4.4 and 4.5 lists the main difficulties and statements regarding the functioning of the subgroups, respectively. In Table 4.2 both the number of interviewees who agree with the subgroup type and how many companies had unanimous views, that is, both interviewees from the same company agreed are presented.

Table 4.2: Types of subgroups perceived in organization

SUBGROUP TYPE	NUMBER OF RESPONSES (n=6)	NUMBER OF COMPANIES (n=3)
Knowledge-based subgroups	6	3
Identity-based subgroups	4	1
Resource-based subgroups	2	0

According to the results (Table 4.2), all of the respondents perceive that they have knowledge-based subgroups. This is mostly due to the fact that the companies have organized themselves so that they have teams that are specialized in specific domains such as engineering or marketing. During the interviews, 4 out of 6 said there are subgroups based on identity. These answers are gathered from the interviewees identifying other groups based on location. During the interviews no other social identity attributes, such as age or education background, came forth. It needs to be noted that since most offices are assigned with one main function and a team, it can affect the way the respondents view subgroups within the organization. That is to say, the respondents may refer to the same group either by office or discipline as they often have the same composition of employees. As one interviewee answered the question about different teams in the organization:

“Obviously that is a difficult question... obviously, we have four offices, but that is not really the division... but surely the geographical aspect has an impact within the teams.” (Informant 2, Company B)

One statement that rose in the discussions was how the companies had built cross-functional and cross-border teams that operate based on a project, customer or product line. The reasons have usually been to enhance the knowledge sharing between functions and teams. In total, four persons, of all the three companies, mentioned that they have such an arrangement in their organization. One of the interviewees commented the decision of the company to have cross-border teams as follows:

“People weren’t sharing knowledge at first. They weren’t integrating that well... So I introduced Kanban and scrum and mixed the teams. At first, it felt a little awkward, but then it made them better collaborators.” (Informant 1, Company B)

Another interviewee justified Company C’s decision to have cross-functional teams with the comment below:

“We have a natural gap between the offices, and engineers and commercial teams. So there is a risk that it becomes even more distant... So we made the decision to create them so that they are not dependent on location and skillset.” (Informant 2, Company C)

The last subgroup type in Table 4.2 received the least amount of supporting statements, only two persons agreed there were subgroups based on resources. Both of the responses about the resource-based subgroups dealt with the hierarchy in the company. To conclude, it seems that the companies have very lean hierarchical structures. One of the interviewees said it explicitly, and both respondents from another company actually regard their management group more as a “strategy team,” which is closer to being just another discipline in the company.

The interviewees were asked their personal opinion to which groups they feel belonging. The results are presented in Table 4.3.

Table 4.3: Perceived personal membership in groups

MEMBERSHIP IN GROUPS	NUMBER OF RESPONSES (n=6)
Knowledge-based subgroup	6
Resource-based subgroup	3
Identity-based subgroup	1

All of the respondents mentioned that they belong to a group that is based on knowledge. During the interviews when asked the question of personal memberships, all the interviewees answered first their group that is based on a discipline or project. This means that the respondents feel belonging to a group based on their skills or what they know. Half of the interviewees felt like they belonged in a group based on resource. Surprisingly, only one of the respondents felt belonging in a group that is based on identity compared to four people who perceived that such groups exist in their organization. The respondent mentioned that he still feels very connected to the employees from his home country, even after moving to another office and country.

During the interviews, some statements on challenges and processes on subgroups rose multiple times. The challenges and processes were not explicitly asked in this part of the interview. The results are comments, which were mentioned by the interviewees when discussing the items mentioned in Tables 4.1 and 4.2. The results are presented in the tables 4.4 and 4.5.

Table 4.4: Challenges that relate to subgroups

IDENTIFIED CHALLENGES	NUMBER OF RESPONSES (n=6)
There is tacit knowledge that doesn't transfer	5
There are problems because of location	3
There are problems because of discipline	2

The findings will be discussed in more detail in the following chapter, but a brief explanation of the results is provided here. Almost everyone, 5 out of 6 persons, agreed that they have tacit knowledge that doesn't transfer in their organization. The two other challenges in Table 4.4, there are problems because of location or discipline, also relate to knowledge transfer, while they were not as common as the first one. Challenges emerging from multiple locations dealt with inefficiency in meetings and costs associated to assemble people together. The challenges, which emerge from discipline were related to the fear that different teams, such as engineering and sales, would not be aligned with the strategy if the teams didn't know what the other team is developing. Finally, no interview mentioned there were challenges because of hierarchy or line of command.

Table 4.5: Subgroup related comments affecting knowledge sharing

ISSUES MENTIONED	NUMBER OF RESPONSES (n=6)
Important to be present in offices/together	4
There are informal interactions within offices	4
Location does not matter	3
We do not want to distribute too much	2
Culture affects the decisions	2
Trying to proactively bring teams more together	2
We want people to meet each other	1
People belong to multiple teams	1

As already mentioned earlier, many of the companies have been trying to solve the knowledge sharing challenges by creating teams that are both cross-functional and cross-border. The issues that were mentioned in Table 4.5 give some evidence that the interviewees are proactively trying to facilitate knowledge sharing in their organizations, for example by trying to be present in the offices (4 out of 6 persons) and being proactive

in bringing teams together (2 out of 6 persons). While half of the people explicitly mentioned that multiple locations do not hinder knowledge sharing, four people mentioned that employees interact informally within the offices. Two people mentioned that culture affects the decisions. They mentioned that it is a positive factor that there are European managers delivering news and decisions from the US office to Europe offices instead of an American manager. This was explained by the fact that “*a European knows how we [employees in the Europe office] think.*” Two respondents mentioned their companies are not willing to establish too many offices, but keeping the employees centralized and, in addition, one respondent wanted his colleagues to meet each other in person.

4.2 Decision-making process

This subchapter presents the results regarding the decision-making process that was discussed with the case companies. First, the subchapter will introduce the decision-making events that were discussed in the interviews. Second, the actions that were taken during the decision-making processes are categorized and the results presented according to the classification defined by Carton and Cummings (2012).

According to the research scope, the selected case events were supposed to be of such a nature that they are significant for the operations of the company and required an input of at least two offices of the company. To give a better understanding, a description of the event has been provided in Table 4.6.

Table 4.6: Description of case events

COMPANY	EVENT	SIGNIFICANCE	PEOPLE INVOLVED
Company A	Recruitment of a key manager to scale business in a new location.	Very critical, saved the company.	Management team and founders from both offices.
Company B	Changing the focus of resources because of market development.	Event that had to be done to cut costs and save the company. Important to get people aligned with the decision.	Decision done by management in all offices, decision affected a large part of the company.
Company C	Recruitment of key manager to run the product.	Critical, scaling the business would have been impossible otherwise.	Management team and founders from both offices.

It is good to note that while the discussed decision-making events are very similar to each other with Company A and C, this has, by no means, been the target of the researcher, but a mere coincidence. However, as the companies are or have been at the time of the event relatively young and immature, it is fully understandable that such an event of recruiting a key manager has a large impact on the operations of the whole organization. One of the interviewees commented the criticality of the event:

“It was a process that we acted for quite some time... about 9 months. The complexity increased as the company scaled, so also there was more at stake... I’m so glad we waited [to find the correct person] ... It is a role that can [destroy] the company big time”. (Informant 2, Company C)

4.2.1 Interactions and subgroup types

This section classifies the interactions the different inputs, processes and outputs that were identified during the discussions. It follows the model presented by Guzzo and Shea (1992) in terms of the I-P-O model, and the categorization of Carton and Cummings (2012) in terms of different subgroup types. In addition, some quotes are presented at points where it is deemed as appropriate. The main results are shown in the tables 4.7 and 4.8-10 for inputs and processes, respectively. Detailed results are presented in Appendix D.

Table 4.7: Number of interviewees that refer to groups by function, location or hierarchy during the decision-making process

INPUTS, GROUP COMPOSITIONS	NUMBER OF RESPONSES (n=6)
Interviewee referred to teams by function (knowledge)	6
Interviewee referred to teams by location (identity)	4
Interviewee referred to teams by hierarchy (resource)	3

Table 4.7, presents what were the inputs as perceived by the interviewees. According to Gladstein (1984), group inputs can be categorized into group composition, structure, resources, and organizational structure. Using the categorization provided, the results are drawn from the comments of the interviewees based on what teams they mentioned took part in the decision making. These teams were either formal, composed by organization, or informal. The informal teams were subgroups that shared some common attribute, for example, same office or skill. Interviewees answered, for example,

“The recruiting was led by the US Office team,” or “Strategy team was responsible [for the decision].” All of the interviewees referred to the participating teams by function. Such function was typically a project or a customer team, which consisted of employees from various disciplines. In any case, people belonged to these teams because of their skill or knowledge, and these subgroups can be identified as knowledge-based subgroups (Carton & Cummings 2012). Four out of the six persons referred to teams based on location, which refer to identity-based subgroups, according to Carton and Cummings (2012). Compared to knowledge-based subgroups, the identity-based subgroups classify people into groups based on who they are or where they are located. In addition, three mentions were given to subgroups that were based on organizational hierarchy (resource-based).

Tables 4.8–10 presents the main interactions that emerged during the decision-making event. The interactions are generalized and categorized according to the underlying reasons such interaction happened. The reasons are based on the group composition inputs (Table 4.7), that is, did the interactions happen because (i) the groups were in multiple locations (Table 4.8), (ii) the groups had different functions and tasks (Table 4.9), or (iii) the groups had different resources (Table 4.10). The majority of the statements gathered fell under the location-based category, while only two statements were identified for the remaining two categories, knowledge-based and resource-based interactions, respectively.

Table 4.8: Location-based interactions identified in the decision-making event

INTERACTIONS, LOCATION-BASED	NUMBER OF RESPONSES (n=6)
People traveled to keep the communication running	6
Important to understand how the counterpart thinks	4
Decision made with everyone present	2
Groups had informal discussions, no line of command	2
Location does not affect the decisions	2

As mentioned earlier in Table 4.7, four out of six interviewees referred to other teams based on where they were located, and this can be seen as an identity-based division to subgroups. This happened, despite their original team was in a cross-border way organized. All of the respondents mentioned that either they or someone from the team needs to keep constantly traveling to “keep the communication channel up and running” as one

of them said. Another interviewee mentioned that *“For big decisions, we fly people together to reach a solution.”* Moreover, two of the interviewees mentioned that they prefer making the decisions with everyone present, also supporting the previous comment. Somewhat contradicting, two respondents said explicitly that location does not matter. In addition, four out of six interviewees also mentioned that it is important to understand how the counterpart thinks. One of the interviewees explained their success in the event in the following manner:

“We [the interviewee and another executive] had to bring the bad news. I understand how they [the team in his home country] think. The reason we were so successful at communicating was because we were Europeans.” (Informant 1, Company B)

Two interviewees also stressed the importance of having informal discussions inside the office. These statements can also be identified as making a distinction to identity-based subgroups. One of the employees said *“[There are] so many things that you would get through an informal way. If you don’t need to interact, you don’t interact”*. (Informant 2, Company B)

Table 4.9: Knowledge-based interactions identified in the decision-making event

INTERACTIONS, KNOWLEDGE-BASED	NUMBER OF RESPONSES (n=6)
Problem discussed first in smaller groups	4
People prefer to talk with their actual team members (not to people who sit next to them)	1

More often than referring to other teams based on their location, all of the interviewees referred to themselves and others through the function or discipline the team was assigned. For instance, one interviewee referred to his team as *“Us the product management team,”* even if the whole team sits in multiple offices and has people working as employees and high executives. Four people mentioned that the decisions were first digested in smaller teams before actually making a company-wide decision. In these cases, the preliminary work was done by teams that were distinguished as knowledge-based subgroups. On the contrary to people preferring informal discussions, one person mentioned that he didn’t actually talk so much to the person sitting next to him, even if he also was part of the decision making, but from a different team.

Table 4.10: Resource-based interactions identified in the decision-making event

INTERACTIONS, RESOURCE-BASED	NUMBER OF RESPONSES (n=6)
Founder led the decision	4
Other team has veto rights	3

Lastly, Table 4.10 presents the statements that correlate with people classifying teams by resource. After generalizing only two different statements were found. Four of the respondents felt like it was the founder or the founding team who led the decision in the end. The high number can be explained by the stage of the company being still relatively young and typically still very founder-led. However, at the same time, three of the interviewees were of the opinion that the other team, or the counterpart, had veto rights in the decision. While the first statement can be biased due to the nature of the scope of the study, it must be noted that the people who mentioned the veto rights, all of them agreed on the first statement, also.

5 Discussion

This chapter concludes the findings obtained from the case studies and the extant literature to form a synthesis based on previous theories and the empirical research. Excluding the classification of subgroup types, the results were analyzed independently of the theory. This chapter will provide a more thorough evaluation and analysis together with presented theory. First, the perception of the organizational structure of the interviewees from the case companies is discussed. Second, the decision-making events are addressed to form an understanding of the underlying effects of subgroups in the case companies. The research questions are answered during the discussion. Next, implications on both theoretical and practical use cases are provided, and the chapter is concluded by discussing the reliability of the results and the thesis.

The research question and its subquestions defined in Chapter 3 are presented below:

RQ: How do emerging subgroup dynamics impact key decision-making process in fast growing software startups?

RQ1: What type of underlying perceptions organization members have of their organizational structure that creates subgroup types?

RQ2: What type of similar interactions are identifiable and what is their relationship, if any, to the underlying subgroup types?

5.1 Perceived organizational structures

Carton and Cummings (2012) propose that subgroups can be classified into three different types, namely, knowledge-based, identity-based, and resource-based groups. The distinction is based on the differentiating factors that are underlying in the groups (see Table 2.1). To answer the first supporting research question (RQ1), it was asked of the respondents their personal opinions on how they perceive their organizational structure. In addition, they were asked in which groups, and in which type of groups, they felt they have a membership.

It is interesting to note, that all offices in all of the case companies have one main responsibility. There are some quite evident reasons for this type of a setting. On the one

hand, it is easier, and in some cases even cheaper, to keep the product development team at the original office where the company was founded. On the other hand, the first offices that were established after headquarters were all located in the United States. This has been done more from market-led reasons – the companies have deliberately made a decision they want to be close to their biggest market and most important customers and other partners. An important note is that all of the case companies are also far from being mature organizations, but have begun their internationalization very early, typically meaning a drastic shift in the relative amount of personnel in the original founding office.

All of the interviewees described their organization by using teams and groups that were based on different functions or disciplines (Table 4.2). Also, they all felt they belonged first and foremost to such groups (Table 4.3). While most of the interviewees explicitly mentioned that their offices form certain types of groups, only one of them actually felt of belonging to one. Additionally, there was some variance between people describing their organization based on resource type groups and belonging to such.

As described earlier, all of the case companies have multiple offices, with each office having a specific responsibility, such as product development or marketing and sales. However, the teams that work together have been formed according to a specific product line, customer or project. In this thesis, these all are referred as project-based teams. This strategy creates teams that are both cross-disciplinary and cross-boundary, forcing employees to communicate with people that do not possibly share the same culture or have the same work tasks as oneself.

According to the results, the division into project-based teams creates a stronger bond of identity among the employees than a social identity attribute. The reasons that came up during the interview can be summarized into the following three statements:

- (i) When people are part of a relatively small company, it is easier to perceive the whole company as one's own team.
- (ii) Location does not divide people, but it has an effect on work routines.
- (iii) Knowledge, more than social attributes, is valued the most in startups. Thus, it is the main driver in emerging subgroups.

Firstly, all of the case companies had a relatively low amount of personnel. This means that it is possible to know all the employees by one person. On the other hand, the companies operate in hectic markets and ad hoc situations, which seem to bring the teams and the company together. Of course, this is vastly impacted by the overall company culture and the leadership capabilities of the founder that have not been to a large extent

researched in this thesis. Summarizing, it can be noted that employees share a strong identity of being part of the whole company. Therefore, employees do not so explicitly create subgroups based on other identity triggering attributes, such as location or nationality.

Secondly, most of the employees acknowledge that people working in different locations do have an effect on how people need to organize their work. Despite, it has very little effect on how people perceive their organization structure. Because of multiple locations the employees have set up different communications channels and travel often to be present with their teams. These actions are performed to aid the employees feel more part of their project-based teams. However, it is good to keep in mind that the offices typically are established around one discipline. This discipline is the main task the office is responsible for in the company, for example product development. This makes it impossible to fully know what part of identity is influenced by location and what by discipline.

Lastly, it can be noted that employees and founders value knowledge over other social attributes that also affects their identity strongly. Partly, this can be reasoned by the cross-disciplinary and cross-boundary teams that are formed formally, partly, there seems to be a culture in startups that enforces people to have a mindset where people value each other based on the way they manage their personal tasks.

To conclude, the research points out that startups have a unique culture that is driven by many factors, such as, leadership, immature company stage, and fast-paced markets. While these factors build on a very strong identity and feeling of membership to the company they do not enforce the creation of subgroups based on social identity attributes. The different strength of perceived group identities is presented in Figure 5.1. The boxes in the picture do not represent the size of the group but are more of a figurative way of telling that teams comprise of multiple disciplines and offices.

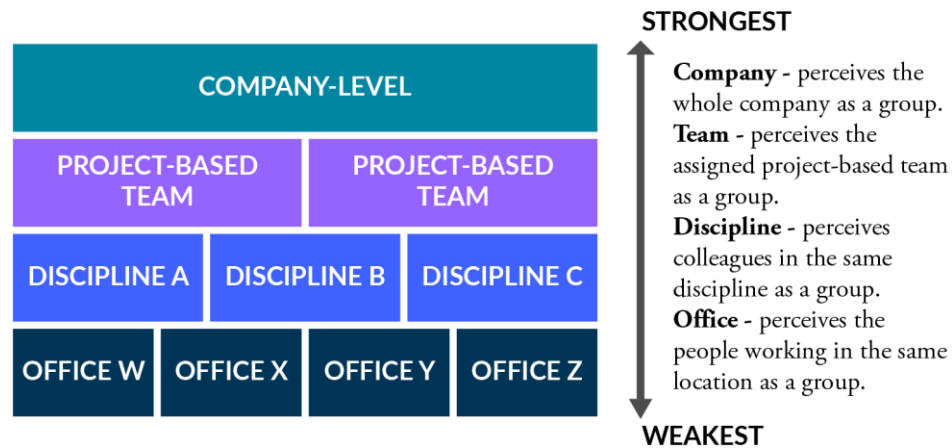


Figure 5.1: Level of perceived identity at group combinations. How strongly an employee or founder identifies him or herself in belonging to a specific group.

5.2 Intergroup behavior in decision-making process

The second research subquestion asked what type of interactions can be identified during the decision-making process and what is their relationship, if any, to the underlying subgroup types. In this section, the social behavior continuum by Tajfel and Turner (1979) acts as the underlying theory. Having established an understanding on how employees and founders view their company and whether they divide their organization into informal subgroups, a closer look into the behavior of employees and founders alike is presented in the following paragraphs.

In Chapter 4.2, the presented results in the decision-making process were aligned with the classification in the framework presented by Carton and Cummings (2012). The interactions that were identified critical were divided based on what grounds they happened – whether it was because of location, knowledge, or resource differences.

According to the results in Table 4.7, all of the respondents referred to the teams by function in the discussions. In addition, some of them referred to teams also by location or by hierarchy. The majority of the identified actions and behavior was able to be classified as relating to location. This means that actions, which were found critical in the decision-making process were performed because of an underlying reason that people worked in different locations and, as such, required an extra effort to pull through the decision. Other common and critical interactions were identified belonging to teams based on function and hierarchy. However, these statements were few compared to the interactions relating to location.

Concluding the results, the following statements were obtained:

- (i) Interactions are more affected by location rather than knowledge or resource-based teams in startups.
- (ii) Interactions during the decision-making process are not fully aligned with the underlying subgroups.

The critical incidents in the decision-making process that were identified were strongly dependent on the way people wanted to interact with each other. Because of having team members in different locations, informal discussions were not that common between official team members than with people working in the same office. On the other hand, transparent and sufficient communication is of critical nature for the teams to operate and, therefore, it is partly even forced by organizing teams in a cross-disciplinary and cross-boundary manner. This type of team composition increases the chance of transferring tacit knowledge between team members and even teams.

Another observation was made regarding the relationships between the emerging interactions and the perceived subgroups in the organization. While people do not tend to categorize themselves explicitly into teams based on location or hierarchy, the individuals act and behave towards other individuals as they did belong to such subgroups. Therefore, in this thesis, it is argued that while people in startups **do not explicitly want to belong to any identity-based subgroups**, there are underlying, **unique patterns to work and share information based on where one is located**. This argument can further be developed into an observation that because there is **such a strong identity to belong to the startup company over other groups, people have an urge to work together, but simultaneously, do not view location or distributed teams as a hinder**.

Combining the previous arguments and reflecting on the research question and the subquestions, the research seems to point out the following. Both employees and founders of fast-growing, young software startups, that is, the whole personnel, do not to share strongly any identities that would divide them into subgroups. In fact, they feel much more committed to the startup company and groups they work at. However, in decision-making processes that have a high significance for the company, the behavior of the personnel is affected by location and other attributes, such as skill and role in the company. The impact of underlying and emerging subgroups is not as drastic as thought, as the arising conflicts are more of practical nature, like distance and time-difference, than substantially stemming from the behavior of the personnel.

5.3 Theoretical implications

This thesis studied what implications subgroup dynamics can have on the decision-making process of a fast-growing software startup. The research used an abductive approach as presented by (Dubois & Gadde 2002).

The motivation for this research was the lack of literature examining startups and subgroup dynamics carefully. Ever since globally distributed teams have come into fashion within large corporations (Hinds & Bailey 2003), they have created unique settings that have received much attention (Maznevski & Chudoba 2000). Startups are no different in this perspective from a large corporation, but aim to be global early on and attempt to internationalize (Bailetti 2012). However, while subgroup dynamics have been researched through social identity theory earlier, and faultline models in later years (e.g. Tajfel & Turner 1979; Lau & Murnighan 1998), combining them with startups has been missing. This thesis contributes to the social identity theory, which was used as the theoretical framework, and gives new insight into the way startups and globally distributed teams are researched.

A lot of studies deal with how social identity divides people into groups when they share a common identity (e.g. Tajfel & Turner 1979; Tajfel 1982; Lau & Murnighan 1998; Cramton & Hinds 2004). Moreover, Tajfel and Turner (1979) have argued that all interactions can be put on a continuum depending on whether there are more actions based on interpersonal relationships or derived from the membership of a group. This thesis has shown that in the context of startups this might not be adapted in an equally straightforward manner. Employees and founders in startups prefer not to classify themselves based on shared identities but think of the whole company as their most defining team instead of at a more granular level, such as the office. However, the results do imply that the social identity theory can be used to some extent as there are clear indications that people do behave and interact in interpersonal and intergroup manner towards others.

5.4 Practical implications

The results of the study can benefit the employees, founders, and managers of a software startup or even the investors of such a company. The critical events discussed in the interviews and the findings are on such a general level that they can be adapted to a host of different decision-making situations startups of similar level and phase encounter.

Regarding emerging subgroups in software startups due to establishing new offices, companies should pay attention to the types of teams they want to form. There is a fine line between when the company has distributed too much and when the teams are dispersed comfortably. This is, of course, highly dependent on the background of the company and how the mindset towards distributed work has been developed. From the research, it can be noted that employees feel comfortable with teams that are formed according to different projects, customers or products even if it means distribution. This is even more acknowledged by founders and managers who are more concerned about the company wide level of knowledge transfer.

The suggestion for managers and founders is to adapt knowledge-based teams as they have an enforcing effect on the identity of employees. However, the role of founder and leadership is important to keep in mind, for often those are the driving forces of the culture in a startup. In addition, the effects of having people in different locations and single disciplinary groups need to be acknowledged. In the case of startups, this very often means vaguely the same division, and tacit knowledge that isn't shared is prone to exist to some extent. As depicted in Figure 5.2, the use of knowledge teams aids the informal transfer sharing. In the figure, employees share knowledge between their informal groups (black arrows). The two colors, purple and green, represent employees from two different offices or disciplines. Next, the teams are formed with employees from both offices or disciplines, the new relationships are marked with blue arrows. In the end result, the employees maintain their relationships (blue arrows) with their formal team, but also share information within their office or colleagues from the same discipline.

Regarding the significant decision-making processes, the circumstances described in the previous paragraph, and in Figure 5.2, can help companies to make better and more transparent decisions. The knowledge shared informally helps spread the reasons a specific decision is made, thus, keeping the whole company informed while the work is done in teams that matter the employees themselves the most. The perception of the whole company as a group needs to be, however, well managed. As mentioned previously, this is relevant for employees of a software startup in its early phases. By investing in well-managed processes and company culture, the employees stay happy and informed, and decisions can be reached to an end more efficiently.

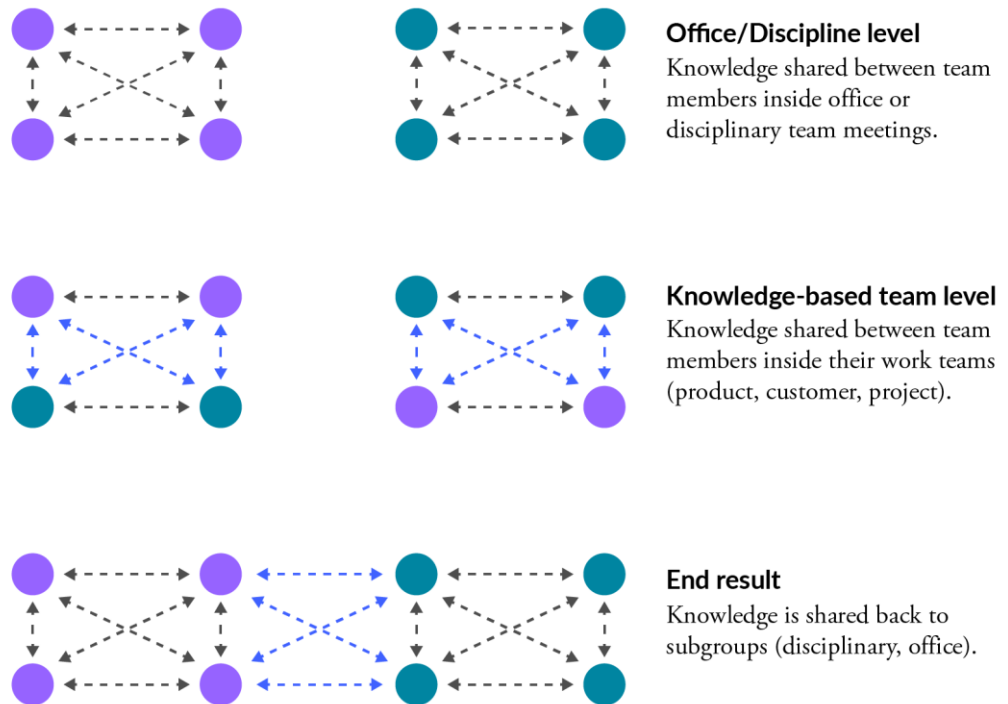


Figure 5.2: Knowledge sharing within organizations.

5.5 Validity of the thesis

This section discusses the validity of the thesis as well as discusses briefly the use of such concepts as reliability and validity in qualitative research. The actual assessment is done with the collection of criteria presented by Whitemore et al. (2001) is used, in particular, the primary and secondary criteria for validity. For the discussion on reliability and validity, the thesis refers to the paper written by Golafshani (2003).

Golafshani (2003) notes that the concepts reliability and validity have been commonly, and extensively, used in quantitative research, but need a redefinition in the qualitative research paradigm. As mentioned previously, in quantitative studies or deductive approach, researchers attempt to test predefined hypotheses by measuring quantifiable data, while qualitative research aims at generating new theory (Dubois & Gadde 2002). In brief, in quantitative research, the criteria for reliability is the repeatability and replicability of results, and validity is commonly regarded as the criteria for whether the actual measurements are accurate and applicable as argued by Golafshani (2003). The author continues that while there are arguments against the use of reliability and validity as not fully applicable to qualitative research, many researchers agree on the need of doing

a qualifying check for the research and, therefore, the synthesis developed by Whittemore et al. (2001) is used in this thesis.

Whittemore et al. (2001) also note that there have been difficulties in establishing validity criteria in qualitative research. The authors propose a set of primary and secondary criteria that are listed below and addressed one by one in the following paragraphs. The difference between the two classes is that primary criteria are necessary for all qualitative research, and secondary criteria are more flexible and provide additional validity checkpoints.

Primary criteria

<i>Credibility</i>	Are the interpretations of results trustworthy?
<i>Authenticity</i>	Are the results portrayed reflecting the true opinions of the interviewees?
<i>Criticality</i>	Does the research assess results and theory critically?
<i>Integrity</i>	Is the research done with repetitive and recursive checks of validity and shown humble presentation of results?

Secondary criteria

<i>Explicitness</i>	Has the research addressed the methodological choices and biases of the researcher?
<i>Vividness</i>	Have the results been presented with clarity and depth?
<i>Creativity</i>	Is the data visualized clearly and understandably?
<i>Thoroughness</i>	Have the research questions been answered clearly throughout the study?
<i>Congruence</i>	Does the research follow a systematic approach and do different sections fit together?
<i>Sensitivity</i>	Is the research process aligned to the nature of human, cultural and social contexts?

Credibility and authenticity. The findings of the research were classified statements that were created based on the direct answers of the respondents during the interview. The results chapter also enclosed direct quotes from the interviewees, to give the reader a perspective on explicit answers. Equally, the classified statements presented were explicit opinions of the respondents and contained no interpretation from the researcher besides the generalization to be able to address the results anonymously. In addition,

anonymity enabled the interviewees to answer more truly and freely to the questions presented.

Criticality and integrity. The research was evaluated critically throughout the whole process from selecting past theory to discussing findings and relating them to theory. All claims were made backing to theory and explicitly mentioned which statements were not part of the scope of the research to prevent any misunderstandings. All methods used in the research were constantly evaluated against existing literature.

Explicitness. The abductive approach used in the research was deemed appropriate and was explained in the methodology section and reasoning for using it. There can be identified few biases of the researcher that may have impacted the results. These were discussed in the methodology section but recapped here. The researcher works for a venture capital company, which was jointly part of selecting the research subject together with the researcher. This has directly affected the selection of the companies, which can be considered as a biased selection as they were all in the investment portfolio of the employer of the researcher. Even so, all the companies selected were fully within the scope that was defined in the research. Another possible bias from the aforementioned setting comes from the relationship between the companies and the venture capital company. On the one hand, the interviewees might stay a little distant as they might not want to disclose negative aspects of their company. On the other hand, since the interviewees were remotely acquaintances of the researcher through the employment they were very helpful during the interview towards the researcher. The results and the flow of the interviews also speak for the latter option, however, it is only the personal opinion of the researcher. Finally, because of the work history of the researcher in the venture capital company and previously in a startup very similar to the case companies, the researcher had considerable knowledge of the research context.

Vividness and creativity. In the research, the results were presented with as much detail without compromising the anonymity of the respondents by using direct quotes and explaining the generalized statements as explicitly as permitted whenever possible. All data was presented in form of table and, in addition, frameworks and figures were created to summarize both theoretical frameworks and findings to point out essential parts of the study. Special attention was given to the figures for descriptive in-labels.

Thoroughness and congruence. The research questions were presented early in the research after which the results were presented in full detail. Finally, the findings were discussed in relation to the theoretical framework on a more general level relating them

to the research questions. Throughout the research the themes addressed in tight relation to whole research scope and context. Firstly, the research topic, scope, and context were jointly discussed and approved by the employer of the researcher and the supervising professor. In addition, some supportive opinions were gathered from other faculty professors researching the subject. Afterward, extant literature was reviewed and written before the interviews. It has to be noted that the case companies were identified already from the beginning of the thesis, and it could be criticized if it had any bias in the selection of theory. Finally, the results were processed and analyzed, and the discussion section written.

Sensitivity. As mentioned, the research topic was discussed with many stakeholders. From the academia point of view, the topic was recognized as filling a gap not researched. The employer of the researcher also showed great interest towards the subject as it had direct applications their work. Furthermore, all the case companies mentioned the topic as compelling and were willing to participate in the study in hope of learning the topic themselves.

6 Conclusion and future work

The main objective of this research was to study the impact of emerging subgroup dynamics in fast-growing startups when dealing with key decision-making events. The problem was further split into exploring the view of the startup personnel regarding subgroups, namely on what basis they perceive the organizational structure and which group memberships they feel they have. Additionally, a specific decision-making event was studied to understand how the underlying perceptions influence the interactions of people in such events. The research scope was defined to study software startups that are scaling fast and have recently established an office abroad as most literature and research has been focused on more mature and established corporations.

The main findings reveal that personnel in startups of the scope of this research do not strongly identify themselves based on social identity attributes, but are more biased towards the startup company as a whole and the functional teams they work in. However, during the decision-making processes, they interact and behave towards the task and other people as if they were part of a subgroup to some extent.

The research was conducted as a qualitative study using abductive approach. The data was gathered using three companies as case studies. In total six interviews were conducted, two from each company. This was also the chosen method of gathering all the data as it provided flexibility to research the subject in depth.

The main theoretical framework used in the research was the social identity theory developed by Tajfel and Turner (1979). The theory discusses the impact of social identities on intergroup relations. Namely, an individual interacts with another individual in extreme cases solely based on their mutual relationships or, at the other extreme, only through the perceived membership of his or her group, however, such extreme cases are practically nonexistent in real-life cases. In addition to social identity theory, the research studied the characteristics of globally distributed teams and entrepreneurship.

The findings of the thesis propose that software startups do not behave similarly to larger corporations in terms of emerging subgroups. This is aligned to the research gap that was distinguished in the beginning of the research. It must be noted that this thesis is by no means extensive and the researcher encourages to further research conflicts emerging from subgroups in startups, the transition of startup along the lifecycle and its impact on subgroups, and finally, what are the effects of company culture and the role of founders in emerging subgroups.

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Appendix A: Theme interview structure

The following structure was used in all the interviews with the first person from the case company. The same structure was used in the second interview of the case company, but in this event, less focus was given for company background.

I Employee and company background

- What is your background (education, work, etc.)?
- What is the background/story of the company in short?
- What is your background in the company?
- What are your main responsibilities?

II Teams in the company

- How many people work for the company?
- How many offices are there in the company?
- What is the organizational structure according to you?
 - What kind of teams do you see are present?
- To which teams do you feel belonging?
 - What are the reasons for this?

III Key decision-making event

- Describe the decision-making event
- Who took part in that event? Why were they exactly these persons?
- How did you act in that event? What was your role in it?
- How was the communication performed?
- What were the challenges?
- What factors contributed to the decision making?
- In what context did these appear?

Appendix B: Organizational structure of case companies

Table B-1: Description of companies and organizational structure.

Company	Business description	Offices	Main task of office	Personnel in office
Company A	Technology to monitor consumer behavior on all channels and platforms. Sells its solution as a Software-as-a-Service model.	Finland Office A1	The first office and headquarters of the company. All operations close to technology.	50
		US Office A2	Sales and business operations. First office outside of Finland	4
		US Office A3	Sales operations. Established because of closeness to customers	4
		UK Office A4	Sales operations. Main location for the media industry in Europe.	2
Company B	Data science platform for businesses to create predictive analytics models. Sells its solution as a Software-as-a-Service model.	Germany Office B1	Company founded in this office. Completely focused to engineering and R&D.	22
		US Office B2	First office after Germany Office B1. Headquarters of the company, all business operations are run from here.	30
		Hungary Office B3	Former office of a company that got acquired by Company B. Completely focused in engineering.	10
		UK Office B4	Office acts as a pure sales office.	6
Company C	Proximity data platform, aggregates offline behavior data to online behavior for advertising platforms.	Norway Office C1	Company founded in this office. Mainly focusing on engineering and R&D.	8
		US Office C2	Company run from this office. Mainly focused on product centric and commercial operations. Company has relocated two engineers from Norway to have some more client facing engineers.	10

Appendix C: Perceived organizational structure

Table C- 1: Full results on perceived organizational structure in the company

Argument	Count	Interviewees, in no specific order					
		1	2	3	4	5	6
There are groups based on discipline	6	x	x	x	x	x	x
There is tacit knowledge that doesn't transfer	5	x		x	x	x	x
There are groups based on locations	4	x		x	x		x
There are groups based on projects/products	4		x		x	x	x
Important to be present in offices/together	4		x	x	x		x
There is informal interactions within offices	4		x		x	x	x
There are problems because of location	3			x	x		x
Location doesn't matter	3		x		x	x	
There are groups based on hierarchy	2	x		x			
We don't want to distribute too much	2	x					x
Culture affects the decisions	2			x	x		
There are problems because of disciplines	2	x		x			
Trying to bring proactively teams more together	2	x					x
We want people to meet each other	1	x					
People belong to multiple teams	1						x

Table C- 2: Full results on perception of personal membership of different groups in the organization

Membership in groups	Count	Interviewees, in no specific order					
		1	2	3	4	5	6
Part of a subgroup based on resource	3	x	x	x			
Part of a subgroup based on function	6	x	x	x	x	x	x
Part of a subgroup based on identity	1			x			

Appendix D: Interactions in case company events

Table D-1: Inputs, group compositions.

Inputs, Group composition	Count	Interviewees, in no specific order					
		1	2	3	4	5	6
Interviewee referred to teams by function (knowledge)	6	x	x	x	x	x	x
Interviewee referred to teams by location (identity)	4	x		x	x		x
Interviewee referred to teams by hierarchy (resource)	3	x	x	x			

Table D-2: Identified interactions in the decision-making event.

Interactions in the event	Count	Interviewees, in no specific order						Type
		1	2	3	4	5	6	
People travelled to keep the communication running	6	x	x	x	x	x	x	Identity
People refer to teams based on office location	4	x		x	x	x		Identity
Important to understand how the counterpart thinks	4	x	x	x	x			Identity
Decision made with everyone present	2			x	x			Identity
Groups had informal discussions, no line of command	2				x		x	Identity
Location doesn't affect the decisions	2		x			x		Identity
People refer to teams based on function	6	x	x	x	x	x	x	Knowledge
Problem tackled first in smaller groups	4			x	x	x	x	Knowledge
People prefer to talk with their actual team members (not to people who sit next to them)	1						x	Knowledge
Founder led the decision	4	x	x			x	x	Resource
Other team has veto rights	3		x			x	x	Resource