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# **Collaboration between startups and corporations:**

## **A Startup perspective**

Master's thesis in International Project Management

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Department of Architecture and Civil Engineering  
CHALMERS UNIVERSITY OF TECHNOLOGY  
Master's Thesis ACEX30-19-83  
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## ABSTRACT

This research aims at examining the perspective of startups from their experiences in different types of collaborations with corporations, including their motivations, their challenges, their benefits and their suggestions for better startup-corporation collaborations in the future. This study has three main research questions which are (1) What drivers have there been for the startups to engage in collaborations?; (2) How do the startups perceive the interchange between themselves and corporations?; (3) What would make people within startups better prepared when engaging in collaborations? The scope of this study includes Swedish startups perspectives and experiences of startup-corporation collaborations. Regarding the limitation, this study excludes startups outside Sweden and the results are not meant to create a generalization of concept due to limited startups participated in this study. Methodology used is inductive approach with qualitative research strategy and multiple case studies as research designs. Literature review and semi-structured interviews are used as the main instruments for data collection. The study finds that startups have multiple drivers as their collaboration drivers, but some additional drivers are also found in startups. These additional drivers stem from corporate characteristics which are as important as other drivers for startups when engaging in collaboration. While in collaboration, some challenges are recognized yet they are manageable and overall perception of startups towards collaboration is positive. Last findings are the recommendations of what startups can do better during the collaboration as well as possible supports that intermediary organization can provide for startups. The findings can help startups and intermediate organizations to understand how startup-corporation collaborations work and how to set-up own frameworks for collaborations. In conclusion, it was found that collaboration is beneficial and has been perceived positively as the challenges are manageable. Therefore, startups are encouraged to engage in more collaborations to gain experience as a learning process.

**Key words:** collaboration, startups, corporations, collaboration drivers, collaboration challenges, intermediary organization support, innovation, business growth.

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# Preface

In this study, the focus is on the startups' perspectives toward collaboration experiences with corporations. The study has been conducted from February to May 2019. The project is a part of a study initiated by Innovatum Science Center and Miljöbron based on the emerging method of using startup-corporation collaborations to obtain disruptive innovation and sustainable development. The study results are expected to contribute in promoting better startup-corporation collaborations. This project is sponsored by Innovatum Science Center based in Trollhättan and supported by Miljöbron, an organization that initiates, mediates and coaches collaborations between business and students with a focus on sustainable development.

This part of the project has been executed by the master thesis students, Nurina Heratri and Clara Klang, with Mathias Gustafsson as the supervisor and examiner. We appreciate Martin Ahrin-Larsson from Miljöbron and Jenny Schmitz Jakobsson from Innovatum who have helped connecting us with the project and to some of the startups who participated in this study. The participation and engagement from the startups are also highly appreciated. Finally, we would like to thank our peer groups in our master program in International Project Management for their contribution during the peer reviews.

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Nurina Heratri & Clara Klang

# 1. Introduction

This chapter encompasses the background showing the trend of Swedish startup collaborations with corporations, followed with the purpose of this study, the research questions, scope and limitations, definitions and ends with the thesis outline.

## 1.1 Background

Sweden is a home to reputable, worldwide well-known brands such as IKEA, Volvo, Ericsson, H&M, Electrolux, but also a haven for tech startups such as Spotify, King, etc. (Badenhausen, 2016). It is a factor that leads Sweden to being one of the most innovative countries (Global Innovation Index, 2018; Bloomberg, 2019; The Boston Consulting Group, 2016). Weiblen and Chesbrough (2015) describes disruptive innovation as the common way to succeed in today's globalized economy competition. Startups are the ones coming up with the "next big thing", disrupting markets and industries. In Sweden, there has been an increased number of startups and an increased number of incubator and accelerator programs provided either by intermediary organizations such as Innovatum's Incubator, Chalmers Ventures, and GU Ventures, or from corporate accelerator programs. There are also more corporate collaboration interfaces such as Ignite, Mobility XLab, etc. The startup-ecosystem today is available to support an increasing number of startups in bringing their innovation to the market as the cost of startups to bring ideas to market is much lower today than in the early 2000s (Weiblen and Chesbrough, 2015).

The Boston Consulting Group (2016) claims that the challenges for Sweden now is to enable startups to grow into larger sized enterprises and one way to do this is by collaborating with established companies. The collaboration models vary from open innovation, matchmaking, and many more. Swedish corporations are not considered to be aggressive in investing in local startups which result in Swedish startups being acquisitioned by foreign companies (The Boston Consulting Group, 2016). Startup-corporation collaborations might mitigate that risk.

Many corporations are also getting more interested in collaborating with startups to look at new business areas and the latest innovation (Demos Helsinki, 2018). Corporations try to collaborate with startups to enhance their corporate innovation (Weiblen & Chesbrough, 2015). Startups have been found to bring disruptive innovation which is of corporation's interest due to the inflexibility of large companies. Therefore, collaborations between startups and established companies are increasing because corporations wants to benefit from startups to create innovation and penetrate new markets, while startups wants to benefit from corporations by using their resources and power to enter markets and help them scale up.

As collaboration offer benefits for both startups and corporations, yet their differences lead to interactions that is intriguing to investigate further. Corporations have more power and resources, yet they are at the same time inflexible and more bureaucratic, while startups are more agile but also have limited resources (Demos Helsinki, 2018). These differences can lead to challenges that if not carefully managed can be harmful for the collaboration. In this case, startups face the greater risk. Therefore, it is necessary to gain a deeper understanding on how startup-corporation collaborations can work better, with emphasize on the startup's perspective. Understanding all possible motives, along with the collaboration process for startups starting from coming up with a solution, creating innovation and in the end generating products, would help other startups be prepared when entering collaboration. Moreover, it could lead to methods on how to make better collaborations in the future. This can benefit future startups to better understand the challenges of collaboration so that they can be more prepared before entering a collaboration, also for corporations so that they can understand better and help with what startups actually need and struggle with in order to ease the innovation process, and also for intermediate organizations so they can improve their support that is ideal to startups' expectations, which could encourage innovation and prepare startups for collaboration.

## **1.2 Purpose**

This study aims at examining the perspectives of startups from their experience in different types of collaborations with corporations, including their motivations, perceived challenges, and benefits as well as their suggestions for how to create better startup-corporation collaborations. This purpose is motivated by the limited amount of research on startups perspectives in collaborations, which is still dominated by the corporate perspective. Moreover, it could also benefit intermediary organizations, e.g. startup incubators, to have better support for startups in collaborations. Finally, the findings are meant to contribute to collaboration research in the future in order to create better collaboration that benefits both startups and corporations.

## **1.3 Research Questions**

Based on the background and purpose of the study, the specific research questions are:

1. What drivers have there been for the startups to engage in collaborations?
2. How do the startups perceive the interchange between themselves and corporations?
3. What would make startups better prepared when engaging in collaborations?

## **1.4 Scope and Limitations**

Due to the broad area of collaboration and various variables that could affect this process, it is necessary to set the context and boundaries of this study.

As the scope, this study includes perspectives of startups from different sectors and stages that have experienced different types of collaborations. Moreover, it focuses on Swedish startups which mean that the result might not be applicable in other countries. Sweden provides a supportive environment to generate new startups, which is proven by the number of incubator- and accelerator program initiatives in the country (The Boston Consulting Group, 2016). The challenge currently in Sweden for startups is not to generate ideas, but to scale up the startup (Jacobson & Ramslöv, 2017). Startup-corporation collaboration is most noted for being a way to bring innovations to corporations but more importantly for this thesis, it is a way for startups to get access to resources and grow. Furthermore, the collaboration discussed in this study is focused on the startup-corporation collaboration because the study wants to raise the issue of difference in power balance and flexibility between startup and corporation, from a startup perspective, which in the end will result in the insight of how different types of collaborations with corporations could benefit startups and the effective way to manage the collaboration process for the startups.

Thus, this study excludes startups in different countries, for instance outside Sweden, with consideration that different countries would offer different cultures, policies, business environment and objectives, as well as innovation opportunity for startups.

## 1.5. Definitions

The focus of this study is on collaborations between startups and corporations, and it is necessary to define each term to ensure that the context can be perceived in the same way by the reader and the authors.

**Collaboration:** participants work together and share risks and gains to accomplish mutual goals (Järrehult, 2011).

**Startup:** A temporary organization used to search for a repeatable and scalable business model (Blank and Dorf, 2012).

**Corporation/ Established company:** Large company which has an established position, resilience and wide networks (Demos Helsinki, 2018).

## 1.6 Thesis Outline

Chapter 1 presents the introduction encompassing the background showing the trend of startup-corporation collaboration in Sweden, followed by the study purpose and research questions. Scope and limitations are presented to show what is included and excluded in this study. The chapter ends with the thesis outline.

Chapter 2 covers the methodology used in this research consisting of research- approach, strategy, design, and the research process. Data collection is explained such as a literature review and interviews, followed by the process of the analysis. At the end of this chapter, the method is discussed by assessing the research quality and ethical considerations of this study.

Chapter 3 describes the theoretical framework. Firstly, introducing the characteristics, the importance, and some types of collaborations, followed by collaboration drivers, challenges and risks for startups, managing collaboration, collaboration interfaces and intermediary organizations role.

Chapter 4 presents the empirical findings. There are seven case studies examining the experiences of seven startups, from their drivers, their perception of interchange, their challenges and their thoughts on support in collaborations, and their reflections. Summary of all cases can be found in the Appendix.

Chapter 5 provides the result where the theoretical framework and the empirical findings are analysed to generate answers for the research questions. It consists of three parts, which are startups drivers for collaborations, challenges in collaboration, and startups own suggestion for other startups entering collaborations as well as necessary support in collaboration for startups.

Chapter 6 presents the discussion to critically evaluate this study based on the process and its findings. It also discusses and brings new perspectives that might be missed during the research.

Chapter 7 delivers the conclusion where main findings are summarized and suggestions for future research is presented.

Appendix includes data and instruments used in this study, such as interview questions and a summary for the empirical findings and the analysis.

## **2. Methodology**

This chapter describes the methodology used in this study, including the research approach, research strategy, and research design. The research method for data collection and analysis is also explained, ended with the method discussion regarding research quality and ethical consideration.

### **2.1. Research Approach, -Strategy and -Design**

This study was built on previous research about collaboration between startups and corporations, by focusing on startups perspectives to gain a deeper understanding of startups and balance with the research for corporations. Therefore, the study was meant to be open and explorative to the unique context of startups experience by using inductive reasoning as the research approach. This inductive approach was expected to explore the events and therefore the key findings from empirical study helped to build the theory. Both theory and empirical findings were analyzed to answer the research questions.

A qualitative research strategy was used in this study by using a qualitative data collection and qualitative analysis. This study used multiple case studies as the research design. As Dyers and Wilkins (1991) argues in Bryman and Bell (2015) that multiple case study might not show some specific context in each case, but more to display all cases in a way to be contrasted. The way the cases contrasted was only to ease the explanation of the findings as it was classified based on the certain theme, however, the multiple case studies allowed to present the unique context of each case and understand its complexity.

### **2.2. Research Process**

Numerous startups in and around Gothenburg were contacted through email and invited to participate and be interviewed for this study, both startups with and without incubators. However due to limitation is startups resources in time and manpower as well as the location matter, many startups were unavailable to participate. In the end, the study successfully reached seven startups for interviews where six of them were face-to-face interviews and one was a phone interview. Moreover, five of the startups were under incubator program when entering the collaboration.

### **2.3 Data Collection**

A qualitative method was used for the data collection, with interviews as the main tools to gain empirical data. The empirical data was then developed into case studies. Data collection was also supported by literature review which built the theoretical framework and interview questions.

### 2.3.1 Literature Review

A literature review was conducted from previous research to build the theoretical framework and get understanding about the relevant theory as well as the developed knowledge in this topic, including innovation and collaboration, collaboration types and processes (Kohler, 2016), as well as recent startups and corporations collaboration research and experiments (Bannerjee, et.al., 2016; Jacobson & Ramslöv, 2017; Demos Helsinki, 2018). Moreover, some organizational reports and publications were used as secondary data (The Boston Consulting Group, 2016) as well as other additional sources such as websites, online articles, journals and books.

### 2.3.2 Interviews

Semi-structured interviews were the primary data source. It means that a set of specific questions had been prepared to guide the interview with some probe questions. All interviewees were given the same questions, with some variation depending on the situation, challenges, business area, and characteristics for each startup. The interview questions consist of three main themes which follow the focus of the research questions, which in detail can be seen in [Appendix 1](#). The first part of the interview was about the collaboration drivers and the initiation process. Second part was about the management, process and challenges during collaborations. Third part was about the startups reflections and the lessons learned from their collaborations. All interviews were recorded and transcribed. Six of them were conducted directly in person, while one of them was through phone. The time spent for each interview was approximately one hour. However, for the phone interview, it took shorter time, as it is natural that phone interview tends to be effectively shorter than the direct one (Bryman & Bell, 2015). Phone interview was necessary due to a long distance and limited time of the interviewee.

The startups that participated vary in business area, -stage, and collaboration type. The collaboration types experienced by startups in this research include supplier-customer, supplier-distributor, customer-supplier, and product development. The startups interviewed are under five years old and have less than five employees either working full time or partially. All the interviewed startups except for SU6 and SU7 are participating in business incubator programs provided at universities or governmental organizations.

The interviewees who represented the startups were either the CEO, CTO or co-founder. These positions in the startup can be assumed to know the whole idea of the startup condition and involve in the most collaboration process from the initiation to the end. Interviews were conducted in a period of 1,5-2 months. Table 1 shows the list of the startups together with their respective business area, the type of collaboration held with respective corporation and the position of the interviewee.

*Table 1. Detail of participants of this study*

<b>Startup</b>	<b>Business Area</b>	<b>Collaboration type</b>	<b>Interviewee</b>
SU1	Food industry	Supplier-Distributor	CEO
SU2	Construction	Product development/ Supplier-Customer	CEO/Board member
SU3	Drone	Product development	CEO
SU4	FinTech	Product development	Co-founder/CTO
SU5	Sport industry	Product development/ Supplier-Customer	Co-founder
SU6	Security technology	Supplier-Distributor	CEO
SU7	Marine and shipping	Product development/ Supplier-Customer	CEO

## **2.4 Data Analysis**

Empirical findings were analyzed qualitatively by presenting multiple case studies which denoting the uniqueness of each case. At the end of the analysis, the specific result would be generated. The analysis was started by transcribing the interview recordings from each startup, which later the transcription was summarized by taking the most relevant information related to the study focus. It was done by coding the key words and creating theme to make a classification of the findings. Furthermore, the summary of each transcription was developed into each case study. Having presented the seven case studies, key findings were generated and classified which performed as summary of all cases to answer the research questions and see the alignment with the theory presented. As an inductive approach which meant to be explorative, theory used were adjusted to its relevance toward the empirical findings.

## **2.5 Method Discussion**

This part presents assessment toward research quality, along with ethical consideration for the method implemented in this study.

### **2.5.1 Research Quality Assessment**

According to Lincoln and Guba (1985) in Bryman and Bell (2015), there are several aspects of trustworthiness in a qualitative study. It entails credibility, transferability, dependability, and confirmability. Firstly, credibility indicates the internal validity of how believable the findings are. Regarding the reliability and replication, it can be said that the study results are repeatable by using the same interview questions, the same way of developing the case studies and analysis, as

mentioned in the method process. However, it is inevitable that different backgrounds and experience of the investigator would affect on the information classification such as in empirical findings and analysis during the replication.

Secondly, transferability indicates external validity of how applicable the findings to other contexts. This study avoids claiming generalization of the findings as it used case studies towards seven startups in which they have different types of collaborations, business areas, experiences, business stages, etc. Moreover, seven startups might not be sufficient to claim generalizability of the results. However, it can be said that the findings might be applicable to other context within the same scope and limitation since the results also align with the previous research results. Thirdly, dependability shows how reliable the applicability of the findings at other times. As the collaboration has been developed and there are some increasing intermediary organizations supporting this collaboration in the last decade in Sweden, thus it might be applicable in the near future. Lastly, confirmability points the objectivity of whether there is an interference to high degree from the investigators' values. The level of interference has been minimized by presenting the data exactly as what the participants stated to the report and analyzing them strongly to the existing theories and/or previous research to support the objectivity.

## **2.5.2 Ethical Considerations**

Cooper and Schindler (2014) states that it is essential when gathering the data, that participant's rights are safeguarded which means that they are protected from discomfort, physical harm, embarrassment, pain, and loss of privacy. It can be done by researchers by explaining the participants about the study benefits, participant's rights and protections, and gaining informed consent from the participants. In this study, the main and only participants are startups. Particularly the CEO/CTO/Co-founder of the startup. Therefore, to safeguard the participant, the researchers of this study always started each interview by explaining the purpose of the study, right of the participants, the expected beneficiaries of the study findings, and other relevant information. This information was given both in the email when initiating contact and orally exact before the face-to-face interview which means that the researchers have avoided deception towards the participants. Moreover, each interview was recorded, and the study results would be accessible for the participants. Informed consent was also gained orally during the interviews. The participants of this study are kept anonymous both the names of their companies and the interviewee, as well as the other entities mentioned in the interviews. It was conducted by respecting their time and avoid topics that potentially threaten the position or business of the participants. Moreover, the interviewees were also given freedom to choose their collaboration experience to be shared in the interviews due to confidential information.

### **3. Theoretical Framework**

This chapter presents theories and studies on startup-corporation collaborations beginning by defining collaboration and trends affecting startup-corporation collaboration. It is followed by types of startup-corporation collaborations and collaboration drivers both for startups and corporations are explained. Furthermore, the challenges, managing collaboration process, collaboration interfaces and intermediary organizations and collaboration are presented.

#### **3.1. Characteristics of Collaboration**

AIIM (What is Collaboration, n.d.) defines collaboration as a way of working where individuals work together towards a defined and common goal to attain business benefits. Collaboration entangles some aspects including: (1) awareness, working together for a shared goal; (2) motivation, agreement in development or problem solving; (3) self-synchronization, necessary decision-making by individuals; (4) participation, participate and expect for others' participation; (5) mediation, negotiation and collaborate for win-win solution; (6) reciprocity, share and expect share in return; (7) reflection, considering alternatives; (8) engagement, engage proactively instead of waiting and see.

Furthermore, AIIM describes that openness and knowledge sharing are the base of collaboration, as well as focus and accountability in business organizations. Governance is important to determine responsibility assignment to gain results from the collaboration (AIIM, what is Collaboration, n.d.). Collaboration should not be confused with cooperation. Both are ways for startups to engage with corporations, both are ways to work together, both includes sharing resources and knowledge to gain mutual benefits, but there is a substantial difference if the goal is to innovate. Collaboration, unlike cooperation, includes that the parties have a shared common goal and complementary competences which works much better for open innovation (Järrehult, 2017).

Similarly, as to what Järrehult (2017) states, Ashkenas (2015) describes that willingness for being together, information sharing and cooperation are not sufficient for collaboration. Instead, tough decision making and trade-offs about what and what not to do are more essential than to adjust workloads for different parties involved with different priorities. The common failure of managers in collaboration despite their education and training is that they confuse collaboration with cooperative behavior. Most managers are cooperative and have willingness for information sharing, yet the ability and flexibility to align each other's goal and resources in real time are still lacking.

## **3.2. Why Startup-Corporation Collaboration?**

It is believed that the strongest of the species is not the one that survives, but the most adaptable one that will. This can also be applied in current business environments. Businesses are facing technological revolutions today and business- and technology experts believe it is just the beginning. The digital technology development has disrupted the existing business logic. Small companies are benefited by this situation due to their technological relative affordability and access to capital that allows them to provide solutions that no longer is available only to corporations (Prats & Amigó, 2017).

Meanwhile, corporations mitigate their risk of turning obsolete through innovation strategy by intensifying ecosystem exchanges. There is a critical need for corporations to comprehend ways to collaborate with startups coming up with technological based solutions such as cloud computing, big data, the Internet of Things, blockchain, or artificial intelligence which affect business behavior (Prats & Amigó, 2017).

While corporations are being more careful to take risks and have a slower pace, startups are flat hierarchical structured small groups that are quick, agile and more flexible to change their models in meeting the market needs. Therefore, collaborations and building bridges between both sides are argued for since these differences then are utilized (Prats & Amigó, 2017).

Startup-corporation collaborations is a hybrid model creating innovations, which is needed to offer new solutions for the business and societal complex problem at large scale. Thus, it is crucial to establish startup-corporation collaboration which is also significant for both parties. Corporations encounter challenges in evolving their internal disruptive innovation for several reasons, including structural, cognitive and behavioral of large well-established companies. Conversely, disruptive innovation is led by startups in most industries worldwide. Having a good ecosystem of startup has proven to create more efficient innovation cycle, utilize technology, supplement existing business models, and have quicker and more effective invention than corporations (Prats & Amigó, 2017).

## **3.3. Types of Startup-Corporation Collaborations**

There are various ways for corporations and startups to arrange collaborations. Collaborations differ in time and resource commitment, from simple transactions to acquisitions (Demos Helsinki, 2018; Jacobson & Ramslöv, 2017; Kohler, 2016). There are five types of collaborations a startup can have with a corporation (Kohler, 2016) which are (1) Get a pilot project supported; (2) Find an engaged customer; (3) Find a distribution partner; (4) Find investors; and (5) Become acquired.

Kohler (2016) describes those types as follows. First one, get pilot project supported is when a corporation support a startup’s pilot project. That can include funding product development for the startup. The startup can also co-develop new products, explore new markets or solve business challenges together with a corporation. Second, find an engaged customer is when a startup gets a customer and the corporation might even be the first customer the startup has. Working with a corporation gives the startup the ability to test their product and see how well it fits the market. It can also give the startup credibility and resources to scale the operations. Third, find a distribution partner is when the startup gets a distributor. A collaboration like this can give the startup access to the corporations’ channels and distribution networks. Instead of building networks from scratch the startup can use the corporations existing ones to sell their solutions. Fourth, find investors is when a startup gets capital from a corporation. The terms can be favorable compared to other venture capital investors. Having a corporation that invests can also give the startup credibility. Fifth, become acquired is when the startup sell parts of or the complete company to a corporation. This can be a way for the startup owners to exit the business and end ownership of ideas and products.

### 3.4. Drivers for Startup-Corporation Collaborations

This section present drivers for engaging in startup-corporation collaborations. First are drivers for startups presented, followed by drivers for corporations. The theory is based on research and previous studies on startup-corporation collaborations.

#### 3.4.1. Drivers for Startups

Yoon & Hughes (2015) point out that there are different skill sets needed for creating and scaling a business. This is of particularly interest for startups. Startups might be good at finding latent and emerging demand, but a good idea is often not enough. Finding a clear market and scaling up usually takes both more time and resources than anticipated. Corporations on the other hand are often professionals at scaling and have the resources and experience needed. This is one reason but there are many reasons and drivers for a startup to want to collaborate with a corporation. Others have described the drivers previously and Table 2 is based on the work from previous studies (Schättgen & Mur 2017; Demos Helsinki, 2018; Kohler, 2016; Jacobson & Ramslöv, 2017; Prats & Amigó, 2017). The theories have been summarized and divided into four main drivers that startups can obtain or expect in a collaboration with a corporation. The four located main drivers are business development, access to resources, credibility and visibility and lastly, scale-up.

*Table 2. Collaboration Drivers for Startups (modified from Schättgen & Mur 2017; Demos Helsinki, 2018; Kohler, 2016; Jacobson & Ramslöv, 2017; Prats & Amigó, 2017)*

Drivers for startups	Description
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<p><b><u>1. Business development</u></b></p> <ul style="list-style-type: none"> <li>- Product development</li> <li>- Build proof of concepts</li> <li>- Testing</li> <li>- Support and feedback</li> <li>- Validation</li> </ul>	<p>Get support on product development and testing, create and validate proof of concepts -test new ideas and get feedback by using industry experts in the corporation.</p>
<p><b><u>2. Access to resources</u></b></p> <ul style="list-style-type: none"> <li>- Access to market</li> <li>- Access to partners</li> <li>- Get new customers</li> <li>- Obtain finance or contact with investor or potential acquisitions.</li> <li>- Co-working space</li> </ul>	<p>Utilize technology knowledge, obtain access to finance, markets, distributors, partners, suppliers, startup programs, co-working space, communities and mentors.</p>
<p><b><u>3. Credibility and visibility</u></b></p> <ul style="list-style-type: none"> <li>- Publicity/marketing</li> <li>- Credibility</li> <li>- Visibility</li> <li>- Develop strategic partnerships</li> <li>- Increase network</li> </ul>	<p>Make the corporation a reference customer and develop strategic partnerships. Get additional visibility in the market, participate in joint exhibiting at events &amp; conferences.</p>
<p><b><u>4. Scale-up</u></b></p> <ul style="list-style-type: none"> <li>- Scale-up more easily</li> <li>- Sell product or service</li> <li>- Develop channels</li> </ul>	<p>Use the corporations marketing channels and manufacturing network to scale up a business model faster.</p>

**3.4.2. Drivers for Corporations**

Innovation has been the biggest reason for corporations to connect with startups, but another reason is to find and penetrate new markets (Demos Helsinki, 2018). Yoon & Hughes (2015) adds that corporations also look for startups to help them find growth. The strengths for corporations’ lays in procurement, distribution, manufacturing and marketing, but they are not as good as startups in generating innovative proof of concepts. Corporations end up proposing products they can make, not necessarily what customers wants. Startups are prone to create new products from scratch while corporations are better at continuous improvements and scaling proof of concepts. Therefore, they could mutually benefit each other to be successful through collaboration as they could offer two unique and equally significant offers to the table. The drivers for corporations to engage in startup-corporation collaborations have been studied before and several authors have contributed to Table 3. The located drivers for corporations are marketing, impact the internal culture, solve business problems, access external innovation, expand to new markets, financial returns and gain strategic insights.

Table 3. Collaboration Drivers for Corporations (modified from Kohler, 2016; Mocker et al., 2015; Bannerjee et al., 2016; Bonzom & Netessine, 2016; Jacobson & Ramslöv, 2017)

Drivers for corporations	Description
Marketing	Creates a innovation-driven image and reputation. Helps to attract entrepreneurial talents to the corporation.
Impact internal culture	Stimulates an entrepreneurial culture and develops innovation capabilities among employees. Offers the opportunity to exploit a corporations under-utilized technology and knowledge. Gives incentives to become more agile and lean as an organization.
Solve business problems	Startups can assist to innovate existing products, services or solve business problems. Can provide continuous improvements on existing products.
Access external innovation	Develop complementary products/services or develop alternative business models or technologies. This can give access to new markets and customer segments.
Financial returns	Create a positive financial return.
Gain strategic insights	Startups are early indicators of disruptive technology. Corporations can gain strategic insights and access new technologies, markets and business opportunities.

### 3.5. Challenges

Collaboration is not only coming with benefits, but also with risks. In order to have a successful collaboration it is necessary to understand the challenges that might hinder the process. With that information the collaboration can be better prepared. Some risks should be recognized to mitigate collaboration being harmful to one side, especially to the startup which usually is the weaker partner. Fairness is the base of collaboration in that a good collaboration is about achieving common goals that not only benefit one side (Järrehult, 2011). Challenges in startup-corporation collaboration can be due to the different nature of startups and corporations. Jacobson & Ramslöv (2017) state that the size and mindset differences between both sides are the main cause of challenges in these collaborations. Past studies examining the challenges of startup-corporation

collaboration emphasize the two partners different sizes, by naming the phenomenon ‘Bees and Trees’ (Demos Helsinki, 2018), ‘Dancing with Gorillas’ (Prashantham & Birkinshaw, 2008), or ‘Emerging David and Greening Goliath’ (Hockerts & Wüstenhagen, 2010).

The main challenge for startups entering collaborations with corporations is the difference in pace (Jacobson & Ramslöv, 2017; Bannerjee et al., 2016). Startups are used to speed in both decisions and executions of plans, whereas corporations are unable to work in that way due to their size. Hierarchical structures ensure control and risk aversion but lead times for decisions and tasks increase. Prashantham & Birkinshaw (2008) mention that there is a risk that the startup gets slowed down by the corporations.

Another challenge is that the two parties have different mindsets. For instance, startups main priority is to quickly build proof of concepts, meanwhile the corporation employees’ priorities are broader than the particular project with the startup. Employees of corporations tend to avoid making risky decisions and fear failures that might affect their careers, the incentives for taking risks are usually quite low at corporations. Thus, it would be two different attitudes and driving forces. (Jacobson & Ramslöv, 2017)

Prashantham (2019) claims that startups often face difficulties to connect with the right departments or individuals in the corporation because of the size, structure and power disparities. Corporations can be difficult to understand, and it can be difficult to know who makes the decisions. Startups often find that coordination is lacking in startup-corporation collaborations (Bannerjee et al., 2016). Coordination is important to ensure trust and alignment of goals.

### **3.6. Managing Startup-Corporation Collaborations**

In order to attain successful collaboration, startups need to consider some critical actions to do when entering collaboration. Critical success factors for startups include having clear goals and expectations; commitment; salesmanship; understanding; network; trust; clear agreement; attitudes; realistic approach in planning; open for opportunities; and early involvement of stakeholders (Bannerjee, et al., 2016; Schättgen & Mur, 2017; Ashkenas, 2015; Yoon & Hughes, 2015).

Clear goals and clear expectations should be defined by startups from the early phase of collaboration to recognize the direction and priority within collaboration (Schättgen & Mur, 2017; Ashkenas, 2015). Schättgen & Mur (2017) propose to prioritize targets before entering a collaboration and to create a collaboration hypothesis. What resources are needed and what benefits can be expected? Ashkenas (2015) suggest mapping out the end-to-end work that will be needed in the collaboration. The map can be used both for bringing clarity to the collaboration and used in order to open up for discussion and dialogue. Schättgen & Mur (2017) further propose to

ensure independence and clear commitment early by having clear agreements and written contracts. Yoon & Hughes (2015) adds that startup-corporation collaborations will be successful if they go beyond financial deals, which means also being personal and mission-oriented. The mindset of pursuing something more than financial success will keep the project customer-oriented and commitment will be higher.

Bannerjee, et al. (2016) conclude their study on startup-corporation collaborations with tips for both startups and corporations. Ten tips for startups are presented; (1) focus on what can be done for the corporate, not what the corporate can do for the startup; (2) don't assume things, try to understand why and ask questions; (3) network, network, network; (4) build trust, don't promise too much and be honest about your stage of development; (5) be clear about who will own intellectual properties; (6) incremental innovation is an easier sell than radical innovation; (7) don't underestimate the time corporations need; (8) contact and collaborate with many; (9) don't collaborate with everyone, it is ok to say no; (10) know when to quit, all collaborations are not success stories.

### **3.7. Collaboration Interfaces**

It is believed that setting up a formalized interface makes collaborations more efficient and cost-effective for corporations (Kohler, 2016). Prashantham (2019) have researched partnerships between large corporations and startups and in a recent article at HBR Prashantham pushes the importance for corporations, regardless the kind of collaboration, to provide a viable interface. Two approaches for interfaces are described by Prashantham. The first one is the cohort approach which is a program that a handful of startups participate in that is specified in time, e.g. an accelerator. The second approach is the funnel which is a competitive setting with limited opportunities for startups to collaborate with the corporate, e.g. challenges that startups need to pitch for. The two interfaces both need screening of the startups to ensure a got fit with the corporation but in a cohort the participants usually stay through the whole process whereas the numbers drop in a funnel. The choice of interface should be aligned with the collaborators goals since cohorts are more experimental and can, through brainstorming, create new opportunities whereas funnels are more effective at creating tangible results. If the startup wants to explore new markets and develop new ideas a cohort is a good choice. If the startup sees strong alignments with themselves and the corporation and wants to scale-up a funnel can be more effective (Prashantham, 2019). Others are more specific when describing the different engagement methods and mention; Corporate Hackathon, Sharing Resources, Corporate Incubator, Corporate Accelerator, Corporate Venturing, and Mergers and Acquisitions (Kohler, 2016; Jacobson & Ramslöv, 2017, Mocker et al., 2015).

Examples of corporate interfaces in Sweden are Mobility Xlab, IKEA Bootcamp, Ericsson Garage, AstraZeneca BioVentureHub and Business Challenge. With this said, the vast majority of corporations do not have viable interfaces in place which makes contacting, connecting with the right person and getting a hold of the decision-makers difficult for startups (Jacobson & Ramslöv, 2017). Jacobson & Ramslöv (2017) found that more than three quarters of the interviewed corporations participating in the study did not even have a person responsible for startup collaborations.

### 3.8. Intermediate organizations and Collaborations

Increased corporate interest combined with low previous experience of startup collaborations creates a need for support. The company Ignite has since April 2017 been offering corporations and startups services that help with the screening and matchmaking process before initiating collaborations (IgniteSweden.org). Having a third party controlling the matchmaking and collaboration similar as Ignite does was studied in Finland in a project called Bees and Trees (Demos Helsinki, 2018). The result of the study was a template and recommendations targeted for both corporations and startups on how to execute successful collaborations with or without intermediate organizations. The Bees and Trees project identified the following intermediate functions as beneficial as shown in Table 4.

Table 4. Beneficial intermediate functions (Demos Helsinki, 2018, p.36)

Intermediation categories	Activities/ Functions
1.Connecting actors	<ul style="list-style-type: none"> <li>● Scanning potential startup partners for corporates and vice versa</li> <li>● Organizing events where companies meet</li> <li>● Facilitating the initial trust-building</li> </ul>
2.Facilitating collaboration	<ul style="list-style-type: none"> <li>● Articulating needs and requirements between the companies</li> <li>● Advice in creating shared rules and setting goals between and within companies</li> <li>● Help in finding the right people inside the companies</li> <li>● Supporting the partner which might be in a weaker position due to differing power balance (usually the startup)</li> </ul>
3.Providing services	<ul style="list-style-type: none"> <li>● Providing concrete toolkits for designing experiments and contracts regarding collaboration and IPR's</li> </ul>

	<ul style="list-style-type: none"><li>● Project management support by finding ways forward (recommending milestones and deadlines, pushing with meetings) and ensuring progress (not letting timelines slip)</li><li>● Organizing events where experiences and learnings are shared</li><li>● In principle, the activities of the intermediary may also include other value adding services for the project, such as organizing funding</li></ul>
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## 4. Empirical Findings

This chapter presents seven case studies. Each case study presents a startup's experience of an ongoing or previous startup-corporation collaboration. The startups operate in varied business sectors and the collaboration type differs between the cases. The summary of all cases can be found in [Appendix 2](#).

### 4.1. Case 1

SU1 is a startup established in 2017 producing shellfish in an environmentally friendly way. The production is owned and managed by SU1 based on their unique product, a feed for the shellfish. The startup stumbled upon CO1, a medium sized company eager to collaborate. The two parties now have an exclusive supplier-distributor relationship. The collaboration is actively continued.

#### *Drivers for collaboration*

The startup needed help with their distribution because selling the product themselves through the doors or by arranging transports was a lot of work. The reasons for SU1 to proceed with CO1 was that the product could keep its original brand name, a motivated collaborator and a preorder which enabled the startup to get finance for development. Moreover, SU1 collaborates to utilize the resources of CO1. Without a collaboration, the startup would have needed to package, distribute, sell and market the product themselves. The collaboration enabled the product to cost-effectively reach new customers over the whole country. This has made the startup able to focus more on the production and things are more organized now.

#### *Startup's perception on interchange during collaboration*

The startup was first contacted by a corporation who wanted to buy their product and sell it with their own brand name. No collaboration was made with that corporation because they were slow in decision making and they wanted to change the name of the product. The packaging for the corporation would then have been made by another company, which had not only packaging capabilities but also their own customers and distribution net. The other company, CO1, contacted the startup directly and suggested a collaboration without the corporation as a middleman. After some discussion CEO to CEO, a deal was made. A supplier agreement was in place a month after the initial contact.

Entering the collaboration, the CEO of SU1 expected a long and hard discussion but everything went smoothly, SU1 describes the company as an active partner who shared their values. The collaboration had good communications and SU1 was able to have an open dialogue about the product and its development. This was highly appreciated by SU1 who points out that startups need to work fast since time is money and that waiting for decisions can be expensive. Contrarily,

corporations do not have that stress, and not always understand the small company on that, according to SU1 perspective.

### ***Challenges in collaboration***

There were no significant challenges that SU1 particularly experienced. Everything went smoothly with CO1.

### ***Support in collaboration***

The contract was written with help from a lawyer at an incubator. A lawyer is the most important support for collaborations according to SU1. Networking, business development and help with locating financiers is also mentioned as valuable support.

### ***Startup's reflection on the collaboration***

SU1 describes their product as unique with high demand, as the product sells itself and that little marketing and networking efforts have been necessary to find opportunities. The CEO is well aware of the products value which has given the startup negotiation power. Below a certain amount everything is sold exclusively to CO1. However, in the future, if the production exceeds that amount, SU1 is free to sell their products to whomever they choose. When it comes to preparation the recommendation from SU1 is to make sure the other partner has similar values and goals as the startup since otherwise it would lead to time consuming discussions.

## **4.2. Case 2**

SU2 is an innovative tech company, established in early 2017, with a mission to improve safety for construction workers by creating a smart alert system. It develops a technology to detect risk factors and significantly improve emergency response time in high-risk work environments. SU2 collaborated with CO2 in two stages. The first collaboration was for product development, taking eight months from idea into a real product. The second collaboration was a commercial where the startup sell the product to the corporation.

### ***Drivers for collaboration***

SU2 needed a collaboration with a corporation, CO2, to support them in developing the product. SU2's main goal was to sell their final product to CO2, since having a customer would be a solid proof of concept and enable this startup to move forward with their business. As CO2 represented 40% of the market, SU2 found it motivating to collaborate. CO2 would be more efficient compared to collaborating with smaller companies since they got access to a larger number of people to test their product on. SU2 was also interested in CO2 as they shared value in technology and high-quality products. As SU2 delivered a solution to CO2's problem, SU2 aimed at having CO2 to promote them and become their reference point. CO2 helped SU2 with feedback while SU2

developed a product that would help CO2 to reduce their costs by creating a digital safety product which was more efficient than manual.

### ***Startup's perception on interchange during collaboration***

As an early stage startup, SU2 only had the idea for a technological solution suitable for the construction industry. SU2 contacted many companies with their idea. SU2 felt it was confusing to initiate contact, especially about whom to contact, which position in the corporation relevant to propose the idea to, and what they do because CO2's organizational structure was not publicly accessible. As it was impossible to reach the top management directly, SU2 started from the very front door of the corporation: the reception. Then they were directed to the safety managers and further the building's area. Through informal relationship, SU2 and CO2 discussed the future plans and costs informally for a product development collaboration. From here, SU2 started to focus on the construction industry only.

The product development was purely customer driven by designing features from customer needs, CO2 helped SU2 to define the problem, find solutions and the right resources to actualize the product. This led SU2 to work in an agile way through iterative processes: they created a product, listened to customer feedback and followed. The customer was flexible as there was no specific task deadline for the task, only target. The product demo failed several times but SU2 negotiated with the corporation that SU2 would cover development cost as long as CO2 would buy the successful product in the end. CO2 approved but only after having the price model. Thus, SU2 started to learn how to make a pricing standard so they would know how to charge. Having agreed upon this, both parties signed the agreement and that was how SU2 ensured their goal would be accomplished. Since SU2 tested the product in the middle of the construction work, it meant that the product testing should not interrupt the construction schedule.

SU2's CEO was the one responsible for the collaboration project and did most of the work alone. From looking for the necessary resources in the product development, e.g. hardware- and software developers, and doing demo and technical works. Since SU2 had limited resources, the CEO worked full time while other team members worked partially. Meanwhile the developers acted as supports in the meeting. Meetings were done every 1-2 months to deliver and report SU2's progress to CO2, which built trust between them. It was initially held in English, then changed to Swedish by customer request. SU2 communicated to one responsible person in CO2 and there was no assigned team from CO2 for this collaboration because SU2 was not directly working with CO2, but through one of the construction projects executed by CO2.

### ***Challenges in collaboration***

SU2 recognized different priorities during product development. SU2 wanted to get their product done, but CO2 focused on managing their construction project. The construction work schedule affected SU2's product development process and way of working. According to SU2, they were

affected because they underestimated the time needed. Additionally, both had different cultures where the construction project was executed manually, without thorough planning. If the workers were asked to do something, they would just do it without a specific planning method, and therefore CO2 expected SU2 to adjust. It was difficult for SU2 and CO2 to understand each other's work processes at times since there are some significant differences with developing technology solutions and doing construction work. SU2's CEO explained developing technology as building a structure, not just putting a brick. Technology takes time and should be well-planned and it does not work like magic. For instance, a smartphone might seem simple, but it needs a long process behind. Furthermore, SU2 also felt some resistance during the collaboration as some supervisors complained for not being involved from the beginning.

### ***Support in collaboration***

SU2 gained third party support from an incubator, for example, an agreement template which SU2 then simplified and modified to fit their needs. SU2 also got feedback from the coach in their incubator. However, SU2 lacked pricing information from the incubator. SU2's expectation for third-party support is technology related to the startup business, e.g. lab/workshop space. Then pricing model that is specific to their customers, such as a method. Another is access to human resources, as SU2 had a period where they could not afford to get more resources from consultant, especially in Sweden.

### ***Startup's reflection on the collaboration***

The collaboration with CO2 is still alive but with a new project. SU2 is satisfied with their collaboration with CO2 since they delivered a product successfully and satisfied their customers. SU2 believes that the feedback on the product, mostly the hardware, from the corporation helped them significantly to improve the product. SU2 is confident that their product is now well developed. No power difference was felt by the startup.

SU2 has experienced other collaboration methods, such as an open innovation event. SU2 found the event was useful for brainstorming ideas and building network, however SU2 felt it was not helpful for the startups aiming for product development. Instead, it was more beneficial for the corporation as they got the solution. SU2 found that having an engaged customer collaboration has been the best way for them to develop their product.

In collaboration, SU2 suggested startups to ensure corporations to pay whatever asked. Otherwise, it can harm startups if corporations are not paying. SU2 also learned that it was important to get all relevant stakeholders involved early. While in product development, SU2 believes that focus should be on the end-user and not the buyer, which can be difficult if collaboration is made closely with the buyer. SU2 also learned about the construction industry and its business, including the services, prices, buyers, supply chain, challenges, way of working, and culture.

### 4.3. Case 3

SU3 is a startup creating a drone platform for transporting aid, established in 2015. They use technology as a solution for medical delivery especially in remote areas. SU3 collaborated with CO3 through CO3's accelerator program.

#### *Drivers for collaboration*

CO3 was quite open in communicating their goals that they want to be associated with new and innovative technology as they felt slow in taking new technology thus the corporate accelerator program would support the innovation. This is sort of branding both internally and externally, meaning that CO3 put a mindset to their employees they were working with new and innovative technology, while simultaneously striving to expand their business and becoming a market leading in 5G technology, by showcasing it through drones. CO3 wanted to use SU3 as a way to showcase their 5G communication technology. SU3 found it fine because in return they got associated with strong brand of CO3 and access to resources in CO3's corporate accelerator program, which would be a give credibility for SU3 to build their brand. It was openly communicated from the beginning. SU3 also got 5G connectivity which was a driver since they could expand their system and provide more reliable systems.

#### *Startup's perception on interchange during collaboration*

CO3 was scoping for companies to bring into their corporate accelerator program and contacted SU3. The collaboration lasted for about half a year. SU3's CEO had to manage the collaboration and communication to CO3 by himself. SU3 had two contacts at CO3, one from the corporate accelerator program and one with the appropriate expertise. There was no specific target during the collaboration, only an agreement on what to prepare for the next meeting. SU3's CEO state that they had a bunch of meetings which didn't result in any concrete suggestions on how to proceed so they just didn't get anywhere. In total, they had 5-10 meetings. The meetings used to be every couple of weeks and initiated by SU3. There was no contract signed, only informal relationship. CO3 sometimes asked SU3 to attend CO3's exhibitions to showcase their technology with the drones in SU3's stand as CO3's partner to attract people.

The corporate accelerator program had several startups and CO3 wanted to see them either develop products or demo cases to showcase the 5G connectivity. The culture in the collaboration was very open. CO3 was supportive towards the startup by providing feedback, discussing SU3 business model and tried their best to find some common grounds during the accelerator program. CO3 showed their support for SU3 although no major project was initiated, and the collaboration ended naturally.

#### *Challenges in collaboration*

Dedicated time and effort were needed for SU3 to showcase CO3's 5G. SU3 found product development difficult since CO3 was not giving them grants to actualize this, only a 5G modem along with office space. SU3 thought that unclear definitions were also caused by themselves being hesitant to ask, trying to be polite. Moreover, CO3's representative in the meetings with SU3 was not the one taking decision. Thus, there were no certainty or decision for the startup. Inflexibility from CO3 in payment also hindered the collaboration. SU3 got paid, but due to long processes in the corporation it could take 90 days until SU3 received the money. Resources and commitment in SU3 were also the big challenges as the other members beside CEO were working part time or leaving the startup.

### ***Support in collaboration***

SU3 had already support from a startup incubator, e.g. office space, business coach, and lab for product development, which they appreciated and benefited from. Each startup in the incubator had one business coach dedicated to give feedback, opinions and suggestions. Legal support was also provided for making a contract. The incubator also helped in splitting the cost for consultations with legal advisors, but not in product development. Although SU3's incubator was not providing funding, they help startups to apply available funding opportunity based on their good network. Being in an incubator also enables SU3 to participate in various events, and even connect to consulting companies and get help with product development for free.

### ***Startup's reflection on the collaboration***

SU3 got credibility which was exactly what they expected from the collaboration. SU3 is now expecting to reach more customers and expand their market. SU3 were also able increasing the network and branding. SU3 got contacts of companies visiting their exhibition which open for future collaboration. SU3 believed the openness from this collaboration should be kept, meaning open minded and open about expectation in the collaboration, as well as the valuable experience. SU3 suggest startups to have clear definitions on their own expectations as well as have common grounds of understanding with corporations on available terms such as financially and intellectual property. SU3 believed startups should ensure on sharing things so that everyone would know who gets the right use and startups could take into consideration in developing product. Otherwise, startups' business could be severely affected. Although it was interesting for SU3 to be associated with CO3, SU3 was not sure which process they were involved. Thus, SU3 thinks as a startup they should have asked CO3 regarding their obligations and benefits, otherwise the collaboration might be unnecessary. SU3 suggested corporations to be clear of their offers to startups from the beginning.

The collaboration was not continued yet still open for opportunities. SU3 was not able to go further in the corporate accelerator program, but that was good since CO3 was not a priority for SU3 to be brought further since CO3 was not providing funding and they could not find common ground.

SU3 have had several collaborations, such as hackathon, product development, open innovation, also finding some investment. Different collaboration was done with different purposes. SU3 realizes that as a startup, it was not possible to survive the business by themselves as they have only limited human and financial resources. Thus, collaboration is necessary to support and grow their business.

#### **4.4. Case 4**

SU4 is a startup established in 2017 that develops AI technology for the finance industry. SU4 had a collaboration with CO4, a corporation providing consultancy for business development. They had collaboration through an open innovation event, Hackathon, which they organized together.

##### ***Drivers for collaboration***

A key reason for the collaboration for SU4 was the existing relationship of one of their founders with CO4. The plausibility of getting that collaboration would have been low without previously knowing each other since the founders and the technology was young, according to SU4. In this case there was mutual trust from the start. SU4's expectations for the collaboration were to learn about CO4's way of working and to see if there was any potential of selling their product to them. SU4 and CO4 created the Hackathon to get to know each other better before doing 'something real' later. The collaboration permitted SU4 to ask and learn about business insights that the corporation had more experience in. CO4 was interested in The Hackathon since it would be good marketing and they saw the opportunity to learn more about AI technology.

##### ***Startup's perception on interchange during collaboration***

The Hackathon was an idea from the startup after first getting a negative response to having a larger project together. When SU4 had just started, they reached out to their contacts to find people who worked at a corporation within the same field in hope to get a first customer and to test their new technology. The corporation did not end up becoming a customer but the two did have a small collaboration together. The collaboration resulted in an event, a Hackathon with 100 participants.

##### ***Challenges in collaboration***

SU4 described it was easy to get in contact with CO4 or some corporations but it was difficult to create something more together since there were a lot of factors that must align and the decision process was long. Regarding SU4's collaboration with CO4, approximately five months after the Hackathon, it was found that CO4 had a daughter company in another country having done similar things as SU4. It led to CO4's top management decided to close the opportunity of having future collaborations with SU4. The group of people at CO4, that SU4 had been working with, had not been aware of the daughter company and was as surprised as SU4. This meant that a lot of work and planning was wasted. SU4 mentioned that CO4 needed much more time to go forward. Things needed to be approved by someone who in their turn needed to ask someone so even easy things,

that was supposed to be done in a day, would take an extra week. SU4 pointed out that this was typical for corporations in the financial sector. It was not necessarily a bad thing since more people get to know about the collaboration resulting in less risks of something going wrong later in the process.

Having experienced collaborations with corporations and smaller companies before, SU4 felt that collaboration with corporations is more complicated. There were more people involved, more contracts, and more concerns about security. While contracts are equally important even with smaller companies but it would be two-three papers with smaller companies while it would be almost a book with corporations. SU4 also added that more people involved in the collaboration with corporations would mean that there were more people to convince. Therefore, SU4 found it would be crucial to understand how corporations think and their internal rules. Corporations can have people located in different countries which makes even more complicated. More work would be needed in collaborations with corporations as there are many more things happening within corporations, resulting SU4 to take more resources than they thought. Moreover, more resources and time were needed to adapt the product to the corporation as corporation was the one paying more.

### ***Support in collaboration***

SU4 was under a startup incubator where they were provided with office space and business coach. SU4 would appreciate education and workshops to help them learn the general rules in general rules, including more experience, tactics, sale- and social skills, which SU4 believed would be valuable in order to get collaborations.

### ***Startup's reflection on the collaboration***

This was one of SU4's first collaborations with a corporation and SU4 now sees a few things that they could have done differently since they were afraid to push hard. SU4 described themselves as being happy that someone was interested. The main thing SU4 wants to do differently in future collaborations would be to be more transparent and honest about what can be offered and what can be done as a startup, as well as to be dare asking many questions to the corporation. For example, How important is the collaboration for the corporation?; Are they in contact with competitors? What does the corporation really want? Can it be a collaboration? What are the terms? Without asking those questions, it will be difficult to understand the corporation which is essential. Besides understanding the corporation, it would be equally important to have social skills and care for stakeholders. However, collaborations have helped SU4 to have a coach to bounce ideas with and get personalized support, which is valuable in that sense, even when collaborations fails that SU4 thought it would be necessary.

## 4.5. Case 5

SU5 is a startup in the sport industry producing sensors for skiing, established 2017. SU5 collaborates with CO5, a Swedish national team in cross country sport skiing, for product development.

### *Drivers for collaboration*

SU5's needed this collaboration as an entrance to the market and to have an interested customer. SU5 expected CO5 to evaluate the product and give feedback, so that their product would be qualified for athletes in the national team. SU5 also aimed CO5 to sponsor the product development. In the end, SU5 wanted to use collaboration as a marketing tool, which was part of SU5's long term strategy that CO5, the national team, buy the product. CO5 could be a role model giving the product credibility and publicity by having the skiers holding and promoting the equipment/product as well as mentioning the product's name and SU5 when the skiers are interviewed. On the other hand, CO5 could get in return a product that meets their needs as they were involved in the development phase. CO5 could also collect athletes' data through this process.

### *Startup's perception on interchange during collaboration*

SU5 promoted themselves by sharing the information and motivation about their technology, then they got contacted by some interested people. One of the SU5 founders got connection with some people within CO5.

SU5 was still in early stage with both the idea and prototype. Their limited manpower made them unable to move forward with the business thus they went for the collaboration that lasted for half a year. They had some agreements, SU5 could mention CO5 as SU5's collaborator, yet they were not allowed to mention athletes or sell the product to direct competitors. The collaboration and its expectations for both parties were clear from the beginning since they had a contract. When there is money involved, contract exists to help sorting things before it becomes a problem for both parties. The contract stated about secrecy since CO5 did not want to let the competitors to use or know the technology, as well as stated the benefit and obligation for both parties in the collaboration. CO5 was actually fine without the contract but SU5 thought it would be highly relying on trust thus SU5 preferred to have it written. SU5 believed the contract could be used for marketing as other companies or countries would be aware this product and SU5 exist.

SU5's CEO was responsible to coordinate with CO5. In total there were 3 people representing SU5, but only 2 people showing at once for meetings. One person for the contact and another for the product development, but both provided technical support. Everyone is doing everything in the startup. SU5 felt CO5 was not very hierarchical and SU5 had certain CO5's contact person in the meeting, someone in charge of equipment from sport equipment department, but SU5 was not sure

about the position. The meeting was focused on the practical/technical of the product. For example, when SU5 come and test, the discussion would be what they cost, what they wanted to test and how SU5 did it. They did not communicate with the skiers directly, probably the coaches who were interested in the results and data generated. E-mailing and phone calls were used several times in a month. Sometimes it was just for keeping in touch.

### ***Challenges in collaboration***

SU5's goal was to create an accurate sensor and help skiers to improve, while CO5's was to get gold medals in world championships and have their athletes get as good training as possible, which SU5 felt they were not compatible. Long term goals were different but in the short term, SU5 wanted to please CO5 as their customer thus they helped CO5 pursuing CO5's goal. It affected SU5 prioritizing things, such as by rescheduling, that would please the partner CO5 more than what SU5 could, because SU5 needed CO5 and the product.

The collaboration process was not as expected since SU5 thought the process would be intensively in few weeks while in actual, they had only 1-2 days to test the product and technology which SU5 felt not substantial. Furthermore, SU5's product is customer-driven, following CO5's needs as their customer. CO5 might have competence to tell the startup their preferred specifications. However, sometimes they are unsure of their needs thus can not describe them. Moreover, the person handing the money did not necessarily have competence to tell, thus they just trust the producer as they paid the producer to do that for them. Therefore, SU5 should figure out what CO5 would need based on SU5's expertise and knowledge of the product. When it comes to intellectual property, SU5 was not sure if it could be patented as it was only a combination of existing technology, so when they tried to claim it, it was decided not able to be patented. However, SU5 owns the source code and CAD designs of the product.

### ***Support in collaboration***

SU5 was under startup incubator and gained legal support. SU5 perceived the incubator was not as helpful as they expected since they had different views of what was important. The coach had been more focused in business in general instead of the sport industry. While SU5, as they had relation with athletes, they knew what the athletes wanted in this industry.

### ***Startup's reflection on the collaboration***

SU5 thinks the collaboration has met the CO5's expectation but not SU5's. SU5 wanted to have CO5 as their actual customer and deliver something substantial instead of only showing their product's potential. But SU5 believes it is not over yet as it was informal. Collaboration has ended for this product development, but they keep a good relationship. The collaboration was inactive due to limited manpower. However, SU5 feels they can continue with product development by themselves. SU5 and CO5 want to continue the collaboration as CO5 seems satisfied with the product. Funding and credibility are the main benefits SU5 gained from this collaboration leading

to SU5 getting more opportunities to other collaboration and they got recommendation. Therefore, SU5 would definitely want to repeat the collaboration. But if collaboration is continued, it will be under different conditions due to external factors as SU5 might get the opportunity to get industrial partner. It means SU5 will work with real established companies manufacturing sport equipment, and probably have to adjust their business model to meet the expectations of this new potential partner's existing customers. These external factors influence SU5 to not making commitment to anyone until their options are clear.

SU5 did not feel power difference during collaboration as they were supplier-customer. SU5 finds it is important to have a writing beforehand, about the obligations and expectations for both parties during the collaboration, and also to ensure the real benefit from the collaboration. SU5 had the written agreement but only after the collaboration had started as they have done some tests, resulting in unclear outcome or implementation in the beginning. Startups should also be more ready technologically since the beginning. SU5 appreciates the funding during their collaboration, along with the happy customers and the input toward their products.

SU5 needs full time technician to sustain and improving the technical requirement to be qualified to EU market, which means need certification according to EU regulations. SU5 thinks this process needs to be a part of collaboration. Moreover, management, planning and communication inside the startup needs to be improved, according to SU5. For SU5, the product is ready enough if someone using it is satisfied and not taking extra time for testing the product.

## **4.6. Case 6**

SU6 develops hardware with a focus on personal security and provides a hardware product protecting valuables like phones from theft. The product is sold directly to customers and through a few distributors. One of the distributors, CO6, a large telecom company in Hong Kong collaborated with SU6 for approximately one year. The collaboration resulted in a marketing campaign where their two products were sold together in a bundle.

### ***Drivers for collaboration***

SU6 describes that 'being found' by a corporation was part of their strategy. They targeted Asian distributors specifically. The reason for this was 'not to become rich' stated SU6, the reason was to gain visibility, credibility, experience and business insights. SU6 entered the collaboration with no experience of collaborations with corporations and had therefore no clear expectations but to try and create as much mutual benefits as possible during the period.

### ***Startup's perception on interchange during collaboration***

The collaboration was initiated by CO6 after seeing SU6's viral clip showcasing their product. CO6 wanted to build a hype around their own product launch and saw value in including SU6. The

contact was made directly from the manager responsible for the upcoming marketing campaign in CO6. SU6's product was on the market and ready for mass production when the corporation reached out to SU6. SU6 describes themselves as young and being in an infancy stage at that moment. The product had been just an idea six months before the collaboration. SU6 points out that they had been mostly focused on product development prior to business development since the startup was born, just like other hardware startups.

### ***Challenges in collaboration***

SU6 was being more prone to give in for the corporation in negotiations because of their different sizes. They set the bar pretty low from start and the main goal was to get attention. They were happy for the opportunity and did not know the standard procedures or fair money-wise at the time. The power leverage of CO6 led to vague contracts that SU6 later had difficulties to enforce.

### ***Support in collaboration***

Third party support would definitely have helped according to SU6 as they did not have that during the collaboration. In particular, third party could help with contracts, pricing and also support on how to actually do things. The processes are not always easy.

### ***Startup's reflection on the collaboration***

SU6 found that the fact that CO6 gained much hype through the help of their product has indicated of their product success. SU6 would use that as a verification and proof that their product is wanted, and the product worked in their collaboration. This product success, SU6 believes, would open more doors in the future. The revenue level was not met as SU6 desired but overall SU6 satisfied with the collaboration. SU6 felt that learning from the collaboration was invaluable and bringing a lot of value to their company. It is especially valuable for SU6's long term strategy to have the corporation's trust and create results together.

SU6 mentions that startups should think and do some things before entering collaboration. Firstly, is to figure out expectation in the collaboration as a startup, as well as understanding the corporate needs and expectation, which would be helpful in negotiations. Furthermore, SU6 believes that contracts in place are super important along with written agreement on follow ups. Finally, SU6 suggested startups to not underestimate their negotiation power as a small company. Since startups would always be smaller than corporations, SU6 advised startups to focus on looking at the value startups can add to the corporate's business.

## **4.7. Case 7**

SU7 is a startup in the marine and shipping industry, established in 2015. SU7 develops gearboxes by collaborating with some small and big suppliers, it took approximately three years from the idea to be a ready-to-sell product. The product has been developed by two full time employees in

the startup with some freelancers. SU7 collaborates with CO7, an international leading manufacturer in the automation industry providing sensors, systems and solutions for modern automation. CO7 supplies SU7 with components and assisted with product certification for the marine industry.

### ***Drivers for collaboration***

SU7 had several motives when starting a collaboration with CO7. They wanted to develop a product to enter a new market and looked for a supplier for components. CO7 has been a big player in the land market and are interested in the marine industry, thus SU7 believed CO7 would be interested in investing in this new market. SU7 wanted to utilize CO7's resources, including the knowledge and technology, as well as increase their credibility. As a supplier, CO7 supplied parts for the startups product with invoice that can be postponed, which helped the startup financially. CO7 was also interesting for SU7 because of their product quality which focuses not only on function but also on the design, as well as having a good price range, according to SU7. It convinced SU7 that CO7 were proud and giving their best on their product.

SU7 and CO7 shared a goal to enter marine market, which appealing for CO7 to have SU7 as a new market opportunity coming to them without having to spend money to engage customers. Moreover, marine industry offered CO7 new customers differently from their competitors. Not only shared goal, SU7 also felt to have shared value with CO7 and their personalities worked together. For instance, is the innovative thinking as SU7 saw CO7 was still hungry as they wanted to expand their product and invent more sensors and weight. They also have the same vision and idea in branding and quality.

Cultures in CO7 made SU7 become more interested and stay loyal with CO7. CO7 encouraged its employees to be risk-taker and closer to the customer, pushed to work to increase the market. CO7 has been very proactive in solving problems with the product and open minded with the project offered, instead of facing it with skepticism. Additionally, SU7 saw the possibility of running this collaboration as an independent entity, not acquisitioned by CO7. Therefore, SU7 felt connected and would prefer CO7 instead of working with other suppliers.

### ***Startup's perception on interchange during collaboration***

In 2016, SU7 found CO7 online when searching for components and reached them directly at their office in Gothenburg to meet CO7's engineer and salesperson. From the first meeting, SU7 and CO7 agreed to collaborate. Function and design of the gearbox were already set thus CO7 contributed in parts of the control system. The collaboration ran without written contract stating SU7 had to keep buying from CO7 or CO7 would postpone the invoice, as SU7 thought they have trusted each other.

The CEO of SU7 was the person in charge in the collaboration. Meanwhile, CO7 was represented by three persons who are salesperson from product side, engineer and support who takes care of function and technical matters including software development, and someone for IoT. Salesperson is the key account manager, who got contact with others and support from the relevant position in the corporation. Once a month, email was utilized for communication, such as certification process and other progress, ordering parts, etc. Face-to-face meeting was also conducted with flexible arrangements, when necessary, either at CO7's or SU7's office. SU7 perceived CO7's salesperson treated them just like any customers, not specifically as startups. SU7 did not feel much difference with CO7 and they are supportive to each other. Furthermore, SU7 feels they were not influenced by CO7 since they had defined their identity prior to collaboration, such as how they should be seen, and how they should act. When there is a difference, for example product colors which CO7 has orange while SU7 has green, negotiation can be done with some humor, for instance by joking about each other's product color. In the end, they agreed to use both of their colors on their product and were satisfied with the result as they found the product looked outstanding when they presented it in the convention. SU7 was not sure how to measure how far they have penetrated the marine market, but they measured it through how many contacts of companies they have reached, and they assume 10%.

### ***Challenges in collaboration***

The only challenge SU7 felt is that the certification process took extra time because CO7 did not understand how certification works, which SU7 believed they should have more focused on this area. When it comes to product development, it couldn't be customer-driven approach as SU7 recognized that customers in the marine industry did not know what they needed. Thus, they leveraged their knowledge and experience to create the necessary product and offered to the customers as a fixed product. Regarding collaboration, SU7 felt more challenges from another big supplier SU7 was also working with, simultaneously with CO7. This another big supplier was the opposite of CO7 such as being pessimistic toward startups and not risk-taking. While in CO7, the salesperson acts as an owner and not only as a normal employee, they fight for the startups, see opportunities and take risks.

### ***Support in collaboration***

SU7 had some financial support from the government agencies and legal support from a third party. They also had a mentorship but it was discontinued after few meetings as both parties agreed SU7 had been ahead with their experience in the shipping industry, as well as being fast and flexible as a startup. SU7 wishes to meet mentor with business advice and relevant technical background to meet their needs. SU7 believes that the right person for the right position is important, especially the corporate representative working directly with startups/customers. Moreover, SU7 thought it would be a great support if they could have more resources, the right people in the company, to scale up and actualize their ideas.

### ***Startup's reflection on the collaboration***

Before starting the collaboration, SU7 believes startup should have a clear goal, which theirs was to be an independent player in marine industry. SU7 has built their culture strongly to show how they would look and act, to be outstanding as an individual entity in the collaboration, not under corporation. SU7 also thinks it is necessary to know each other's aim and ensure corporate's aim is nothing harmful for startups, e.g. taking them over. The collaboration has gone beyond SU7's expectation, which was to have sensors. SU7 has learned a lot on how business should be done, for instance how customer would buy their products.

## 5. Analysis

In this chapter, the results are presented by analyzing findings from the literature review and the empirical study. The analysis is focused on three main areas based on the research questions. The first part answers the first question about collaboration drivers for startups while the second part explains the collaboration challenges based on startups perception in interchange during collaboration with corporations. Lastly, suggestions and necessary supports are presented for other startups and intermediary organizations to have people in the startups be more prepared when entering collaborations.

### 5.1. Drivers for Startups to Engage in Collaborations

This part analyses the first research question “What drivers have there been for the startups to engage in collaborations?”. As mentioned in the theoretical framework, four main drivers for startups have been identified and they are business development, access to resources, credibility and visibility, and scale up. When they were compared with the empirical findings, it was found that the startups interviewed have drivers that aligned to the theory. However, beyond those four drivers, there are additional drivers which become a new finding in this study. The difference of the four drivers and the additional drivers is that the four drivers are coming from the internal motives of the startups to grow which can always be drivers for collaboration with any corporations. However, the additional drivers stem from the characteristics of certain corporations that attract startups and make startups want to have a collaboration with these, not others. These characteristics include value, size, culture and management commitment and interest. The list of drivers are shown in Table 5 while the more detailed one can be found in the [Appendix 3](#).

*Table 5. Analysis of collaboration drivers for startups*

DRIVERS FOR STARTUPS	SU1	SU2	SU3	SU4	SU5	SU6	SU7
<b>1. Business development</b>		X	X	X	X	X	X
<b>2. Access to resources</b>	X	X	X	X	X	X	X
<b>3. Credibility and visibility</b>		X	X	X	X	X	X
<b>4. Scale-up</b>	X	X	X		X	X	
<b>Additional drivers</b>							
Mutual trust (personal network)				X	X		
Corporation size		X		X		X	
Engaged partner (supportive, active, committed)	X		X	X			X

Shared and clear goals; Strong incentives/ mutual benefits	X	X		X		X	X
Shared values	X	X		X			X
Can still operate independently	X						X
Get more experience/ learn			X	X		X	

The first driver, business development, was shown by most startups in this study. The startups used to have only an idea or prototype of the product with little knowledge of running a real business. Through collaboration, they expect corporations would help them develop and test their product, as well as giving them feedback. The feedback is important because in most cases, the corporations were the customer and/or user of the product. Not only on the product, one of the case studies show that a corporation could also give feedback to a startup regarding managing the business. The second driver, access to resources, was admitted by all startups interviewed. They saw an opportunity from corporation to enter a new market and expand their network. The third driver, credibility and visibility, was explained by some startups as one which came from working with a corporation and thus got them publicity. Being associated with the strong brand of the corporation has helped startups to increase their credibility and build their branding, as well as opportunities to develop strategic partnerships in the future. While the fourth driver, scale-up, which some startups believed that collaboration could help them grow by having a corporation sell and distribute their product.

As equally important to those drivers, the final decision for startups to actually jump into collaboration might be based on the additional drivers. Startups want the right partner who are interested and committed to the collaboration to succeed with their business. For instance, a corporation that allows startups to be independent and not ‘eaten’ by the corporation. Overall, the startups were motivated because they believed that collaboration was a way to learn and get more experience, business- and technical-wise. Moreover, it might be also more interesting for startups to collaborate with corporations that have had experience in collaborating with other startups instead of forcing a collaboration with inexperienced corporation, since experienced corporations might have understood what the startups want from the beginning.

## 5.2. Startups Perception of Interchange during Collaboration with Corporations

According to previous research (Jacobson & Ramslöv, 2017; Demos Helsinki, 2018; Prashantam, 2019), there are some challenges in collaborations that can come either from startup, corporation, or within their interaction. The challenges include trust, speed, coordination, culture, contracts and

negotiation, initiation, alignment of goals and lack of access to resources. From the empirical study, it was found that some startups faced many of the challenges while some other startups have less challenges during their collaboration, as shown in Table 6. Detail of challenges for startups during collaboration can be found in [Appendix 4](#).

*Table 6. Analysis of challenges during collaboration*

<b>CHALLENGES</b>	<b>SU1</b>	<b>SU2</b>	<b>SU3</b>	<b>SU4</b>	<b>SU5</b>	<b>SU6</b>	<b>SU7</b>
<b>Trust</b>			X	X	X	X	
<b>Speed</b>			X	X			
<b>Coordination</b>			X	X	X		
<b>Culture</b>		X		X			X
<b>Contracts and negotiation</b>		X		X		X	X
<b>Initiation</b>		X					
<b>Alignments of goals</b>		X	X		X		X
<b>Lack of access to resources</b>		X	X	X	X		X

Table 6 shows that trust was an issue for some startups, which resulted from the poor communication during the collaboration process that led to uncertainty of the collaboration direction. However, although trust might be a problem, but trust was also the driver and sometimes the reason for collaboration to run informally without written contract. It might be because trust has embedded strongly in Swedish culture resulting that oral agreement becomes sufficient in many occasions. Furthermore, speed was a challenge due to the difference in hierarchy and flexibility between startups and corporations. Corporation is more bureaucratic and inflexible compared to startup. For instance, corporations tend to take longer time for decision making or when pay the invoice for the startups. The problems in coordination the startups found were usually due to unclear goals and not connected to the right person. It can be from the startups, corporations or even the collaboration themselves that set no concrete goals from the start. While the right person here means that startups sometimes meet a corporate representative who is not cooperative or not able to make decision immediately during the meeting, which make the process go slowly.

When it comes to contract and negotiation, it is often only when money was involved then a contract would be made. This is a risk since a startup often needs to wait long before that happens. During negotiation, startups learn the corporations' expectations, willingness and commitment which is not ensured until a contract is made. A lot of valuable time might be wasted if the startup waits too long with this and if it later turns out that the corporation is not the right partner.

Regarding challenge in initiation, the problem is often hard to reach the corporation. Although only one startup reported having issues contacting partner, it should be considered to weigh higher. Others mentioned the similar issues yet not in their present collaboration. Meanwhile, the alignment of goals is related to cultural challenge which is reflected on the different ways of working between both sides. Both might have different priorities and therefore they might have different level of commitment. Lastly, although startups were expecting to get resources from the collaboration with corporations, it turns out that startups also need to have certain amount of resources inside them to survive the collaboration. The lack of access to resources often hinder startups to sustain collaborations.

From the empirical study, it was found that the reasons why some startups are prone to encounter more challenges than others can vary. For example, different type of collaboration, the stage of the startup when entering collaboration, the level of knowledge and experience of people in the startup, the complexity of the corporation, as well as the amount of collaboration experiences from both sides, and many more. It is also possible that a startup in this study might tell a story of their collaboration with most challenges while another startup told a story of collaboration which they found no significant challenge. Furthermore, the number of challenges does not necessarily imply to the level of success of the collaboration. Regarding collaboration success, this study finds it difficult to define. Some startups admitted that their collaboration did not meet their expectations, for instance that the corporation in the end not being their customer, or the collaboration could not go to the further level. However, those who admitted still found it was satisfying and probably would do it again under certain circumstances, because they thought they obtained benefits out of this collaboration even though not their main goal. It seems that in the interchange during collaboration, the startups perceive that collaboration is about learning and getting more experience which will always be beneficial as long as startups could manage the challenge and avoid potential risks that could be harmful for the startups.

### **5.3. Suggestions and Supports for Startups to be Better Prepared in Collaborations**

According to the analysis on the previous questions above, it is found that collaboration offers benefits while at the same time having challenges that if they fail to be managed, it can risk the startups. Thus, some suggestions are presented so that startups could be more prepared in collaborations, along with potential supports that can be provided by intermediary organizations, such as incubator- or accelerator programs. Detail of suggestions and necessary supports can be found in [Appendix 5](#). The suggestions come from the startups for other startups and for themselves of what they would have done differently should the collaboration repeated. As theory presented stages in collaboration, these suggestions are classified based on each stage to ease startups in the implementation. These collaboration stages are initiating, establishing, progressing and sustaining.

In the initiating phase, startups should know what to expect in the collaboration otherwise it would be meaningless and the direction is unclear. Moreover, although startups are still young, it is recommended to have their identity and/or culture defined so that startups can be seen equally independent to the corporation. Startups should also be proactive by studying the corporation in advance, especially their way of working so that startups would not be surprised in the middle and can plan the collaboration more wisely. When looking for a collaborator, the one with shared goals and values could be preferred as it would be easier for startups to align in the process. Furthermore, the startups encourage other startups to be more ready technologically before jumping into collaboration, and to increase their experience in collaborations.

In the establishing phase, involving all stakeholders from the beginning is important to avoid resistance from them in the process. Startups should also be able to connect to persons with decision making capabilities. Furthermore, having mutual understanding about each other's expectations in the collaboration is crucial, as well as having an open communication and being open minded. Startups should not be hesitated when expressing their expectation or opinion in the collaboration, otherwise they might lose collaboration's benefits.

In the progressing phase, clear agreement and written contract are essential, otherwise startups might be put at risk. For example, startups should ensure the corporation to pay what is being asked. It should also be clear all the available terms, including intellectual property, benefits, goals, etc. As startups are the one coming with the solution for innovation in the collaboration, it is recommended that startups should be customer-driven in developing product. However, in some occasions it might be challenging since what customer wants is not always obvious. Furthermore, startups should be flexible and be prepared to compromise in the collaboration, not underestimate the time and process, dare to negotiate, be transparent and ask questions.

In the sustaining phase, startups can build trust by delivering and reporting the progress, look for value startups can add to corporate business, and improve their management, planning and communication process internally.

When it comes to intermediary organization, many startups believe some supports would be significantly helpful for their collaboration. They wish to have guidelines and support for collaboration that are relevant to their business area and technical expertise, including pricing method, coach or business advisor with technical understanding, legal support, office space, network/contact and lab/workshops for testing products. Education such as training and workshops are also expected to learn the general rules in collaboration. Some supports might already be possessed by some startups, however the whole package of those supports would be preferred.

## 6. Discussion

This study's findings have shown detailed perspective of startups toward their experiences in different types of collaborations with corporations. It encompasses their motivations and challenges, together with their suggestions to make startups become better prepared in the future.

It was found that collaboration drivers for startups are not only the opportunity for business growth, but startups also have some considerations to help them determine whether they want to collaborate with particular corporations, such as corporate attitudes toward startups. Moreover, different startups in different stages would have different drivers for different types of collaboration. While many startups use collaboration to assist their product development, some startups also believe that an idea is not sufficient and corporations would only want to collaborate when the product has a customer and a market which means that the product works. Startups also have several challenges not only in the interaction during collaboration, but also in product development. Based on the findings, startups proposed some suggestions and expected supports they are expecting from intermediary organizations for better collaboration. These findings are important because it is not only contributing to successful collaboration in general to generate innovation but also helping startups to gain optimal benefits out of the collaboration as well as avoid harmful outcomes.

The study's findings are found to be relevant and aligned with the results of the previous studies and experiments about collaborations (Demos Helsinki, 2018; Jacobson & Ramslöv, 2017). For example, previous studies claim that collaboration could benefit startups as they could borrow resources from the corporations. It is confirmed empirically as they leveraged those resources, not only people and finance, but also knowledge and expertise. However, at the same time, startups also have to allocate their internal resources for the collaboration, and often struggle with the resources during the process of collaboration. It is paradoxical when collaboration is seen as a way to give startups more resources while startups should have sufficient amount of their own resources as well to ensure the collaboration to work well. It is, of course, can be a different situation in different types of collaboration.

Regarding the drivers, there is no specific rank of which drivers are more crucial than others, thus for the future research, it could apply better method by asking startups to rank the order of importance among the existing drivers to engage in collaborations. Furthermore, regarding the challenge, trust is often mentioned as crucial in collaboration, as well as having written contract in the beginning of collaboration. Yet trust does not seem as a big challenge in Sweden as it might have been taken for granted as part of the culture. Some collaborations were initiated as informal relationship or agreement, and sometimes without written contract, which going out to be fine. However, contract is still necessary as for many, it is a problem with the work scope startups must

do and rights startups have. The startups learn that it is crucial to ensure to get paid or benefit for every work done, otherwise the startups might lose the benefit from collaboration or worse, losing resources during collaboration. When it comes to initiating contact, some collaborations were initiated by startups while some others by corporations. While hard to reach the corporation is one of the challenges, some startups were able to initiate by using public information, such as corporation contact number on the internet. Moreover, relationships, network/connection through experience of the persons in startups are important to get contact and ease the process to initiate the collaboration.

There are seven startups participating in this study where some of them are under incubator programs, while some others not. Their business stage, sector, expertise, personal experience and knowledge also vary widely which presented in case studies. Each case is unique and possible to have hidden factors affecting their collaboration, thus results are meant to be specific and not a generalization toward all collaborations. Limitations in the knowledge and expertise of the authors might hinder the comprehensive analysis of technical discussions with startups interviewed, which ranges in sectors. The data and results emphasized more in the management and interaction process of the collaboration. Hereafter, different kinds of collaborations and/or the number of collaborations the startups have had in the past might have affected how they perceive corporations and more importantly themselves, thus this factor should be considered as well.

This study proposed the suggestion and necessary support for startups to be better prepared in entering collaboration, yet it does not necessarily claim any parameters for successful collaboration. It is difficult to state what successful collaboration is as some of the collaborations are not continued but both parties were satisfied, or otherwise. Additionally, some startups interviewed were not sure when asked about their beneficial activities for them which might imply that they are humble or just uncertain about their expectations and leading to unclear goals in collaboration.

## 7. Conclusion

This study shows startups in different business stages experiencing different kinds of collaborations. Several drivers were located in this study. The study did not show a dominant driver but instead located several that should be considered to weigh equally until further research is made. The study showed that startups have multiple reasons to collaborate, the located drivers were Business development, Access to resources, Credibility and visibility, and Scale-up. This study also showed strong indications that personal connection and commitment from corporations are important drivers for startups, something that previous studies does not mention.

Eight challenges were located and four of them, which were Trust, Contracting and negotiation, Alignments of Goals and Lack of resources, were mentioned by a majority of the interviewed startups. Even though challenges were mentioned, most of them were manageable for the startup and the overall perception of collaborations was positive, even in the cases where the goals of the collaboration were not fulfilled or when the collaboration was not brought further.

The startups themselves had many recommendations for other startups and examples of things they would do differently in future collaborations. Most of them stressed the importance of obtaining shared goals and having clear expectations. The recommendations were constructive and practical, e.g. dare to ask questions, dare to negotiate, find decision makers, prepare before, know why and how you want to collaborate. The startups did not express a large need for immediate support, instead they pushed the importance of having personal practical experience of collaborations. With this said, a majority of the interviewed startups was part of incubator programs and did mention using and benefiting from existing immediate support. All startups found the incubator programs beneficial and helpful in their collaborations.

The findings can help startups and intermediate organizations to understand how startup-corporation collaborations work and how to set-up own frameworks for collaborations. As mentioned throughout this report, startups carry the innovations of tomorrow, it is therefore important to research and give startups the best prerequisites and find solutions that promotes their operations. More future research that examines benefits for startups in collaborations and how to maximize them are needed. Three questions on this subject suitable for future research have been identified: “Which collaboration method is preferred by startups?”, “Is there extra value for startups in corporate incubators compared to non-corporate incubators?” And last but not least, “How to promote collaboration between startups and SME’s?”

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# Appendix

## Appendix 1. Interview Questions

Introduction: Please describe your startup, the collaboration and the corporation you collaborated with.

### *Part one: WHAT and WHY*

1. What kind of collaboration have you had with the established company?
2. How did you get in contact with the established company?
3. Who initiated the collaboration? Why?
4. Why did you choose to collaborate? Why that company?
5. What were your expectations for the collaboration?
6. Describe your startup. How evolved was your business model before the collaboration?
7. Describe the established company you've collaborated with. Do you have a sense that you share values? PROBE
8. How long did the collaboration last? If it is still ongoing, how long have you collaborated now?
9. What were your goals with the collaboration? How were the goals communicated to the established company?
10. Do you share a similar objective in the collaborations? If yes, what was it? If not, how did you manage the difference in interest?

### *Part two: HOW and WHY*

11. How did you manage your collaboration project? PROBE
12. Who within your organization was responsible for the collaboration?
13. What people from both the firm and the startup were participating in the collaboration? What roles did each have?
14. Explain the daily work of the collaboration?
  - a. Work methods?
  - b. Communication?
  - c. Meetings?
15. How did you assure that the work made progress?
16. Were in the organizational "tree" did the collaboration take place?
17. Could you explain the culture within the collaboration?
18. Did you have a project manager from the established company controlling the collaboration?
19. Did you write a contract of some kind? Why/Why not?
20. Did you have any third party support for the collaboration? If yes, how did they support you? If not, would you want to have it?
21. What kind of resources was necessary? How did you prepare? PROBE

22. Was there a difference in power between you and the established company? If yes, How were you affected?
23. Have you collaborated with other established companies before? Was something different between the collaborations?

***Part three: REFLECTION***

24. Did the collaboration meet your expectations?
25. What went well (for the collaboration and for you)? Why?
26. Did the collaboration face resistance?
  - a. From who?
  - b. What was the outcome?
  - c. Could it be avoided?
27. What was difficult (for the collaboration and for YOU)? Why?
28. Do you want to collaborate again? What will you do differently? What do you want to keep?
29. Did you learn anything?
30. What do you think is important to do and think about before you start a collaboration? PROBE
31. What kind of third party support would you benefit from? How can organizations like Innovatum help you?

## Appendix 2. Summary of Case Studies

Regarding collaboration initiation, some startups initiate the contact, while others are contacted by the corporation either from their personal network or incubators. Most of the collaborations were run as informal relationship and started with oral agreement then followed by written contract. Some of them continued without contract at all while some others have written agreement in the middle of collaboration. Four of the startups had a written agreement for their collaborations.

*Table 7. Summary of findings from Case Studies*

<b>FINDINGS</b>	<b>SU1</b>	<b>SU2</b>	<b>SU3</b>	<b>SU4</b>	<b>SU5</b>	<b>SU6</b>	<b>SU7</b>
<b>Collaboration initiation</b>							
Corporation contacted startup	X		X			X	
Startup contacted corporation		X		X			X
Mutual, based on personal network					X		
Corporation had collaboration interface			X				
<b>Type of collaboration</b>							
Product development		X	X	X	X		X
Corporation as customer		X			X		
Corporation as supplier							X
Corporation as distributor	X					X	
<b>Contract</b>							
Written contract	X	X			X	X	
Oral agreement (informal)			X	X			X
<b>Third party support during collaboration</b>							
Under incubation program	X	X	X	X	X		
Business coach/mentor	X	X	X	X	X		X
Lab/workshops			X				
Office space	X	X	X	X	X		
Legal	X	X	X		X		X

Finance	X						X
<b>End of Collaboration</b>							
Still ongoing	X					X	X
Closed/ Uncertain			X	X	X		
Will continue with different project		X					

## Appendix 3. Collaboration Drivers for Startups

Table 8. Detailed analysis of collaboration drivers for startups

DRIVERS	SU1	SU2	SU3	SU4	SU5	SU6	SU7
<b>Business development</b>		X	X	X	X	X	X
Develop and test product		X		X	X		X
Gain feedback (product, business)		X	X	X	X		
<b>Access to resources</b>	X	X	X	X	X	X	X
Access/entrance to new market	X	X			X	X	X
Expand network			X		X		
<b>Credibility and visibility</b>		X	X	X	X	X	X
Gain/use credibility and/or branding		X	X	X	X	X	X
Develop strategic partnerships				X	X		
<b>Scale up</b>	X	X	X		X	X	
Growth/ scale up	X		X			X	
Sell and distribute product	X	X	X		X	X	
<b>Additional drivers</b>							
Mutual trust (personal network)				X	X		
Corporation size		X		X		X	
Engaged partner (supportive, active, committed)	X		X	X			X
Shared and clear goals; Strong incentives/ mutual benefits	X	X		X		X	X
Shared values	X	X		X			X
Can still operate independently	X						X
Get more experience/ learn			X	X		X	

## Appendix 4. Collaboration Challenges from Startups Perception

Table 9. Detailed analysis of collaboration challenges from startups perception

CHALLENGES	SU1	SU2	SU3	SU4	SU5	SU6	SU7
<b>Trust</b>			X	X	X	X	
Power leverage				X		X	
Unclear communication/ process (uncertainty)			X	X	X		
<b>Speed</b>			X	X			
Slow process/ bureaucratic/ inflexibility			X	X			
<b>Coordination</b>			X	X	X		
Unclear goals, expectations			X		X		
Not connected to the right person			X	X			
<b>Culture</b>		X		X			X
Different way of working/ working methods		X		X			
Different culture/ identity							X
<b>Contracts and negotiation</b>		X		X		X	X
Lack of knowledge and experience		X		X		X	X
Lack of third party support						X	X
Vague contract						X	
<b>Initiation</b>		X					
Difficulty in reaching corporation		X					
<b>Alignments of goals</b>		X	X		X		X
Different priorities		X	X		X		
Unclear customer needs					X		X
Low incentives for the startup			X				
Insecurity leading to a hesitant/passive approach			X	X		X	
Not sharing values			X		X		

Lack of commitment			X	X			
<b>Lack of access to resources</b>		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>
Limited resources		X	X	X	X		X

## Appendix 5. Suggestions and Supports

Table 10. Startups own recommendations to startups and necessary supports for collaborations

STARTUPS OWN RECOMMENDATIONS TO STARTUPS	SU1	SU2	SU3	SU4	SU5	SU6	SU7
<b>Initiating</b>							
Have clear expectations from the start			X	X	X	X	X
Define identity/ culture in startup							X
Study the corporation in advance (their way of working, rules, etc)				X		X	
Have shared goals and values	X						
Get more experiences in collaboration				X			
Be more ready technologically							X
<b>Establishing</b>							
Involve all stakeholders from the beginning		X					
Connect to persons with decision making capabilities	X		X	X			
Have mutual understanding of the collaboration (e.g. each other's expectations)	X		X	X		X	X
Have an open communication, open minded (clearly state expectation) and not hesitant	X		X	X		X	X
<b>Progressing</b>							
Clear agreement/ definition/ (written) contract (e.g. ensure the corporation to pay what they ask, available terms, intellectual property, benefits, offer, goal)		X	X		X	X	X
Be customer-driven in developing product (user is not always buyer)		X					
Be flexible		X					
Be prepared to compromise							X
Do not underestimate the time/process		X		X			X
Dare to negotiate, be transparent and ask	X			X		X	X

questions							
<b>Sustaining</b>							
Build trust by delivering and reporting the progress		X		X		X	
Look for value you can add to corporate business				X		X	
Better management, planning and communication within startup					X		
<b>SUPPORT FUNCTIONS WANTED</b>							
Have knowledge and experience in the technical area;					X		X
Education/ training and workshop to learn the general rules in collaboration				X			
Have more guidelines and support for collaborations		X				X	
Lab/workshops		X					
Pricing method		X				X	
Legal	X					X	
Coach/mentor (e.g. business and technical advice)				X		X	
Access to networks	X					X	