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Reasons and methods for corporations to systematically engage with startups

Master's Thesis

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The collaboration between startups and corporations could be mutually beneficial, but due to their fundamentally different characteristics, this relationship may be challenging. Research has examined different collaboration methods but has left us without a clear answer for how startup engagement evolves and is optimally organized. Managers demand a better understanding of the best practices of engagement activity. This study aims to shed light on both the process of systematic startup engagement and the organization's journey towards it.

Building on the prior literature of startup engagement, this study addresses why and with which motives a corporation ends up systematically engaging with startups, with what methods, and how it incorporates this systematic collaboration into its existing operations. Based on a literature review and theories of startup engagement, and more generally, the paradigm of open innovation, semi-structured interviews were conducted resting on the inductive qualitative research methodology.

In total, ten large Finnish companies from the basic and technology-driven industry were interviewed. Analysis of the responses indicates that startup engagement is an efficient and increasingly popular method to explore avenues for future growth and renewal. Even though some differences were identified, the similarities between the two inspected organizational fields were significant. The engagement goal of '*enhancing current and generating new business*' was visible in each company. Of the three found content priorities, the engagement results most often related to the area of '*new technologies and services*'.

The five suggested dimensions of the transition from informal collaboration towards systematic engagement operations, and the concept for systematic startup engagement, represent the most significant theoretical contributions of the study. Both experienced collaborators and companies at the beginning of their startup engagement journey can benefit from the findings. Clear *goals* and *content priorities* are a necessity for prosperous systematic startup collaboration. The generated *value for startups* materializes during the engagement, and can best be improved through feedback from both business representatives and startups.

The four found *pre-requisites for systematic startup engagement* that each corporation should address are internal commitment to open corporate culture, continuous internal dialogue, defined ownership for each case, and predefining the budget and other resources. The success of engagement depends on the level of systematicity, ability to prioritization when necessary, buffering startups form bureaucracy, and continually improving internal commitment – representing four critical success factors for the engagement.

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Yhteistyö suur- ja kasvuyritysten välillä voi olla molempia hyödyttävää, mutta johtuen näiden tahojen hyvin perustavanlaatuisista eroavaisuuksista, yhteistyösuhde voi olla hyvin haastava. Aiempi tutkimus on käsitellyt yhteistyön malleja, mutta jättänyt systemaattisen kasvuyritysyhteistyön kehittymisen ja organisoinnin vähälle huomiolle. Johtajat tarvitsevat parempaa käsitystä yhteistyön parhaista käytänteistä. Tämän tutkimuksen tarkoitus on kasvattaa ymmärrystä systemaattisen yhteistyön prosessista ja organisaation matkasta kohti sitä.

Aikaisempaan kirjallisuutta täydentäen, tämä tutkimus käsittelee sitä, miksi ja millä motiivein suuryritys päätyy systemaattiseen yhteistyöhön kasvuyrityksen kanssa, millä metodein, ja miten yritys sisällyttää tämän toiminnan osaksi sen päivittäisiä operaatioita. Puolistrukturoidut kysymyshaastattelut toteutettiin noudattaen induktiivista laadullista metodologiaa. Pohjan tutkimukselle luo kasvuyritysyhteistyöhön ja laajemmin avoimen innovoinnin paradigmaan liittyvä kirjallisuuskatsaus.

Tutkimukseen osallistui kymmenen suurta suomalaista yritystä perusteollisuudesta ja teknologiavetoiselta toimialalta. Tulokset osoittavat, että kasvuyritysyhteistyö on tehokas ja jatkuvasti yleistyvä tapa selvittää ja realisoida kasvu- ja uudistumisalueita. Löydetyistä eroavaisuuksista huolimatta samankaltaisuudet kahden tutkitun toimialan välillä olivat huomattavia. Yhteistyön tavoite nykyisen liiketoiminnan kehittämisestä ja uuden luomisesta oli nähtävillä jokaisessa haastatellussa yrityksessä. Kolmesta löydetystä sisällöllisestä painopistealueesta yhteistyö useimmiten liittyi uuteen teknologiaan ja palveluihin.

Tutkimuksella oli kaksi pääasiallista teoreettista merkitystä: esitetty konsepti systemaattiselle kasvuyritysyhteistyölle sekä viisi löydettyä ulottuvuutta, jotka määrittelevät toiminnan systemaattisuuden. Sekä kokeneet yritykset että vasta kasvuyritysyhteistyötä aloittavat voivat hyötyä löydöksistä. Selkeät tavoitteet ja yhteistyön sisällön painopistealueet ovat edellytys onnistuneelle kasvuyritysyhteistyölle. Luotu arvo kasvuyrityksille konkretisoituu yhteistyön aikana, ja sitä voi parhaiten kehittää kysymällä palautetta liiketoiminnan edustajilta ja kasvuyrityksiltä itseltään.

Neljä löydettyä systemaattisen kasvuyritysyhteistyön ennakkoedellytystä, joita jokaisen yrityksen tulisi tarkastella, ovat sisäinen sitoutuminen, jatkuva sisäinen dialogi, määritelty omistajuus yksittäisistä yhteistyöhankkeista sekä ennalta määritellyt resurssit. Yhteistyön menestyksen ratkaisee lopulta systemaattisuuden taso, kyky yhteistyön priorisointiin tarpeen vaatiessa, kasvuyritysten suojeleminen byrokratialta ja jatkuva organisaation sisäisen sitoutumisen kasvattaminen. Nämä neljä osa-aluetta edustavat yhteistyön kriittisiä menestystekijöitä.

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Preface

I would like to take this opportunity to express my immense gratitude towards my supervisor Dr. Mikko Jääskeläinen and advisor Dr. Sari Kola. The invaluable support I got and numerous fascinating discussions throughout the writing process enabled me to increase the quality of the study, have a bright focus, and above all, learn a lot of doing academic research. Personally, taken my background working with both corporations and startups, diving deeper into the systematic startup engagement, has been a rewarding journey. I want to thank all my interviewees, and underline how insightful and professional all the discussions were.

Second, I am grateful for Petra Erätuli-Kola and Katja Aalto, founders of Innovation Home, who got instantly interested in my proposal for the research topic and provided funding for the thesis. It is my privilege to as my behalf contribute their diligent work for startups and corporations. Since innovating and creating together is at the core of their business, the study generated some practical insights for their business too.

Lastly, I would like to thank my family and friends who are for me, especially during the most hectic times, irreplaceable support. With them, I can genuinely escape my duties for a moment and, again, concentrate entirely on the study. I hope everyone could have such brilliant people around them, especially during these demanding unforeseen times of global pandemic.

Tuukka Yrttimaa

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Definitions

Innovation | "Innovation is the process of making changes, large and small, radical and incremental, to products, processes, and services that result in the introduction of something new for the organization that adds value to customers and contributes to the knowledge store of the organization." (O'Sullivan & Dooley, 2009, p. 3)

Open Innovation | The term describe how companies should "use external ideas as well as internal ideas, and internal and external paths to market" while seeking ways to advance their current offering (Chesbrough, 2003, para. xxiv).

Startup | "A startup is a human institution designed to deliver a new product or service under conditions of extreme uncertainty" (Ries, 2011, p. 27)

Startup Engagement | A systematic way for corporations "to tap into entrepreneurial innovation" through the selected engagement models, which can be segmented, for example, based on the innovation flow and equity involvement (Weiblen & Chesbrough, 2015, p. 81).

1 Introduction

In the fast-changing organizational environment, large corporations often lack some of the capabilities crucial to change but which are characteristics of startups (e.g., Mocker, Bielli, & Haley, 2015; Weiblen & Chesbrough, 2015). Especially in the business environment where long-term success is driven rather by innovations than pure efficiency, collaborating with startups enables corporations to explore, for example, new technologies and service solutions without possessing risk to their core operations (Mocker et al., 2015).

The most successful organizations are seeking ways to combine the strengths of both corporations and startups (Kohler, 2016; Weiblen & Chesbrough, 2015). The underlying reasons for engaging with startups deviate, and so does the clarity of goals for startup engagement (Mocker et al., 2015). Some of the endeavors are internal, some external, and the resources used to the startup collaboration vary a lot (De la Tour, Soussan, Harlé, Chevalier, & Duportet, 2017; Kohler, 2016). The overall activity between corporations and startups is steadily increasing (Weiblen & Chesbrough, 2015). According to a recent study of the 130 largest European corporations, almost 80 percent of the acquisitions within the technology field is focused on startups instead of incumbent market players (Mocker et al., 2015).

Comparing different characteristics of large corporations and startups, it is evident that these two are quite the opposite for each other (Harlé, Soussan, & de la Tour, 2017a). While corporations have power, resources, scale, and routines to run their business efficiently, startups do not have any of these. On the contrary, startups have an agile organization full of passion and new ideas, willingness to take risks, and shared goal of rapid and global growth – built on a truly entrepreneurial mindset. (Weiblen & Chesbrough, 2015) These fundamental differences make the relationship between these two parties challenging and a systematic approach a necessity in large corporations.

According to a recent study, 50 percentages of the startups regarded the experience of corporate collaboration to be “mediocre” or “worse”. Meanwhile, 82 percentages of corporations regard engagement with startups as “somewhat important” to “very important”, and 25 percentages consider engagement with startups as “mission-critical”. (Imaginatik & Masschallenge, 2016) These results demonstrate the large gap between the business world’s odd couple – startups and corporations. Corporations demand a better understanding of how to *systematically* incorporate startups into the exploration of strategical growth and renewal. Hence, academic research should aim to increase the

understanding of the topic and help corporations and other related stakeholders to generate value in the area of systematic startup engagement.

This study aims to generate a concept for the *systematical startup engagement*, based on the experiences of the large Finnish companies. The ten interviewees represent two separate organizational fields: basic industry and technology-driven industries. The latter includes corporates related to software, ICT and banking sector, and the former from energy to forest industry. Interviewees were responsible for the startup operations within their company. Systematic startup engagement has occurred within Finnish corporations only a few years, even though informal engagement has been going on for years, if not decades. According to Bloomberg's innovation index, Finland is the world's third most innovative country (Jamrisko, Miller, & Lu, 2019). Also, the Nordics have a world-class startup scene: Relatively to GDP, there are more billion-dollar exits than any other region in the world. The area represents seven percentages of global billion-dollar exits, even though corresponding only two percentages of the global GDP. Therefore, the findings of the study are of high relevance to other geographical areas in terms of benchmarking. (Creandum, 2016)

The theoretical background lies in building dynamic capabilities for innovation and growth (Teece, Pisano, & Shuen, 1997) and in the paradigm of open innovation (Chesbrough, 2003). The prior academic literature has focused on either comparing different startup engagement models used for corporate innovation (Weiblen & Chesbrough, 2015) or on a specific engagement model like accelerator (e.g. Kohler, 2016; Miller & Bound, 2011). The literature of engaging methods is rather fragmented and lacks a comprehensive understanding of all feasible engaging methods available. To gain a better understanding of the *systematic engagement process*, and bridge the gap between non-systematic ad-hoc-based engagement and the systematic process, the following research problem was addressed:

> Why and with which motives a corporation ends up to *systematically* engage with startups, with what methods, and how it incorporates this *systematic* collaboration into its existing operations?

The research problem was further divided into three research questions related to context, interventions, mechanisms, and outcomes by following the CIMO logic (Denyer, Tranfield, & Van Aken, 2008). The first research question is related to the context of startup engagement. By answering this question, the premises and transition from non-systematic ad-hoc-based engagement towards a more systematic engagement process were assessed.

> RQ1: What are the factors influencing the emergence of systematic engagement?

The second research question addresses the interventions, in other words engaging methods, used the most commonly in corporations to collaborate with startups. This question has its focus on the systematic methods that are purposefully exploited to gain specific predetermined objectives. It also concerns the mechanisms, in other words organizational structures and daily operations, through which the systematic startup collaboration is incorporated into the existing business. The aim is to identify critical success factors that demand organizational attention. These factors have not only academic relevance but are of high interest for managers whose task is to run the operations.

RQ2: What are the elements of a systematic process for startup engagement?

The third and last research question relates to the outcomes of the engagement. As for any corporation activity, the objectives for the startup collaboration need to be clear and measurable. Having accurate qualitative and quantitative measures are essential to run and improve engagement operations. By answering this question, the more thorough understanding of the engagement outputs are constructed.

RQ3: What are the outcomes of startup engagement?

The inductive qualitative research method was exploited to address the research problem and answer the research questions. The prior research was used as the basis for the study. However, the absence of established theories justifies the choice of the inductive research method. The data analysis was done by following the 'Gioia methodology' (Gioia, Corley, & Hamilton, 2013). The CIMO logic was used as the research design to increase the validity and relevance of the results (Denyer et al., 2008). The sample of ten informants was formed through purposeful sampling (Patton, 2002). It includes nine Finnish companies that are among the largest in the country, and one service provider working closely with these companies regarding systematic startup engagement. The primary data was collected through semi-structured interviews of the length of around one hour each.

The study has two significant results. First, it suggests five essential dimensions of startup engagement (See Figure 9). These act as a high-level explanation of startup engagement transition from ad-hoc-based to a systematic engagement process. It covers the *goal* and *content* of the engagement, *relevance for startups*, as well as *pre-requisites for the engagement*. The evolvement of these dimensions can be seen as increasing systematicity. A transition towards a more open organizational culture, especially regarding innovation operations, was recognized to be essential for the emergence of systematic startup engagement. This builds on the academic literature of open innovation (Chesbrough, 2003). Good experiences of openness result in better internal commitment and transparent

dialogue across the organization, both acting as crucial *organizational* pre-requisites for the systematic engagement process. Two other pre-requisites concern the *resource perspective*: systematic process demands defined ownership for the engagement, and predefined budget and other resources for each initiated startup collaboration.

Second, a *concept of systematic startup engagement* is proposed (see Figure 10). It is built on the experiences of systematic startup engagement and the most exploited models among the large Finnish companies. In total, six engagement models were identified to be exploited within the examined companies. Startup collaboration is incorporated into the existing business through organizational structures and daily operations, to which the four found critical success factors are related. These are systematic engagement process, prioritization and rapid progress, buffering startups form bureaucracy, and actively improving internal commitment.

The study serves the needs of both companies already having well-established engagement operations and companies still at the beginning of this journey. For the former, the study helps to assess current operations and identify areas that need improvements. For the latter, the proposed concept provides a checklist of dimensions that need to be addressed. The generated concept has not only managerial implications but represents the most significant theoretical implication of the study. It reinforces the prior academic research by generating a more thorough understanding of the gradual organizational transition from ad-hoc-based startup engagement towards a more systematic process. The identified dimensions that need to be addressed along the way to the systematic engagement process are clear goal and content for the engagement, attractiveness for startups, as well as related organizational procedures and predefined resources. These findings can help future qualitative studies to formulate better research questions and to examine the topic further, as well as quantitative studies to build a hypothesis to test.

The introduction chapter (Chapter 1) is followed by a literature review consisting of two chapters. First, the theoretical background for company growth and renewal is addressed (Chapter 2), including the strategical approach, the paradigm of open innovation, and reasons for corporations to engage with startups. Second, an in-depth examination of different aspects of corporate-startup collaboration is presented (Chapter 3), revealing the reasons for a startup to collaborate with corporations and the different collaboration methods. The third part of the study forms the empirical section and concerns the experiences of systematic startup engagement in ten large Finnish corporations. It begins with a chapter of methodologic choices (Chapter 4), that derives from the literature review. The fifth chapter introduces the findings of the study, being grounded on the conducted interviews. This chapter follows the data structure visible in Figure 7 and covers the three

research questions of the study. In the discussion section (Chapter 6) the concept of systematic startup engagement is revealed, the findings contrasted to the prevailing theory, as well as the most important managerial implications articulated. Finally, the conclusion chapter (Chapter 7) summarizes the study. This described structure is visible in Figure 1 below.

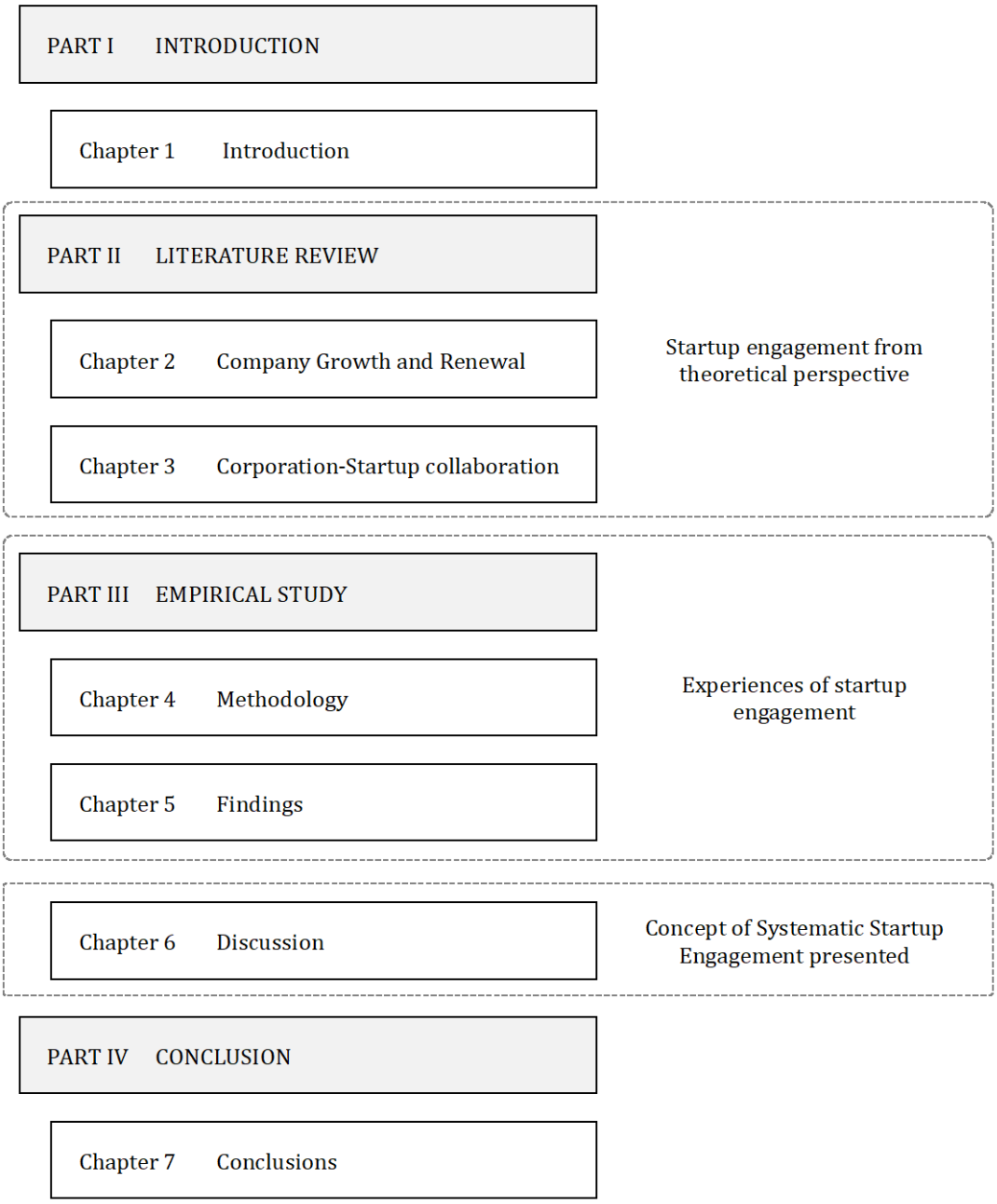

Figure 1. Structure of the Study

2 Company Growth and Renewal

2.1 Strategic Choices of Innovation Operations

In the field of strategic management, the most profound question lies in how firms achieve and sustain competitive advantage (Kuratko, Covin, & Hornsby, 2014; Teece, 2009; Teece et al., 1997). The domain of strategic frameworks has gone through a profound change during the past decades. The *dynamic capabilities framework* (Teece et al., 1997) assesses methods and sources of wealth creation and capture by private companies acting in the rapidly changing technological environment. Before the emergence of the dynamic capabilities framework, the strategic theory was somewhat saturated with strategies for sustaining and preserving the already achieved competitive advantages and market position. However, it lacked the understanding of competitive advantage creation within organizational environments where the change is rapid. (Teece et al., 1997)

Teece et al. (1997) suggest that companies' competitive edge lies in distinctive processes, greatly affected by company-specific asset positions and adopted evolution paths. By asset positions, they mean, for example, portfolio of difficult-to-trade knowledge assets and complementary assets. Path dependency recognizes that 'history is relevant' and is related to the concept of a certain trajectory or path that the company is following and which defines both the options open today but also the limited subset of options open in the future. Whether and how is this competitive edge diluted depends on the market dynamics, demand, and the ease of imitability and replicability. Teece et al. (1997) propose that within businesses where technological change is fast, the private wealth creation is mostly generated by improving organizational, managerial, and above all technological processes inside the firm. This includes sensing new opportunities and effective reorganization to embrace and unleash new business potential. These activities are seen as more relevant than strategizing, meaning business conduct that aims to retain rivals off-balance, raise competitors' costs, and exclude new entrants (Teece et al., 1997).

Cohen and Levinthal (1990) brought a new perspective to the research field with their concept of *absorptive capacity* describing the firm's ability to learn, innovate, and use externally available information. They build on the idea that the most crucial elements of companies' growth and renewal are the ability to sense and seize new external information and to incorporate it into the existing business. Most importantly, they suggest that prior related knowledge is required to assimilate and use new knowledge. This capability is called *absorptive capacity*, which is oftentimes generated as a by-product of existing R&D and other operations. Therefore knowledge domains close to the current core business are

typically well covered, but companies tend to lack the understanding crucial to acquire and incorporate *new* knowledge. The more quickly organizational surroundings are changing, the more one should invest in absorptive capacity, regardless of its intangible nature. (W. M. Cohen & Levinthal, 1990)

In the world where the only constant is 'change', companies need to efficiently manage their innovation processes to utilize and advance technologies to establish new services and products (e.g. Chesbrough, 2003; Pursele, 2019). Innovation is the new nexus of strategy, and undoubtedly one of the critical competencies companies try to enhance. A survey of more than 500 executives (Koetzier & Alon, 2014) revealed that 70 percent ranked innovation among their top five priorities while 18 percent regarded innovation as strategically the most important priority within their company. A corporate innovation strategy has a variety of definitions of which we refer to the definition by Ireland et al. (2009, p. 21) describing it as "a vision-directed, organization-wide reliance on entrepreneurial behavior that purposefully and continuously rejuvenates the organization and shapes the scope of its operations through the recognition and exploitation of entrepreneurial opportunity". The process-like characteristic of innovation was defined by O'Sullivan and Dooley (2009, p. 3) as follows: "Innovation is the process of making changes, large and small, radical and incremental, to products, processes, and services that result in the introduction of something new for the organization that adds value to customers and contributes to the knowledge store of the organization".

According to a recent study by Bain (Spaulding & Caimi, 2019), the highly innovative companies exploit a portfolio approach that combines both internal and external innovation activities. What these companies have in common is that they neither regard innovation as a task nor project with a timeframe, scope, and goals but as a "permanent state of evolution and exploration" (Spaulding & Caimi, 2019, para. 2). More endeavors equal to more ideas. According to Spaulding and Caimi (2019), these initiatives oftentimes include startup engagement, corporate venture capital, business accelerators, incubators, and partnerships with the broader startup ecosystem. This is supporting the concepts of dynamic capabilities and absorptive capacity.

2.2 Open Innovation as the Foundation of Startup Engagement

The paradigm of innovation is changing while current knowledge is outdating faster, and new expertise is usually outside the company (Chesbrough, 2003; von Hippel, 2005). Innovation operations were once run solely in-house, but already long ago seen as linear value chains, including mainly internal but also external sources of knowledge (Roper, Du, & Love, 2008). Most recently, innovation operations were identified as nonlinear and happen in an ecosystem, enabling "co-existence and co-evolution of different knowledge and innovation paradigms" (Carayannis & Campbell, 2009, p. 201).

Chesbrough (2003, p. xxiv) coined the term '*open innovation*' to describe how companies should "use external ideas as well as internal ideas, and internal and external paths to market" while seeking ways to advance their current offering. This model started to emerge when industry after industry struggled with the effectiveness of the closed model in the rapidly changing organizational landscape full of technological disruptions and uncertainty. Factors that paved the way for open innovation were the increasing availability and mobility of knowledge workers, external suppliers coming up with a new scope, and more comprehensive offering, as well as rapidly growing assets managed by venture capital sector, specialized in creating new successful startups. (Chesbrough, 2003)

Xerox (Chesbrough, 2003) is a real-life example of a company with great achievements but later even greater limitations because of following closed innovation paradigm. Xerox had its fortune when the office copier market was booming. However, they realized that to ensure the future of their company, a leading position in office copier business needed to be transformed into the leading office equipment supplier. They launched a research center called the Palo Alto Research Centre (PARC). But due to the way Xerox managed its research and technology, and especially its innovation process, the benefits never realized and innovations yield very little to shareholders. When Xerox saw little or no potential for some of its technology, it cut off further funding. The most successful technical achievements and real economic value emerged when PARC researchers quit their jobs, and left to smaller companies or launched their own businesses. When the expensive model of deep vertical integration pursued at Xerox was not any more realistic with smaller resources, unforeseen systems and architectures had to take place to enable their novel products to operate with other companies' products as an open system. Later on, forerunners like Apple and Microsoft commercialized many of the technologies originated from PARC, and many took the exit as a form of small spin-off startup later growing to global giants like Adobe. (Chesbrough, 2003)

Chesbrough (2003) articulates the open innovation to be the intentional use of inputs and outputs of knowledge to support inhouse innovation and explore new market possibilities for use of these innovations. He proposed several crucial principles for open innovation-related activities: First, people and knowledge should be sought after also outside of the company to address all the business needs. Second, each company should rather focus on a part and not the whole R&D process by exploiting external R&D centers. Third, it is possible to gain value from not only internally originated but external research. Fourth, having a strong business model should be prioritized over being first to reach the market. Fifth, if a company efficiently incorporates both internal and external capabilities, it is likely to succeed. (Chesbrough, 2003)

The old model of closed innovations became less and less effective within most organizational fields. According to the closed model, organizations generate their ideas, carry out their research and development to finally produce the products, market, distribute, service, and finance them. (Chesbrough, 2003, p. XX) Ex-post evaluation of cases like Xerox makes problems this closed paradigm causes visible and self-evident. Except for a handful of global forerunner market leaders, an average corporation does not have the resources to always recruit the best talent from all the newly emerging fields of expertise. (Weiblen & Chesbrough, 2015)

According to Burcharth (2014), the most successful companies are no longer bragging with their in-house capabilities and inventions because an open environment seems to bring better results. Innovation managers are pursuing agility and flexibility by using third parties to hone strategies and processes: organizational boundaries are fading and tight networks of organizations are defeating the outdated "do-it-yourself" attitude (Gassmann, 2006). There is clear evidence that openness increases technical performance, faster project implementation, and financial gains (Du, Leten, & Vanhaverbeke, 2014).

2.3 Systematic Startup Engagement as a Way for Open Innovation

Collaborating with startups enables corporations to develop their business agilely, and to explore new technologies and service solutions without possessing high risk to their core operations (eg., Kohler, 2016; Mocker et al., 2015; Weiblen & Chesbrough, 2015). This is particularly the case within business environments where long-term success is driven by innovations rather than pure efficiency (Mocker et al., 2015). A recent study by Hello Tomorrow and BCG (De la Tour et al., 2017) states that open innovation as a paradigm is no longer new but has become rather general. A large part of companies has established a variety of strategic external partnerships. Instead, a more significant trend is collaboration

initiatives between corporations and startups. The study concludes that startup engagement enables corporations to implement radical innovations regarding services, products, and business models faster and with lower risk than internally (De la Tour et al., 2017). Especially, corporations acting in a rapidly changing organizational environment are exposed to constant pressure for renewal, requesting capabilities to rapid adaptation and renewal, which corporations tend to lack but which are characteristics of startups (e.g., Imaginatik & Masschallenge, 2016; Mocker et al., 2015; Weiblen & Chesbrough, 2015).

Originally corporate-startup engagement was initiated within ICT and biopharma, but it is now spreading across all possible industries. Simultaneously these companies began as ICTs, and solely digital businesses are now rushing away from their core towards deep technologies. Amazon, Facebook, Google, IBM, and Microsoft are all launching partnerships with, for instance, artificial intelligence related research and startups. Apple, Google, and Uber are relentlessly developing their driverless car services with a network of partners. (De la Tour et al., 2017) These forerunner companies now go beyond solely integrating and embedding existing digital solutions into their business: these innovation leaders are moving towards solutions that involve not only technological but *deep technological* solutions. (Harlé, Soussan, & de la Tour, 2017b) The word 'deep tech' – coined initially by Swati Chaturvedi (2015), co-founder and CEO of investment firm Propel(x) – refers to a category of startups that develop new products and services based on "scientific discovery or meaningful engineering innovation". The former CEO of Cisco, John Chambers, said years ago that every company has become a tech company since digital technologies have affected fundamental parts of businesses – from supply chains to manufacturing processes and from service platforms to customer journeys (Harlé et al., 2017b).

The most successful organizations across the fields are combining the strengths of both corporations and startups in their efforts for growth and renewal (Kohler, 2016; Weiblen & Chesbrough, 2015). The underlying reasons and goals for the startup engagement deviate from innovation related to strategic or investment orientation (De la Tour et al., 2017; Harlé et al., 2017b; Imaginatik & Masschallenge, 2016; Kohler, 2016). Content of the engagement varies between new technologies or services, business models, and softer culture-related factors. Some of the endeavors are internal, some external, and the resources used to the startup collaboration vary a lot. (De la Tour et al., 2017; Kohler, 2016). A study by Imaginatik and Masschallenge (2016) revealed that the majority (60%) of corporates consider the exploration of new business models and technologies as the number one priority of the startup engagement (See Figure 2).

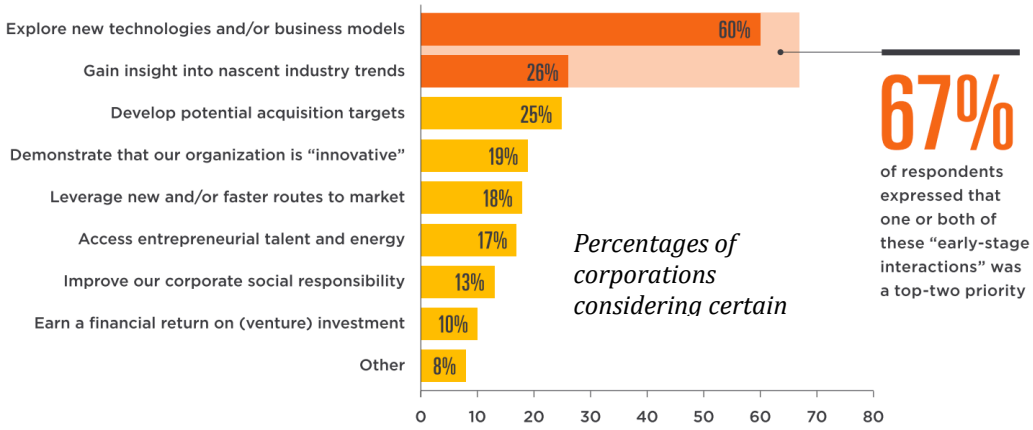

Figure 2. Reasons for Corporations to Engage with Startups (Imaginatik & Masschallenge, 2016)

Contrasting the characteristics of large corporations and startups, it is apparent that these two are quite the opposite (Harlé et al., 2017a). Large corporations have power, resources, scale, and routines to run their business efficiently, while startups do not have any of these. However, startups have an agile organization that is full of passion and new ideas, a willingness to take risks and has a shared goal of rapid and global growth. This confrontation poses challenges for successfully operated startup engagement, mostly due to the different clock speed and cultural characteristics of startups. Also, companies are often too impatient and unrealistic regarding their expectations of the time needed to generate revenue and other tangible results from the startup collaboration. (Weiblen & Chesbrough, 2015)

During the last few years, an increasing number of corporations are reaching out to the startup ecosystem with new models of engaging with startups (Weiblen & Chesbrough, 2015). Even though corporations have identified opportunities for startup collaboration within innovation operations, numerous corporations still have a great struggle to work efficiently with startups – and the means of successful systematic collaboration are not evident (Harlé et al., 2017b). A recent study of 112 corporations and 233 startups (Imaginatik & Masschallenge, 2016) revealed that 50 percentages of the startups regarded the experience of corporate collaboration as "mediocre" or "worse". On the contrary, as high as 82 percentages of large corporations consider engagement with startups as "somewhat important" to "very important", and 25 percentages as "mission-critical". These findings indicate the large gap between startups and corporations. That is, the majority of corporations have an uncertain approach and no clear strategy for startup collaboration. (Imaginatik & Masschallenge, 2016) Hence, there is an urgent demand for a better understanding of how to *systematically* incorporate startups into the exploration of strategical growth and renewal in large corporations.

Paradigms are rapidly evolving, and as the single largest collaboration area, innovation activities are more diverse and fragmented functionally, industrially as well as geographically than it has ever been before (Portincaso, de la Tour, & Soussan, 2019). In overall, startups are seen as a great source for innovations with only a limited risk (Mocker et al., 2015): their products, services, and business models are disrupting incumbent players by harnessing emerging technologies combined with power and scalability of platform ecosystems (Chesbrough, 2003; Kohler, 2016). Still, only a small number of large corporations have passed the experimentation phase (Lindgreen, Horn, Bowier, & Beune, 2015). At the same time, corporations have a strong time-pressure to find more agile ways to explore new opportunities for growth and renewal. Due to the fast-changing organizational environment, 'time-to-market' has become an essential metric of the best performing innovative companies (Mikkola, 2001).

3 Corporation-Startup Collaboration

3.1 Why Startups Engage with Corporations and Other Entities

The European startup scene is proliferating. Global success stories like Facebook and Tesla are demonstrating how it might not be established corporations but startups who come up with unforeseen new products and services, both disrupting existing, and creating new markets (Kohler, 2016). According to a comprehensive data-driven analysis of European technology scene by Atomico (2019), until 2010 there were just 13 European tech companies that had scaled to a valuation of more than $1 billion, but by the end of 2019, the number has increased over 13 times to 174 companies. The invested capital in Europe in 2019 is twofold compared with 2015 by rising from $15.3 billion to $29.3 billion (Atomico, 2019). A recent report from BCG (De la Tour et al., 2017) states how investors and corporates have recently begun to move, especially towards deep tech. Six "waves" associated as segments within the umbrella term *deep technology* are Artificial Intelligence and Data, IoT and Sensors, Drones and Robots, New materials and Nanotec, Biotechnologies, as well as Augmented and Virtual Reality. For example, funding in biotechnology rose from $1.7 billion to $7.9 billion between and 2016. From 2011 to 2015, augmented and virtual reality, drone, and space companies increased the combined funding from $104 million to $3.5 billion. (De la Tour et al., 2017)

The study by BCG and Hello Tomorrow (De la Tour et al., 2017) included 400 interviews with tech companies. Even though 80% of the startups ranked funding as one of their top three needs, market access (61%), technical expertise (39%), and business expertise (26%) became right after. Respectively, the challenges that founders most often faced was time-to-market (27%), high capital intensity (25%), technology risk and complexity (17%), and yet-to-be-developed commercial applications (14%). (De la Tour et al., 2017) To overcome these, startups have great access to rapidly evolved support ecosystems of various competing and complementing for-profit and even non-profit organizations. To get ideas to see daylight, startups can utilize multiple of these building blocks provided by the support ecosystem. The funding can be retrieved from one source, networks, and advice from another, settle in a coworking space somewhere else, and likewise fulfill the rest of the needs. (Weiblen & Chesbrough, 2015)

However, if considered the six most crucial needs (Table 1) of startups – funding, market access, technical expertise, access to recourses, and talents – corporations are seen as a partner that can best support their business to grow (Harlé et al., 2017b). Venture capital funds and business angels, along with the public and social sector are go-to partners when

funding is the only critical need of the startup. Incubators and accelerators rarely offer to fund but cater to a set of needs where the others have less to offer, namely technical expertise, access to facilities, and talent. (Harlé et al., 2017b) In the following sub-chapters, these most centric partners for startups are further elaborated.

Table 1. Preferred Partners for a Startup Regarding Different Needs (adapted from Harlé et al., 2017b)

	Corporations	Venture Capital	Business Angels	Accelerators & Incubators
Funding	+	+ + +	+ + +	
Market access	+ + +			
Technical expertise	+ +			+
Business expertise	+	+ +	+ +	+ +
Access to resources	+			+ + +
Talents				+ +

3.1.1 Corporations

According to a first-of-its-kind survey of corporation-startup collaboration, 67% of startups consider corporate collaboration as mission-critical while for 99% it is at least "somewhat important" (Imaginatik & Masschallenge, 2016, p. 15). Around the time when the study was carried out, "50% of startups said that their experience working with corporations was mediocre or worse" (Imaginatik & Masschallenge, 2016, p. 5). Despite the increased effort to build successful startup engagement operations, corporations have great struggles to come up with suitable and sustainable ways of collaboration (Harlé et al., 2017b). In this sense corporations that are more open than others, systematic, and experienced in collaborating with startups are more attractive and stand out from their rivals (Imaginatik & Masschallenge, 2016; Weiblen & Chesbrough, 2015)

Startup engagement models can be roughly categorized according to two dimensions: Direction of innovation flow ('outside-in' or 'inside-out') and Equity involvement ('yes' or 'no') (Weiblen & Chesbrough, 2015). These different models are further elaborated in chapter 3.4. A study by BCG, including the top 30 companies from each seven selected industries, revealed how companies using corporate venture capital (CVC) increased from

27% in 2010 to 40% in 2015. When examining companies using accelerators and incubators between the same period, the percentage increased from 2% to 44% (See Figure 3) (Harlé et al., 2017a). This trend is favorable for startups since the accessibility of corporations is getting better, and new engagement models emerge to ensure mutually beneficial cooperation (Weiblen & Chesbrough, 2015).

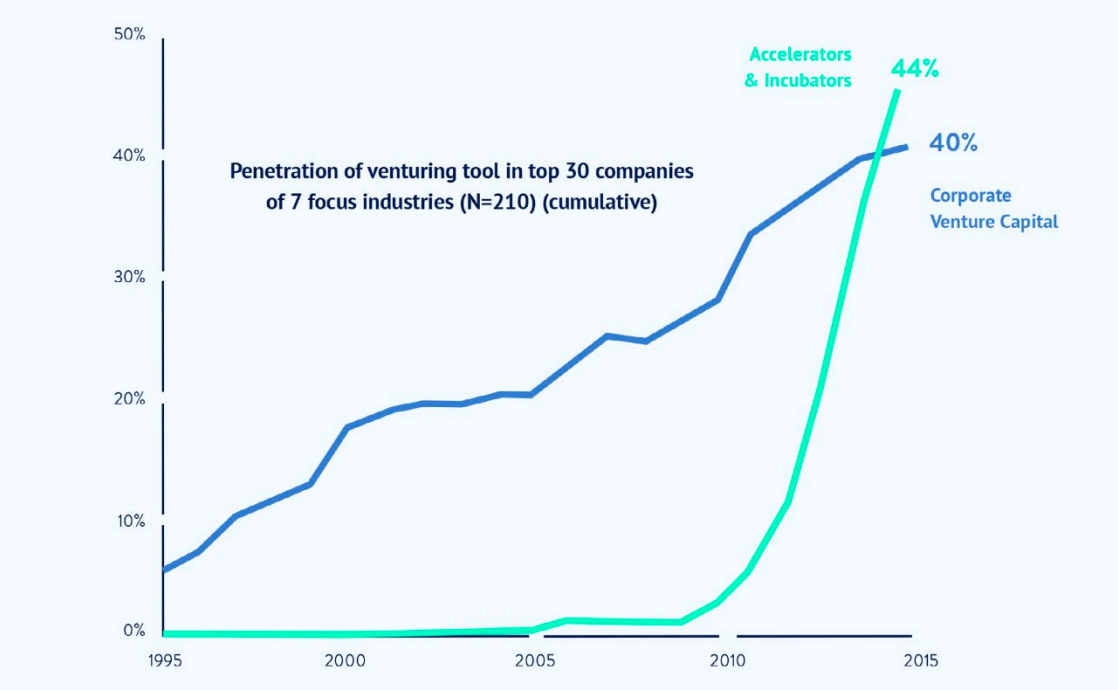

Figure 3. Corporate Startup Engagement Activity (Harlé et al., 2017a)

What comes to the objectives of collaboration, 65% of startups consider developing a close strategic partnership as the most critical aspect (See Figure 4) (Imaginatik & Masschallenge, 2016, p. 15). In daily operations, this appears as good access to corporate resources and close relationships with managers willing and capable of helping them. Other critical areas of cooperation objectives are related to an understanding of market dynamics, technology, and scaling of business (37%). (Imaginatik & Masschallenge, 2016) This quite vague objective of 'developing strategic partnership' along with the 'accessing markets' (See Figure 4) are in line with the findings by Harlé et al. (2017b) that corporations are go-to partners regarding market access and technical expertise (See Table 1).

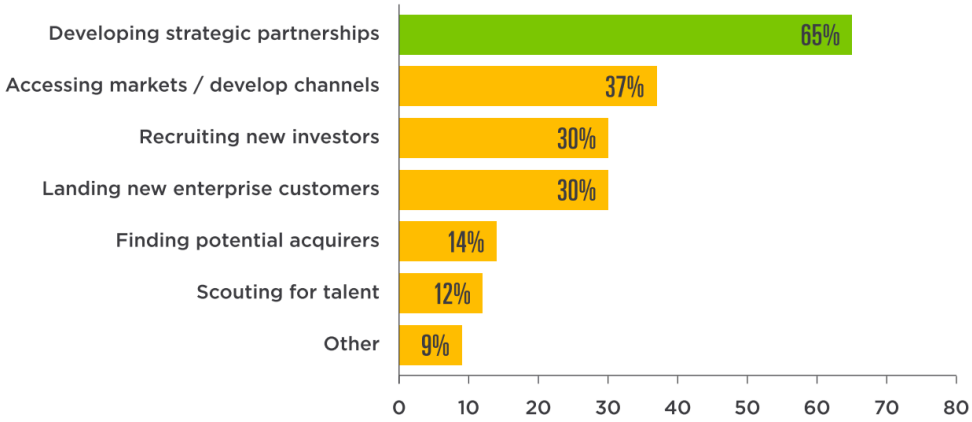

Figure 4. Objectives for Startups to Cooperate with Corporations. (Imaginatik & Masschallenge, 2016)

3.1.2 Venture Capital Funds and Business Angles

Typically startups, for which venture capital (VC) funding is relevant, are based on extremely scalable technology like software and other cloud-based solutions (Metrick & Yasuda, 2010). The global industry of venture capitals has backed the business of the greatest success stories of the digital age, including Facebook, Google, Alibaba, Apple, and Microsoft (CB Insights, 2019; Sahlman, 1990). Globally there are around 1,300 VCs with a ranging amount of assets under management. However, a typical maturity of a startup these companies invest in is early to late-stage: operational rollout is ongoing, and received funding is used typically for scaling operations and expanding to new markets (NVCA, 2020). These 'development' and 'growth' stages are visible in Figure 5.

Korpela (2019) revealed in his study how the most successful VCs outperform their rivals in terms of referral networks, through which they gain up to 80% of their deal flow. Other used sourcing methods are cold contacts and outbound. From the perspective of the founder looking for funding, instead of approaching cold, one should retrieve a referral to a VC (Korpela, 2019). If a startup is in a stage where its product or service has proven xsuperior, and funding together with business expertise are the only critical resources, VC might be the best fit for the needs (See Table 1) (Harlé et al., 2017b). If a startup is still in the idea phase (See Figure 5) where the concept and business planning is still ongoing and product development has been started, but it is not ready for large-scale operational rollout, founders might seek seed-funding from business angels (NVCA, 2020).

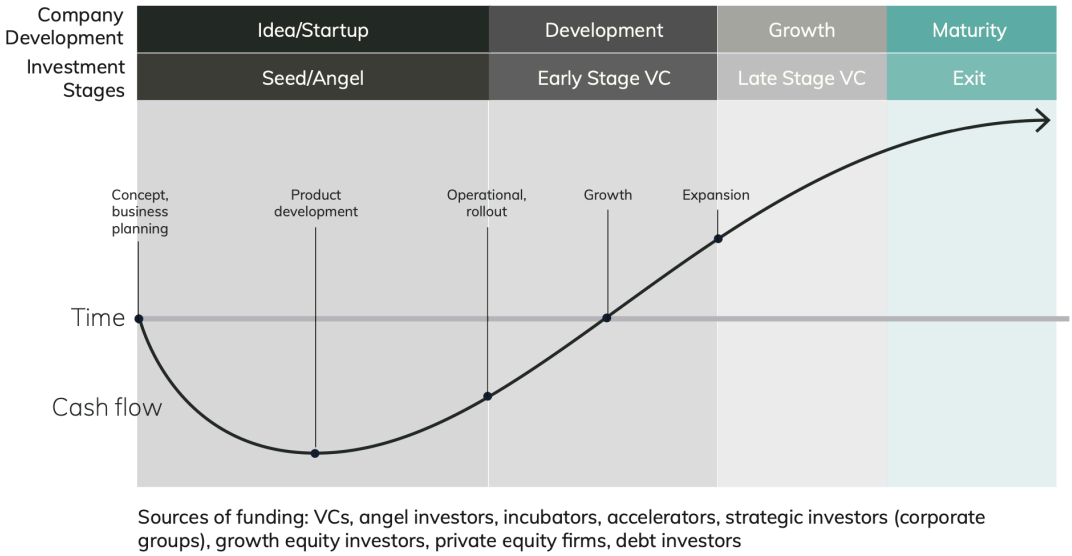

Figure 5. Maturity of Company and Investment Stages (NVCA, 2020)

3.1.3 Accelerators and Incubators

Even though accelerator and incubator are terms often used interchangeably, these two serve different purposes, have different outcomes, and accept different kinds of startups (Richards, 2020, para. 4). Startups are taking part in accelerator programs to seek education, networks (e.g., experts and mentors), and seed-stage funding (S. Cohen & Hochberg, 2014). Accelerators are designed to find startups with most growth-potential since their revenue model is not fee-based but growth-based (Richards, 2020).

Solely in Finland, there are dozens of startup accelerator programs located in the 20 largest municipalities (FiBAN, 2019). These programs are mainly lead by universities and municipalities from the public sector or large established companies like Nordea and Microsoft or venture capital firms from the private sector (FiBAN, 2019). Kohler (2016, p. 348) studied accelerators managed by corporations, and articulated how those "combine the best of two worlds: the scale and scope of large established corporations and the entrepreneurial spirit of small startup firms".

In contrast to accelerators, incubators are not cohort-based and are lasting a lot longer than accelerators programs, 1 to 5 years compared to 3 to 6 months. Furthermore, while startups should be comparably ready to pitch their products to investors when attending an accelerator, the product can be in a lot earlier phase when a startup takes part in an incubator. Also, incubators offer guidance and services on-demand-basis when needed and do not pay as close attention to each startup. Incubators' nonprofit business model is usually based on rents, rather than investments. (Richards, 2020)

3.2 Corporation-startup collaboration methods

Table 2 exhibits how engagement methods can be divided regarding the direction of innovation flow and equity involvement. According to a study conducted by Weiblen and Chesbrough (2015), companies are moving towards lightweight models where equity involvement is increasingly rare. This is due to an attempt to make the overall process more straightforward, shorten time-to-contract, attract, support, and incorporate startups in large volumes. While engagement with startups is seen as a method for maintaining the success of businesses (e.g., S. Cohen & Hochberg, 2014; Kohler, 2016; Pursele, 2019; Weiblen & Chesbrough, 2015), the fundamental question of the goals corporation wants to achieve determines which model or combination of different models should be utilized (Weiblen & Chesbrough, 2015). These key goals are visible in Table 2 below.

Table 2. Corporate Engagement Models with Startups and Their Key Goals (Weiblen & Chesbrough, 2015)

Equity Involvement	Direction of Innovation Flow: Outside-In	Direction of Innovation Flow: Inside-Out
Yes	**Coporate Venturing** Participate in the success of external innovation and gain strategic insights into non-core markets.	**Corporate Incubation** Provide a viable path to market for promising corporate non-core innovations.
No	**Startup Program (Outside-In)** Insource external innovation to stimulate and generate corporate innovation.	**Startup Program (Platform)** Spur complementary external innovation to push an existing corporate innovation (the platform).

Various studies (e.g., Harlé et al., 2017a; Imaginatik & Masschallenge, 2016; Mocker et al., 2015; Weiblen & Chesbrough, 2015) agree that the ultimate goal or objective, strategic alignment, and success metrics are among the most critical aspects of a successful startup engagement activity. Nearly 45% of corporate representatives regarded 'strategic fit' as the most critical success factor for startup engagement (Imaginatik & Masschallenge, 2016, p. 7). Literature seems to have a consensus that successful corporate-startup cooperation involves various complementary models of engagement. Weiblen and Chesbrough (2015) concluded that models are not mutually exclusive. All models have their challenges and virtues. Companies should select model(s) that best serve their strategic objectives for collaboration with startups and use several in parallel to get access to varying innovations. According to Harlé et al. (2017a), startup's go-to-market readiness and maturity stage significantly affect the most suitable engagement model, which might be startup-specific,

and it changes along the way. Therefore, a corporation should carefully define a framework helping at each stage gate to make go-no-go and other decisions (Harlé et al., 2017a).

Mocker et al. (2015) concluded that *lack of buy-in*, from executives and peers across the business, is referred to as one of the main barriers of successful startup engagement according to managers running corporate-startup programs. This study of existing startup engagement revealed three best practices for operations (Mocker et al., 2015, p. 17):

1) **Effective management** of startup engagement inside of the corporation

2) **Simplified processes** to make collaboration startup-friendly

3) **New incentive structures** encouraging to work with startups

Mocker et al. (2015) demonstrated a three-step approach to initiate a successful corporate-startup collaboration (See Table 3). Step one 'clarifying objects' underlines the same principle of clear goal definition as Weiblen and Chesbrough (2015), and Harlé et al. (2017a) did in their studies. However, Harlé et al. (2017a) articulate how goal definition is part of a more comprehensive 'mandate definition' for innovation programs. This mandate includes innovation, R&D objectives, and required resources and, for example, the preferred profile of startups. This mandate aims to tackle the before mentioned lack of buy-in problem by defining clear areas of responsibilities and resources available. Step two 'assessing options for engaging methods' is greatly connected to the first step of object definition since, based on prior experience, some engaging methods work better with certain objectives than other methods. These object-method pairs defined by Mocker et al. (2015) are visible in Table 3. Step three 'connecting startups to valuable resources' is often the activity that, after all, defines if corporate can leverage its resources to successful startup engagement, realize the potential of cooperation, and reach the objectives. 'Intangible assets' includes for example market access and customer networks which, according to the study by BCG and Hello Tomorrow (De la Tour et al., 2017), 61% of startups regard as the most critical need followed by technical expertise (39%) and business expertise (26%) both included in 'employee time'.

Table 3. A three-step Approach to Corporate-startup Collaboration (adapted from Mocker et al., 2015)

STEP ONE **Clarifying objects**	**STEP TWO** **Assessing options for engaging methods**	**STEP THREE** **Connecting startups to valuable resources**
A) Rejuvenating corporate culture *(Dell, Google)* **B**) Innovating big brands *(Microsoft, Accenture)* **C**) Solving business problems *(Unilever, Diageo)* **D**) Expanding into future markets *(BMW, Enel)*	One-off events (A, B) Sharing resources (B) Business support (A, B) Partnerships (C) Investments (D) Acquisitions (C, D)	Cash **Intangible assets**; market access customer needs **Employee time**; technical and business expertise **Products**; technologies or services provided for startups (free/reduced price)

3.2.1 Startup Program (Outside-in)

Startup programs with outside-in innovation flow are probably the most typical form of corporation-startup engagement (e.g., Imaginatik & Masschallenge, 2016; Mocker et al., 2015). The goal is to get access to prominent startup products and technologies available by enabling startups to elaborate and deliver on their ideas. Value is created to the sponsoring organization through external innovations that increase competitive edge over the rivals. (Weiblen & Chesbrough, 2015) These programs go with various names but are fundamentally serving two basic needs of corporations (Imaginatik & Masschallenge, 2016):

1) **Sourcing** of prominent startups that are aligned with company strategy, R&D, or innovation objectives. This is done by 'open calls' and 'scouting', of which the first aims to increase inbound volume and the latter to single great fits to corporate objectives.

2) **Matchmaking** startups' offering with business needs. A dedicated program helps in meditating initial interaction with stakeholders from the business lines and innovation department itself. A handover of ownership over certain startup collaboration is a crucial part of a successful startup program.

Program type varies from *procurement* and *product co-development* to *accelerator* regarding the level of commitment from a corporation (see Figure 6). In the case of limited

corporation commitment, the program is rather a partnership model. From the two options, the lightest version resembles a typical *procurement* process made fast and startup-friendly in terms of agreements and other bureaucracy (Mocker et al., 2015). 'Venture Client Approach' is one popular engagement model in the procurement category aiming to create a real business, save time, scale fast with no equity involvement and hustle with intellectual property rights (Combient, 2020). The other option is *a product co-development relationship*, where products or services are specified, developed, and piloted together. Critical success factors are clear and well-articulated objectives from a corporation, and a pre-determined budget and time-frame. (Mocker et al., 2015)

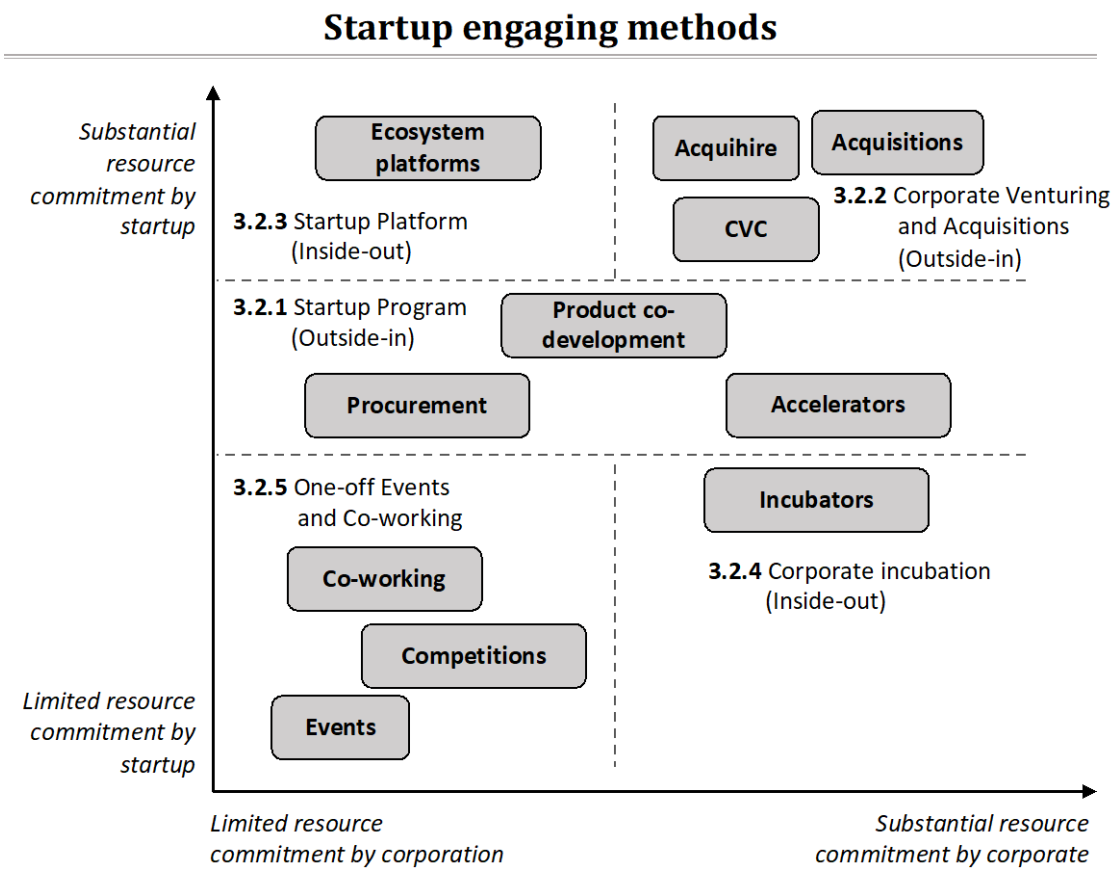

Figure 6. Startup Engaging Methods (adapted from Mocker et al., 2015; Weiblen & Chesbrough, 2015)

If the corporation has an incentive to greater commitment, an 'accelerator' is a type of program with a time-limited period, starting typically with an open application process, focusing on small teams, offering support and resources, and consisting of startups-cohorts rather than individual companies (Kohler, 2016; Miller & Bound, 2011). Also, the largest corporate accelerators typically offer a pre-seed investment in exchange for equity (Miller & Bound, 2011). However, there are various types of accelerators: equity-free programs, some run internally, some externally with other corporations, and some even fully online (Kohler, 2016; Mocker et al., 2015). Where the venture client model focuses on a single startup at a time, the promise of a corporate accelerator lies in more systematically bridging the gap between startups and the corporate itself. It is a platform for seeking long-term growth and renewal. Corporate accelerators exist across the industries, from healthcare and insurance to entertainment and packaged goods. (Kohler, 2016)

The team responsible of running the outside-in startup program has a critical role as 'bridge makers' by ensuring that proper ownership exists within the organization, external innovations are harnessed internally, and startups have easy access to right people and other resources (Harlé et al., 2017a; Kohler, 2016). A typical KPI related to outside-in startup programs is the number of successful pilots, proof of concepts with the core business, and further the number of projects taken eventually to the market. One exciting aspect is to assess the number of failed projects since counter-intuitively, it should not be too low, telling that not enough risk has been taken. (Weiblen & Chesbrough, 2015)

3.2.2 Corporate Venturing and Acquisitions (Outside-in)

Corporate venturing (investments) and acquisitions are used in the case of exceptionally good fit and relevance of startup's product or service to the corporation's long-term strategy (Weiblen & Chesbrough, 2015). Investments are typically made through own corporate venture capital arm or externally operated venture fund. The inhouse corporate venturing function has a great possibility to ensure the startup's strategic alignment. However, if corporations seek after ventures from new business areas, it is usually more efficient to use an external model for various reasons: company can get access to more extensive and a more diverse and global pool of startups without building all the needed capabilities itself. (Harlé et al., 2017a)

A natural extension of corporate venturing is *acquiring a startup*, which at its best can be a powerful way to solve business problems and enter new markets with acquired complementary capabilities and technology (Harrison, Hitt, Hoskisson, & Ireland, 2001). This kind of trade sale is the most typical exit for successful founders (Mocker et al., 2015). For example, Google Ventures acquired smart thermostat maker Nest for $3.2 billion to gain

a better foothold in the nascent Internet of Things market in 2014 (Tilley, 2014). The term 'acqui-hire' better describes and is used in the situation when an acquisition is made to get access to talent rather than to other assets. The founder and CEO of Facebook, Mark Zuckerberg, said acqui-hiring to be the most crucial objective behind acquiring startups (Zuckerberg, 2010). It is essential to understand how critical talent acquisition is in fields where human capital is the most valuable asset, talent crunch is acute, and know-how highly transferrable (Mocker et al., 2015).

3.2.3 Startup Platform (Inside-out)

Cloud-based SaaS and PaaS businesses are booming: from global top 50 software companies, 38 had revenues from either SaaS (Software-as-a-Service) or PaaS (Platform-as-a-Service) (PWC, 2018). Especially within the software and other technology-driven industries, an inside-out operated startup program platform has become a dominant model for startup engagement (Weiblen & Chesbrough, 2015). Cooperation typically does not involve any equity, and it is very open to new startups with an easy application process aiming at a very high volume of startups participating in the program. The strategic objective is to expand the current market through startups building their products using technology supplied by the corporation. The platform-based innovation model exists within industries where an ecosystem of non-competing organizations produces complementary innovations that strengthen the common platform. Platform leaders like Apple or Google can gain profit from each innovation sold on their platform: an app sold through AppStore or Google Play could generate a 30% revenue share of every sale. (Weiblen & Chesbrough, 2015)

By joining the technical platform through programs, startups increase the overall capability, agility, and attractiveness of the corporation – which is the initial business development and innovation related objective for corporations (Weiblen & Chesbrough, 2015). For example, Microsoft has a goal to become the leader in enterprise cloud for B2B startups. They run a program that offers technology, go-to-market, and community benefits already for over one thousand startups from more than 140 countries. These startups provide their solutions to Microsoft's enterprise customers generating over $1 billion in sales opportunities 2021 alone. (Microsoft, 2020) Typical KPIs used in the inside-out startup program platforms is the number of startups attending the program, the usage of the platform by each startup, and eventually measuring the generated revenue from the program (Weiblen & Chesbrough, 2015).

3.2.4 Corporate Incubation (Inside-out)

Similar to accelerators, there exist both internal and external incubators. External incubators, of which over 90% are non-profit organizations, aim to shelter new businesses and provide assistance in basic business needs. (S. Cohen & Hochberg, 2014) The focus of this study is on internal incubators that address ideas coming inside the company, being prominent but not aligned enough with the current core business. Instead of selling intellectual properties of this misfit technology or idea, the company does not write off the R&D spending but invest additional capital to the spin-off with an aspiration of generating revenues in the future. (Weiblen & Chesbrough, 2015) Similar to the external incubator, corporate incubators offer expertise, networks, shared office space, and funding (Hackett & Dilts, 2004). In addition to this rationale for incubation as a vehicle to address market failures, other perspectives consider it as a way of internally catalyzing innovations and entrepreneurship systematically (Dee, Gill, Livesey, & Minshall, 2011). According to Dee et al. (2011), 22.5 percentages of companies regard incubator as critical and 60.6 percentages as necessary to company performance. For example, Bosch initiated 2014 its incubator called "Startup Platform" for ideas that are otherwise dropping out of the standard innovation process being too loosely related to its established business (Weiblen & Chesbrough, 2015).

3.2.5 One-off Events and Coworking

One-off events are a popular way for corporations to complement previously mentioned engagement methods. Innovation Challenges, Challenge Prizes, Reverse Pitching, Hackathons, and other events are all comparatively self-contained manner to lure startups to collaborate. There are three clear goals associated with one-off events, all of which particularly important when corporations are initiating the startup engagement: Firstly, internal cultural change towards entrepreneurial mindset can be effectively driven by events with limited duration but affecting numerous employees at a time. Secondly, a corporation can quickly get insights and perspectives of nascent trends within relevant industries. Thirdly, one-off events are a way to carry out employee branding, enhance the association of innovative brand, and respectively generate inbound of both workforce and startups. (Mocker et al., 2015)

Another form of one-off events is startup-focused events like Slush, initiated in Helsinki 2008 and grown since to a global event gathering collectively around 50.000 people to its events. In the European tech scene, Slush is the most important gathering for founders, talent, top-tier investors, executives, and media. The three goals of Slush are building a radically positive culture around entrepreneurship, profiling the Nordics as one of the major tech hubs globally, and creating the talent to build scalable businesses, and making venture

capital more accessible. (Saari, 2019) The event is student-driven and builds on a philosophy that entrepreneurship is among the most powerful tools of changing the world – fast and at scale (Saari, 2019).

Coworking spaces are becoming more and more popular among startups, knowledge workers, and freelancers. The number of coworking spaces worldwide in 2020 is over 26,000 – even though ten years earlier in 2010, it was only 600 (Statista, 2020). It is defined to be "a social economy solution to an information coordination problem in an entrepreneurial knowledge economy" (Waters-Lynch & Potts, 2017, p. 418). Weiblen and Chesbrough (2015) highlight how coworking spaces complement other forms of startup engagement by offering a flexible place for startups to reside. Startups get access to physical capital (office space, meeting rooms, and necessary office infrastructure), to financial capital through economies of scale (shared legal, accounting, and other services), and probably most importantly to a network and community of other entrepreneurs, investors, and large corporations. Entrepreneurs can share intangible resources through these networks, which often turn out to be essential to success. (Weele, Steinz, & Rijnsoever, 2014) The role of coworking spaces in the startup ecosystem has not received much academic attention. However, already the rapidly increasing number of coworking spaces alone indicates coworking spaces to have a significant role in the ecosystem.

4 Methodology

4.1 Research Approach

The past six years working with both startups and large corporations have made it evident that engagement between these fundamentally different types of organizations is becoming increasingly popular. It seemed that the founders of small startups, as well as executives of large corporations, regarded engagement as a win-win relationship. For many, being present at startup event Slush was among the highlights of the year. However, Finnish corporations appeared to be in very different phases of maturity, having a variety of rationales and methods to engage with startups, while allocated resources seemed to vary a lot. Executives often demonstrated their curiosity about how other companies were incorporating startups into their business. This phenomenon has not received much academic attention beyond the concepts of open innovation (Chesbrough, 2003), and organizational growth and renewal more generally (Teece, 2009).

The most important studies regarding corporate-startup engagement are carried out by a rapidly-grow sector of venture capital firms and top management consulting firms. These instances can observe the emerging scene of startup engagement from the close distance and update their models accordingly. Additionally, due to their business models, they have the incentives to be as relevant and valuable as possible for the client corporations and startups. In academia, a more thorough understanding of startup engagement is still yearned after. Weiblen and Chesbrough (2015) were among the first ones to propose a theoretical framework for corporation-startup engagement. The paucity of existing studies indicates that this field of academic research is at an exploratory stage. Therefore, this thesis focuses on generating a more comprehensive understanding of the startup engagement phenomenon in large Finnish corporations. An inductive qualitative research method was chosen to serve this purpose best (Flick, 2009; Golafshani, 2003; Gutmann, 2014).

Inductive qualitative research method as a research strategy, opposed to deductive strategies building on existing theories, are increasingly popular due to the rapid social change: the resulting diversification and pluralization of patterns are so extensive that "traditional deductive methodologies - - are failing due to the differentiation of objectives" (Flick, 2009, p. 12). Instead of starting from theory and testing it, an inductive approach is more applicable to examining new topics (Eisenhardt, 1989) and further developing novel concepts through analyzing concrete cases in their local and temporal particularity (Flick, 2009). Although prior research was used as the basis for the study, the absence of established theories justifies the choice of the inductive research method.

From the perspective of meaningful implications, the field of organizational studies is often blamed for being fragmented, and for having results with little relevance for practice (Denyer et al., 2008). The CIMO logic, as a research design, aims to mitigate these shortcomings through developing solution-oriented knowledge. The logic describes "what to do [Intervention], in which situations [Context], to produce what effect [Outcome] and offer some understanding of why this happens [Mechanisms]" (Denyer et al., 2008, p. 396). The three research questions of the thesis are constructed according to these four components of CIMO – context, intervention, mechanism, and outcome – giving the structure for the interviews. To be highlighted, the logic is not suggesting any predetermined sequence for the components.

4.2 Data Collection

Corporation-startup collaboration as a research subject is slightly ambiguous and requires a clear scope to be addressed. It is essential to recognize the relevant literature describing corporation-startup collaboration to understand the phenomenon behind the subject, to build on prior studies, and eventually develop a theory. Hence, a comprehensive literature review was conducted. Even though the startup engagement itself has not received much academic attention, the phenomenon is building on extensive strategic literature of organizational growth and renewal, and open innovation as a new paradigm for innovation operations. This area of research gave a theoretical foundation for the study in the scope of organizational studies. The rapidly evolved startup support ecosystem needed to be defined and covered on a general level, giving a lens through which the role and relevance of corporations as part of it could be assessed along with the dynamics between corporations and startups. Finally, the prior studies of startup engagement models were synthesized to give the base for the to-be-formed theory.

Multiple databases, including ProQuest, Google Scholar, JSTOR, and EBSCOhost, were used for a systematic search for literature. The searches were conducted using a set of different keywords, after which the most relevant papers were identified from the first few dozen results based on the title, abstract, and the times cited. After the closer assessment, also the references for the most relevant studies were followed and examined. This process was continued until a saturation point, where the value addition from new studies was marginal, and a set of frequently cited papers had been found.

Interviews were the most important source of primary data in this study. The data collection was started with sampling. In qualitative research, *purposeful sampling* is commonly used for assessing and selecting cases (Patton, 2002). Strategies for purposeful sampling vary,

but criterion sampling (Palinkas et al., 2015) as the most common one was applied. Sampling was done by first selecting predetermined criteria and identifying and selecting all the cases that met these criteria:

1) The company has at least *two years' experience* of engaging with startups

2) The engagement is not ad-hoc-based but has some *structure and allocated resources*

3) Operating in the organizational field, where *startup engagement activity* is high

Through setting the criteria, it was possible to ensure the selection of information-rich and relevant cases to the sample. The prominent cases were identified through informal interviews of two experts working closely with the largest Finnish companies active in the startup ecosystem. In total, there were ten formal interviews conducted between February and April 2020. These interviews covered nine large Finnish companies meeting the criteria above, falling into two general organizational fields: Basic Industry and Technology-driven. Due to the complicated phenomenon studied and limited resources, only two fields were selected to be able to have multiple informants from each. These two fields were selected due to their different business characteristics and basic needs, probably revealing some interesting similarities and differences in terms of startup engagement. The nine chosen company representatives had the primary operative responsibility of running the startup engagement operations within their organization. Besides, one of the interviews was conducted with informants representing third-party service provider helping companies in startup engagement. All the representatives were contacted through an introduction, given by a mutual contact, which resulted in informants quickly expressing their willingness to take part in the study.

The data collection was done through semi-structured interviews, the interview guide was structured according to the CIMO logic (Denyer et al., 2008), and it was provided beforehand to the interviewees. It consisted of three general categories of questions: the context of the startup engagement (propositions), startup engagement operations (process, people, place), and outcomes of the startup engagement (metrics). The majority of the interviews were conducted at the interviewees' facilities face-to-face. All interviews were voice recorded for the later analysis, the average duration of the interviews being around 60 minutes. The roster of interviewees can be seen in Table 4. As proposed by Eisenhardt (1989), other sources of data, like company presentations and reports provided by interviewees, complement the primary data.

Table 4. List of Interviewees

Acronym	Role	Length (h)	Field
B1	Head of Startups	1:07	Basic Industry
B2	Startup Coordinator	1:04	
B3	Head of Innovation	0:55	
B4	Head of Startups	0:50	
B5	Head of Startups	1:01	
T1	Tech Lead	1:06	Technology
T2	Head of Ecosystems	0:47	
T3	Head of Startups	1:03	
T4	Head of Startups	0:55	
S1	Partner	0:59	Service Provider

4.3 Data Analysis

The data analysis was carried out by following the 'Gioia methodology' (Gioia, Corley, & Hamilton, 2013). The very first steps of analyzing the data were done simultaneously with the first interviews. Commonly, interviews and the analysis proceed together, and informant terms, codes, and categories usually emerge in the early phases of the research (Langley, 1999; Lincoln, Guba, & Pilotta, 1985). The data analysis was conducted with ATLAS.ti software. Following the Gioia methodology (Gioia et al., 2013), the 'first-order' coding was executed by not yet consolidating any of the terms to higher-order categories, but marking all possibly relevant themes from the primary data. The number of first-order categories increased to almost 100. After that, similarities and differences among these categories were sought after, resulting in 63 first-order categories.

When the first-order analysis was done, the abstraction level was increased by figuring out a possible deeper structure in the first-order concept. This 'second-order' analysis raised questions whether the emerging concepts were discussed in the existing literature or if those were somewhat nascent concepts lacking adequate theoretical referents. When the set of second-order concepts was narrowed down, and the concept development process led to "theoretical saturation" (Glaser & Strauss, 1976), these second-order themes were

distilled even further into ‘aggregate dimensions’. At this point of analysis, a data structure (See Figure 7) was built from first-order terms, second-order themes, and aggregate dimensions. This data structure depicts the overall data analysis process from raw data to themes and high-order dimensions, demonstrating the punctuality of the qualitative data analysis (Pratt, 2008; Tracy, 2010).

Findings were linked strictly with the existing literature, but to avoid the confirmation bias, the literature review process and interviews were rather simultaneous than sequential. Semi-ignorance of the literature in the early phases of the study is considered to help not ending up to prior hypothesis bias (Gioia et al., 2013).

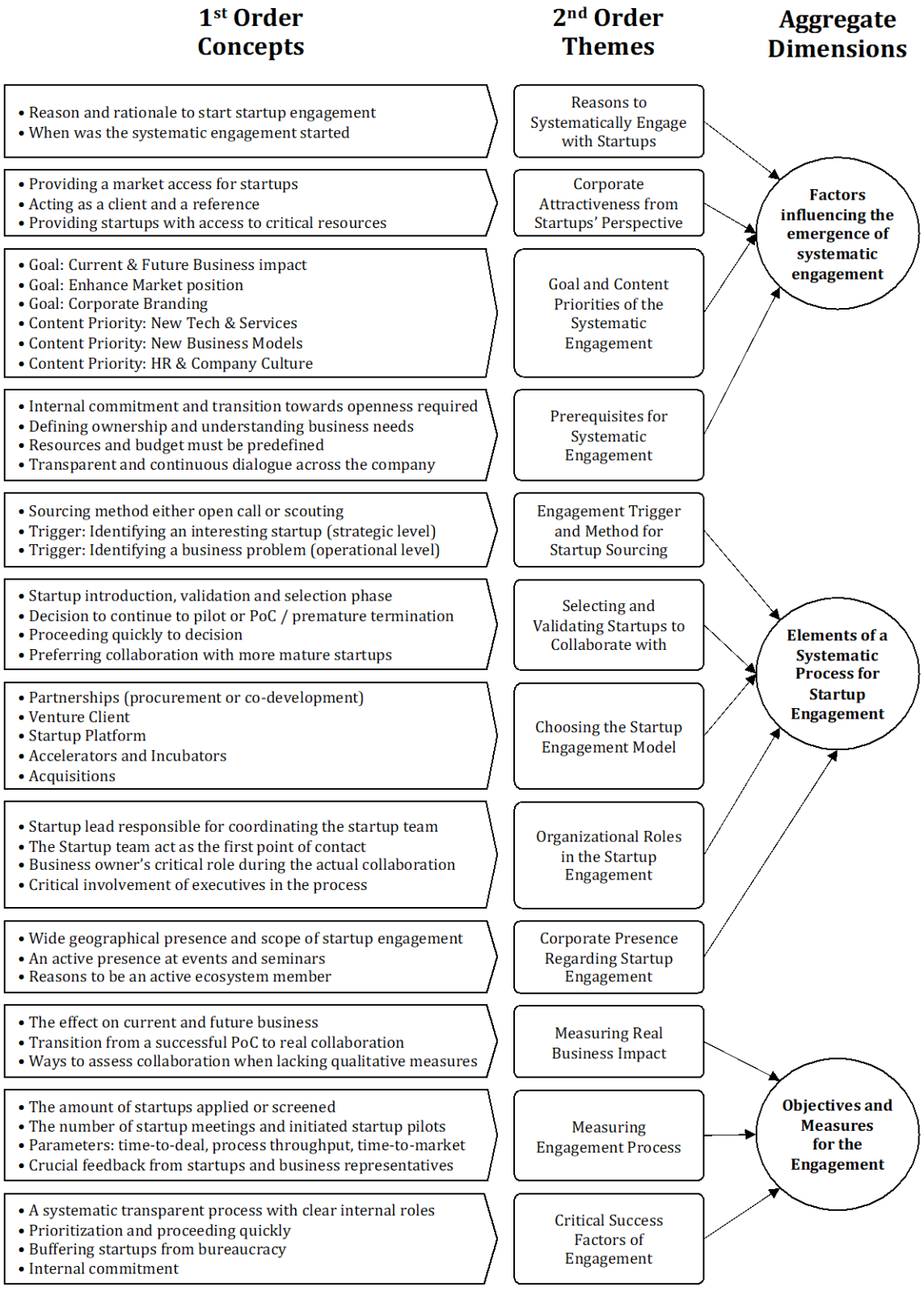

Figure 7. Data Structure

4.4 Evaluation of Research Design

Ensuring and assessing the validity and reliability of qualitative research is problematic (e.g., Gibbert, Ruigrok, & Wicki, 2008; Yin, 2003). The interpretations of primary data are in the hands of the researcher, and only a little transparency is granted for the reader through "illustrative" quotations from interviews (see Appendix 2) (Yin, 2003). However, the reliability and validity of the research results can be addressed through four standard tests: construct validity, internal validity, external validity, and reliability (Gibbert et al., 2008).

Firstly, the construct validity is related to the data collection and measures the quality of the conceptualization of the researched phenomena (Gibbert et al., 2008). In other words, construct validity is about how well a study addresses the concepts it is said to address and leads to observations that describe the reality (Denzin & Lincoln, 1994). Yin (2003) represents the problem of how qualitative studies might record and point out changes that could be only impressions of the investigator or does indeed reflect something of the real-life phenomenon that is studied. To avoid 'subjective' judgments, Yin (2003, p. 35) proposes an investigator to cover two steps: "1. Select the specific types of changes that are to be studied (and relate them to the original objectives of the study and 2. Demonstrate that the selected measures of these changes do indeed reflect the specific types of change that have been selected." Besides, Yin (2003) suggests three different tactics regarding construct validity, of which to were used: multiple sources of evidence were exploited in the form of ten separate interviews and established a chain of evidence following the Gioia method (Gioia et al., 2013).

Secondly, the internal (logical) validity is related to the analysis phase and describes the relationship between variables and results (Yin, 2003). Three common tactics exist to provide logical reasoning for the study, enhancing the internal validity and defending the research conclusions: formulate a clear research framework, carry out a pattern matching, and harness theory triangulation (Gibbert et al., 2008, p. 1466). The two former were used in this research. First, a clear research framework is represented (see Figure 7) by following the Gioia methodology, explaining how specific observations are related to the corresponding second and third-order levels. Second, through pattern matching empirically observed patterns were compared and matched with patterns in previous studies. For example, Chapter 5.1.2 "Why Startups Engage with a Corporation" reveals the very same aspects represented in previous studies (see Chapter 3.1), suggesting that our method is generating similar results in this specific area of startup expectations.

Thirdly, the tendency of analytical generalization indicates the external validity of the study. It is related to the generalization of empirical observations to theory. (Yin, 2003) A clear

rationale of the study context and sample should be provided to increase the generalizability (Cook & Campbell, 1979). Even though a solid rationale exists, the study is limited to large Finnish companies and may not be, as such, applicable to other environments. Also, these companies represent only a narrow area of different organizational fields, leaving many without any consideration. Even though some differences may occur between very different fields, within the observed fields, the represented concept for systematic engagement with startups and its pre-requisites might be well generalizable to other collaboration relationships between corporations and stakeholders.

Lastly, reliability is guaranteed when the study includes no random error but is replicable with the same study setting, generating similar results than the original study. Gaining replicability demands transparency, including proper documentation and clear research procedures. (Yin, 2003) Chapter 4 aims to justify and present the used methodology, improving transparency. In semi-structured interviews, the interviewer has a significant role in making the research setting by definition less replicable. Hence, it is vital that dimensions of the study that can be systematized, like analyzing the data, are adequately addressed. Therefore, Gioia methodology (Gioia et al., 2013) has a crucial role in the clear research procedure of proceeding from first-order observations until the third-order aggregate dimension. Also, purposeful sampling aims to increase the clarity of research procedures (Patton, 2002). The informants were carefully selected to guarantee as much first-hand experience from corporation-startup engagement as possible. Also, the reliability was enhanced by using all the available material, both public and internal.

5 Findings

5.1 Factors Influencing the Emergence of Systematic Engagement

5.1.1 Reasons to Systematically Engage with Startups

The systematic engagement was initiated within the case companies between 2014 and 2018. Often it was told to denote the year a designated startup team was nominated and resources, both time and money, were allocated for the startup operations. However, informal ad-hoc-based engagement has usually started many years earlier:

> The informal engagement started already seven years ago when we realized that there were various startup events every week to be present. Our competitors were back then completely absent from these events. […] However, our startup operations grew year by year, and therefore we initiated the more systematics engagement four years ago. (T4)

> We have always, but now more systematically and with an ever-increasing pace sought after external partners with interesting technological solutions. There are numerous startups with very interesting solutions indeed. (B3)

> Globally this (startup collaboration through corporate venture capitals) is not a new phenomenon, actually, it has a very long history in the USA. However, this strong collaboration perspective, which has arrived, is a consequence of the startup boom. It culminated back in 2016 – 2017. Slush has a great effect on that in Finland, but a similar trend has been visible in Europe as well. (S1)

Reasons for a corporation to start a systematic engagement with startups seem to be twofold. Moreover, what is noteworthy, both of these two aspects were at least somewhat visible in each case. Firstly, from the strategic perspective, engagement is about company renewal (startups are seen as a source of innovations and for example, new entrepreneurial culture) and company growth (seeking value for customers through new services and products). Secondly, from an operational perspective, it is about effective engagement. Instead of ad-hoc-based occasional collaboration, the company aims to get access to a larger pool of startups with fewer resources used. The operational perspective typically includes outsourcing parts of the engagement process, and hence incorporating third-party service providers into the startup engagement process. Five companies mentioned elements that are associated with ***company renewal*****:**

> This (startup engagement) is related to innovation policy, established in 2015, that innovations need to be emerging all the time so that we can have progressed – to retain our company relevant also in the future. [...] The reason to engage with startups is that they put a lot of effort on their own, very specific, focus area. We, as a corporation, have a lot more resources but accordingly, a vast portfolio of different activities. A startup can focus, and that is the reason we are engaging with them. (B1)

> Due to the increased funding available for startups, and cloud-based services making technologies that used to be exclusively available only for large corporations accessible for startups, even 2-4-year-old startups are extremely capable to innovate and resolve business problems a lot faster than large corporations. (B2)

> The speed of co-developing new things together (with startups) is one interesting angle for sure. Through collaboration, we can also learn ourselves. (B4)

> Our renewal, especially regarding digitalization, is a very centric objective. Our strategy is not to compete but to collaborate. […] Startup was a totally new concept for our R&D and other parts of the organization, and that needed to change first. (T4)

For the businesses built on scalable technologies, systematic engagement usually relates to the strategic objective of ***company growth*** rather than mere renewal. When seeking growth through startups, instead of being interested in and investing a lot (both money and time) in single startups, the scalable and resource-efficient collaboration aims to create an ecosystem of startups:

> Ecosystems have a major role in our field. (H5's company) need an ecosystem of startups to grow, and on the other hand, startups need the (technological benefits) of our ecosystem. (T2)

> We need to reach the point (of awareness) that when a startup makes a fundamental technology decision, it chooses our technology to build on. And that is hard. We try to embrace this through multiple ways startup engagement being one of them. (T1)

> It is specifically mentioned in our strategy to "create significant new business opportunities" which is straightly linked to our external venturing. And it has been recognized at the management team level that this (startup engagement) is the way to bring that growth. […] If the tie to current business is not clear but the case is interesting, we have our accelerator – an ecosystem these companies can join. We support their development and wait for future business opportunities. (B5)

It was evident in all the examined cases that startups were seen as a promising external resource for various reasons. Majority of the informants took the upsides of startup engagement as granted, and corporations from both industry categories highlighted that they had done startup collaboration for a long time, long before the systematic engagement was initiated:

> For a long time, we have had in (H9's company) business owners and people who were very motivated to do business with a startup. [...] Even a long time before the startup partnership team was founded. But then, in terms of the actual team, the team we started in 2016. (T3)

> To be honest, the corporation-startup collaboration was started a long before growth companies were started to call as 'startups'. Even our history remains a startup growth story after we spun out of (Finnish company). The actual systematic startup engagement started 2,5 years ago (in 2018). (B2)

One of the most significant challenges for corporations is how they could effectively incorporate startup engagement into their daily operations. Multiple informants mentioned limited resources. At the same time the supply of startups is higher than ever, and thanks to a powerful startup support ecosystem, it is increasing. The ***efficiency of engagement*** was mentioned as one important reason to start systematical engagement operations:

> The demand for systematization the startup engagement emerged five years ago when both the number of technology startups and available funding increased rapidly. […] We started it (startup engagement) particularly because the ad-hoc-based nature of the engagement resulted in untapped business potential. (B2)

> We have ever more startups on the other side of the table, forcing us to be ready and to understand the pre-requisites for startup engagement. In other words, understanding the pitfalls to be avoided. And through it (systematical engagement) we can identify our an their strengths. (B3)

> We had great negotiations at Slush, but after the event, it was a mess. [...] Many promises had been made, but after Slush it was quite a slow process. Startups did not know whom they were supposed to contact. [...] There were quite many unhappy startups on how we had been handling them. Then we decided to initiate the startup partnership team and systematic engagement process. (T3)

5.1.2 Why Startups Engage with a Corporation

There were three primary value propositions for startups to collaborate with corporations: market access, first large client and reference, and access to critical resources. Without exception, two or all three of these propositions appeared in each of the companies interviewed (see Figure 8). Majority of the informants articulated how the ***global market access*** is something that startups appreciate the most, simply because it is worth more time and money startup could ever afford alone:

> As a commercial partner for the startup, we have such a scale, credibility, and market access that startup simply cannot reach on their own within this market. If we consider industrial sectors, being mainly based on relationship selling, we have those relationships that are expensive and time consuming to build. (B2)

> Startups are interested in global distribution, and we have an extensive global client base and other networks where we can give access for them through the Venture Client model. (B1)

> Being a sales channel is something we are doing with 130 startup partners. […] It is the most concrete and tangible business impact that you can have. (T3)

Access to critical resources was mentioned by seven out of ten companies. For a startup, it seems like an arbitrage to harness company resources. Practically speaking, the access varied from somewhat restricted with no clear policies to extremely open with all the needed content being available online for registered partners. Primary types of company resources startups are exploiting relate to technical and industry-specific knowledge. Usually, that is not explicitly and freely available but gained during the collaboration via the validation, building of PoC, and later during the co-development phase:

> Startups often lack the pure engineering capabilities and resources that we can offer on the scale of mass production. […] Startups tend to have a technology or a pilot that they can rapidly validate with our capabilities and know-how. (B3)

> Startups need many kinds of help. First, it is technical. […] Startup gets free access to our development tools and website including thousands of hours of training material. […] We have all the needed business contacts, support channels, pre-sales support, and global distribution channels for startups' products. (T1)

> We provide startups with data platforms, connections, and other support so that they can focus on creating value on their specific area of competences. (T2)

Even though a corporation would be already providing the two mentioned value propositions, they typically also act as a ***client for the startup***. This brings multiple benefits to the startup. First, the real business opportunity is oftentimes a lot more lucrative option than mere funding, since generated turnover, as well as a large company as a client reference, increase the valuation of the startup. Secondly, business development through solving real business needs is operationally very efficient and decreases the time-to-market:

> We, as a client, bring real business for startups. The collaboration with them is very lean: startups are doing business with our core business functions. If a startup gets us as their client, they have a large global listed company as their client reference, which automatically increases the startup valuation. (B2)

> Venture Capital funds cannot offer turnover, corporations can. Startup having a real customer whose real business problems it is solving, is a very fundamental part of the Lean Startup philosophy. (S1)

As is visible in Figure 8, funding was systematically provided only by three of the case companies, and also they preferred more agile, often totally equity-free models of engagement.

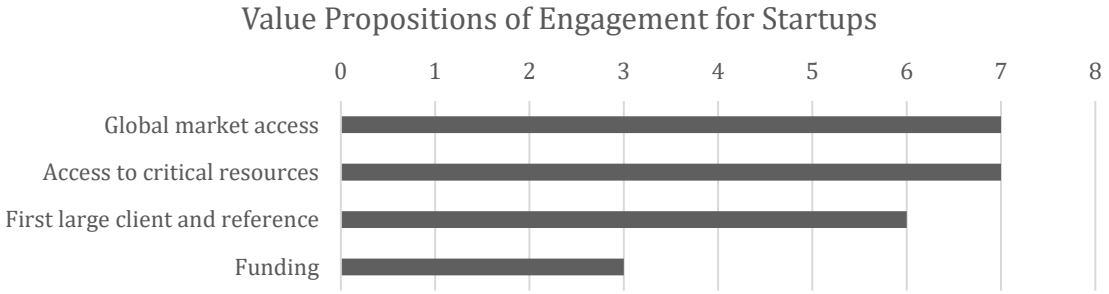

Figure 8. Number of Corporations Offering Certain Value Propositions

5.1.3 Engagement Goals and Content Priorities for the Corporation

According to the prior studies of startup engagement, a clear value proposition of the engagement is among the critical success factors of the operations (Kohler, 2016; Weiblen & Chesbrough, 2015). Moreover, the value proposition is two-way: chapter 5.1.2 describing the corporation perspective and 5.1.3 correspondingly motives for startups to work with the corporation. The informants had an instant and a relatively clearly stated answer for the content priorities and goals of the engagement. However, both content priorities and goals of the cooperation were very diverse within most of the companies.

New technology and services were the most important content priorities for the engagement. It is highly related to the finding that seven out of ten companies regarded startup engagement to be primarily related to their overall innovation efforts targeting tangible results:

> We are looking after innovative new technology through which we could either reach better yield and efficiency in our current operations or then create more value for our customers. [...] Most of them are SaaS related. We see also hybrid cases with some hardware components but still being based on a fundamental deep tech, often patented, solution. (B2)

> Oftentimes they (startups) have some state-of-the-art technology. And of course, we aim to understand how could we harness that in our own business. [...] When we talk about our innovation department's goal of creating new business opportunities, then it (startup engagement) is primarily about new technology and technology startups. (B3)

> It can be a very small technological detail or enhancement to our current offering, or then entirely new service or solution we can offer to our customers. It varies. But first and foremost it's always about how we can enhance our offering or provide additional services besides our core offering, through technologies and services the startup can provide for us. (B4)

Company culture is at the intangible end of the engagement content priorities, and visible in the majority of the examined cases. However, the emphasis on culture-related content priorities were most significant in three of the case companies, that also had an internal accelerator program aiming to embrace intrapreneurship and spin-off projects.

> Our accelerator is very much focused on the organizational culture, and therefore it is operated by our HR. Simultaneously the aim is still to develop some of our technology or service. [...] The aim is to improve our top talents and predispose them to the startup collaboration culture. That is the main theme. (B1)

> We have brought a lot of our employees to our internal accelerator program where they gain influence from startup entrepreneurs and venture capital firms. [...] It is a great impact from these startups, how they are influencing our people. It is definitely one benefit (of the engagement) that is hard to measure but the value it brings is evident for us. That is something only startups can bring for us. (B2)

> We are eager to learn agile ways of working, bring efficiency, assess our current capabilities, and to be more agile and entrepreneurial ourselves. [...] That is one of our interests around this topic (of startup engagement). (B3)

New business models were the rarest content priority for the engagement. However, it was mentioned as a high priority by three of the informants. Their engagement models included elements of the platform-based inside-out model. Hence, it seems that the more engagement content priority is related to new business models, the more scalable is the business itself and also the startup engagement.

> We are a global platform provider. We do always need the partner for the last mile. So we bring these partners to our platform. Here lies one of our magic figures: when we make one dollar, our partner ecosystem makes nine. Our business model lives entirely through our partners. (T1)

> We don't seek only new technology but also business models. [...] Business models are changing rapidly. That is why those models are at least as important as the technology itself. [...] The most important outcome of engagement is new business models and opportunities. (T2)

New business model exploration explained to be demanding due to the great intellectual properties related to the core business. Giving access for startups to these IPs requires heavy contracts, which is time-consuming and sometimes practically impossible. Additionally, asset-heavy investments that need to be technically supported for a very long time is often a problem. If a startup is delivering part of the product, the corporation needs to ensure that the startup's solution is supported years to come. Therefore, various add-ons are more popular due to the ease of incorporating them into the offering, as opposed to building new business models or products based on startup solutions:

> Oftentimes startup offers an add-on or technological enhancement to our product or service. The closer we are our core processes, the harder the collaboration gets. In other words, if we build our core businesses on a startup technology, it needs to enable worldwide delivery and support. We need a partner that can guarantee they exist still after three years. However, we might adopt some business models from our startup partners, but it's not easy due to their quite narrow focus. (B1)

Even though content priorities existed in each case, its diversity within a few case companies was conspicuous. In some cases, focus or its absence seemed to be more intentional than in others. An usual explanation for missing content priorities was that the actual demand is always based on the needs of the business:

> We don't have any clear content priorities. […] We aim to listen our business units and R&D, and the particular demand for certain solutions are coming from them: what opportunities and needs they have identified. (B4)

> The scope (of content) is very diverse. At the moment we are running pilots regarding technology, digital solutions, HR-related, and other softer solutions. So it is our goal to have a broad scope, even though digital solutions are emphasized as a category. (B5)

> We see everything (regarding content). I think you could argue that majority is a new technology or new services, but yeah – I think we are seeing everything. (T3)

In some cases, the primary aim was not to continue the partnership after the proof-of-concept (PoC) phase, but rather to pick cases where the content is related to 'moonshot' opportunities. This type of engagement is related to sensing new opportunities and assessing and improving corporate's internal capabilities:

> The aim in all cases is not to continue much further from PoC. But rather learning from some new technology, understand how we could exploit that in the future. The majority of new technologies are such that we can perform a PoC, identify upsides, but then we don't have capabilities and needed maturity of current business to continue. (B5)

5.1.3.1 Goal of the engagement

Enhancing current business and creating ***new business opportunities*** were the most important goals for the engagement and were associated with successful startup engagement in all the examined cases. Therefore, the engagement seems to be related first and foremost to corporations' innovation efforts.

> In 2017 we started to figure out new models that would grant us access to the innovation pool. Building that access was reason to initiate a new startup engagement process with an external service provider helping us with the startup sourcing: their main job is to matchmake our business needs with the startup ecosystem. We truly believe that innovation does not happen in isolation. (B1)

> We have a clear goal (for startup engagement) of building new business for (H4's company) outside of our current business and technology. That is the primary objective

> of our innovation operations besides the evident goal of supporting the growth and development of our current core business. (B3)

> We have cases that come straight from the business units serving their short term strategy. But because creating significant new business opportunities is not necessarily in line with today's core business, we also need to seek after those opportunities serving our long term strategy. (B5)

The enhancement of current business was a priority over new business opportunity creation for some corporations. The rationale for this was the more immediate value creation and conversion to customer experience:

> We can enhance our customer experience by integrating startup's offerings to our services and even to our products. [...] In the majority of the cases we become a customer of the startup, meaning that we have a real business need they can solve. [...] The most important goal is to create value for our customers. Also, numerous startups are providing SaaS solutions that could generate us savings in our operations. (B2)

> The majority of collaboration is related to our current business. It is always more demanding if the case is related to the future business opportunity. Generally, my experience is that cases that bring clear and concrete business benefits today are the most desired ones. (B5)

Enhancement of current market position was the second most important goal for the engagement, representing a very strategic goal for the startup collaboration. One necessary clarification here is that by 'strategic goal' of engagement, we refer to startup collaboration which aims to strategic business moves, for example, a market expansion, or enhancement of market position and offering through a startup partnership. However, the above-mentioned 'innovation-related goal' of collaboration can still be, as for the majority of the case companies it was, at the core of the company strategy. Even though this is not black and white, we aim to distinct engagement with strategic and innovation-related goals.

> Besides the innovation-related goal, another aspect is that there exist startups through which we can grow. This startup might act within a customer segment where we have some presence. In those cases, we could leverage our scale and grow fast through collaboration. (B2)

> It is difficult to separate those two (strategic vs. innovation). [...] We are always developing and acting based on our long term benefits for our customers and

> stakeholders: always being driven very strategically. In many cases even though it is driven strategically, we are always innovating with startups. (T3)

The goal of enhancing current market position through startup collaboration was most evident in the companies whose business is fundamentally built on a scalable platform that does not exist without partners:

> We build and sell platform solutions. We cannot sell anything, or our sales do not grow if we don't have new partners. That is why we busy build new partner programs. [...] We want startups to use our technology. We need to have our partner funnel full of startups that will grow. [...] We do always need the partner for the last mile. (T1)

> Our current offering gains new business and market opportunities through new partners (startups) and their offering, helping us to acquire new customers. The streams of new businesses are divers. [...] We need a growing ecosystem of startups: the value of our solutions increases with each new startup in our ecosystem. (T2)

Corporate branding was mentioned often as one of the goals for the engagement. However, for multiple companies, it was instead a pleasant by-product than the primary goal of the cooperation. A great brand image helped corporations not only to generate inbound of relevant startups but also enhanced the employer image and consequently increased the volumes of job applications. An open call is one of the most public methods for sourcing startups, and therefore also one of the primary ways to promote the brand image of a startup-friendly corporation.

> We have great visibility in the startup events and the ecosystem generally. We definitely see this also as corporate branding. […] One pleasant side product was also extremely high volumes of applicants for our open positions. (B1)

> Our open call of startups to collaborate has the benefit of external visibility. Then it is also easier to internally communicate the value of startup engagement when having a strong brand. (B2)

> Open call as a sourcing method is a typical starting point for systematical startup engagement. It is a great way also to boost your brand towards startups and start to create the association of interesting partners to collaborate with. (B5)

5.1.4 Pre-requisites for Successful Systematic Engagement

Four crucial premises of successful engagement were identified from the interviews: the necessity of defining engagement ownership, predefined budget and other resources for

initiatives (PoCs, pilots), internal commitment to open corporate culture, and continuous internal dialogue across business units. Two former relates to the resources and two latter to organizational aspects. First, the ***importance of ownership*** over each startup collaboration initiative was highlighted by most informants. To a great extent, it defines the success and failure of the engagement:

> The first-ever round of our startup engagement program had defined budget but key people did not have enough time and commitment. Therefore, it almost miserably failed. […] After that the lesson learned has been to have great emphasis on defining the owner and other key peoples for each initiative. (B1)

> The first principle is that each case has an owner with a focus on the startup. […] When a corporation initiates the engagement with a certain startup, there needs to be a business owner who is responsible for the outcomes. (S1)

> We aim to identify potential cases that have an owner from the very beginning: when the project starts we have an expert who can take the lead of the initiative. (B4)

Second, a ***predefined budget and other resources*** are a crucial pre-requisite for the startup-friendly process that proceeds quickly from contract to action. Sometimes funding is relatively easy to guarantee, but vital human resources are too limited. Having obscurity regarding this aspect was articulated to be concerning multiple shortcomings and issues along with engagement:

> We always need a suitable case and budget. […] We have two budgets: first for running startup team operations and second for the actual project or pilot with the business. So a business owner with a budget must always exist. (B1)

> For us, it is quite easy to find the right people, but there is practically always the debate on if the project is valuable since ”it takes these X resources from us”. So the actual price tag of the project comes from the human resources it requires from us. (B5)

> Funding is extremely important since issues with it are visible in many other parts of the process like slow decision process, no response from business, lack of ownership, and so on. My piece of advice is that when considering starting the collaboration or not if the funding is neither predefined nor coming from the business, don't start. […] The ownership and funding are topics not covered often enough. Nothing happens within corporations if there is no budget. And the budget for startup team doesn't need to, and actually shouldn't, cover the expenses of the actual projects. (S1)

Third, the ***internal commitment*** to open corporate culture is vital. The mandate and commitment of executives represent leading from the front and has a significant effect on the rest of the organization. Usually, the financial impact of startup operations is just a fraction of the whole turnover, and it is often hard to even estimate. Therefore, the engagement must be seen as a strategically important activity and have support from the very top of the organization. Majority of informants were satisfied for the overall commitment, but indicated that the work is still in progress:

> Successful engagement requires a sufficient level of managerial commitment so that it is possible to gain enough attention from the businesses in the first place. Luckily, we are running startup operations with a very high profile. Even the chairman of our board is interested in our progress regularly. (B1)

> This is a highly strategical activity, which derives from the top management team. And then it is implemented through the way each of us is acting daily. Everything starts from being innovative – we are actually a giant startup ourselves too. (T1)

> The presence and commitment of top management are vital, and the linkage in between. That is working quite well, so we can escalate cases to the executive team meetings for a quick decision on an ad-hoc basis. (B3)

> The director of the business area in question is always involved in the decision. Within (H2's company) these directors are responsible for all operations, and support from them is on an adequate level. (B2)

Fourth, the ***transparent and continuous dialogue*** across the business units is something organizations put a lot of efforts since it eventually defines how aware the startup team is of the real business needs, and how successful and active the startup operations are:

> We have regular meetings to understand business. […] The way we are learning is usually coming from making the proposals and having rejections. From those cases, we

are learning far more about what are the actual needs than just by having a meeting and discussing the needs. (T3)

We spend a lot of time speaking in internal events and business divisions' executive team meetings about the startup engagement operations. (B1)

We try to increase the awareness of the existence of startup collaboration by sharing the results of the prior collaboration […] We embrace our employees to take action if they see opportunities for startup collaboration. (B4)

5.2 Elements of a Systematic Process for Startup Engagement

The systematic process of startup engagement was stated by informants to be a vehicle for both strategical growth and renewal and from an operational perspective for effective incorporation of startups into daily operations. This chapter is related to the second research questions of what are the elements of a systematic process for startup engagement.

5.2.1 Trigger and Method for Startup Sourcing

The whole process of startup engagement starts from the trigger – in other words, from an identified need – for startup collaboration with defined ownership, budget, and objectives. Two different triggers had premises to fulfill all these factors. Firstly, the conditions for success are promising when the trigger is an identified *real business need*, either a problem or opportunity. Then objectives are close to the core business, the budget comes from the business unit, and ownership is naturally inherited. Secondly, informants articulated that one should not expect startup collaboration opportunities to be always identified in business units. Therefore, sometimes engagement is not initiated to solve current problems but rather as *moonshots* to serve long term strategical goals. Then the ownership, budget, and objectives are coming straightly from the management team. Often these two triggers co-exist complementing each other, but real business needs having a stronger emphasis.

We have different triggers: some cases come straight from businesses as requests, if there exist some existing solutions, serving our short term strategy. But because our strategy has a great emphasis on creating future business opportunities, it (startup solutions) isn't necessarily in any link with our current business but rather with our long term strategy. […] But on my experience, the majority of the cases can be linked to our current business. (B5)

> Real business needs are our main trigger. […] However, sometimes we have incentives to be more open so we have a theme area of interest where we request diverse proposals for collaboration. This latter is related to the open innovation paradigm. (B1)

> Our main approach is in collaboration with (H7's service partner) to first identify a broad strategical need, of which we then tell through a public startup call. We articulate the challenges we are trying to handle, and which kind of related solutions we are seeking for. […] This is driven by our real business needs. (B4)

Startup sourcing was both outsourced and carried out inhouse. All of the informants said they are doing at least some of the sourcing inhouse, but startup sourcing is the most typical part of the engagement process to be outsourced. There are generally speaking two different methods for startup sourcing: *open call* aiming to inbound, and *scouting*, which is pure outbound. As the two triggers, also sourcing methods usually co-exists. The open call is used for broader and more strategical sourcing (top-down), whereas scouting is a counterpart for the trigger of real business needs (bottom-up):

> Our task as a startup team is to understand our business units' needs and articulate those to the world. Open calls, gaining usually 70-120 applications, are good for startups since they know for sure what we are looking for, reducing radically the time-to-deal. […] If the need is well known and defined, and we are seeking a precise match, we create an RFP (request-for-proposal) and use our partner ecosystem for the scouting. (B1)

> We have two approaches: open call as top-down and scouting as bottom-up. […] The open call that is defined with one of our three business areas at a time. […] It can be a specific technology or a broader description of opportunities that are sought after. […] Then the other is scouting of specific solutions, which remains a fast-tracked procurement process. We get a request from the business, and then we (startup team) interview business representatives to understand the requirements, the must- and nice-to-haves. The scouting is then executed together with our partners. (B2)

> If a corporation knows exactly what it is looking for, and needs are defined, then one can scout startups one-by-one. However, if the aim is to have access rather to a domain of startups, then an open call is a better approach. (S1)

The open call is a scalable method, but on the other hand, it requires resources to handle each prominent startup:

> The upside of open call based startup programs is the ability to scale. If there only exists a fit with our program and startups, then it is a machine that keeps grinding. (B3)

> Open calls are relatively resource-heavy, regardless of the involvement of a partner, since also the misfit startups need to be processed. We need to answer at least something to everyone, which takes resources from the company, even though facilitating partner does exist. […] The final call of a startup being interesting or not is always done by our company, because the partner can't ever be sufficiently informed about the internal needs. (B5)

5.2.2 Selecting and Validating Startups to Collaborate with

Despite some variation in the best practices, in general, the selection and validation process told proceed quite similarly within all interviewed companies. Successful sourcing of startups, considering a specific identified need for which solutions were sought after, said to generate a long list of 30 to 150 startups. It was then reduced to a shortlist of 15 to 30% of the most prominent startups in the longlist. These companies on the shortlist were then more closely assessed during a systematic validation process. Typically, the startup team produced a brief report of each startup for internal use. These cases were then examined together with the business unit representatives and executives, who had also taken part in the initial request for the collaboration in question. Then, a handful of startups were selected and invited to face to face meetings, often known as "selection day", which resulted in the final batch of startups with whom company decided to collaborate. Interviewees highlighted the importance of incorporating relevant people to selection and validation:

> We have inhouse nominated scouts, who ensure that the long list is reduced to include the most prominent startups, regarding the business needs. […] These scouts take part in the selection day's interviews, aiming to a thorough understanding of each startup's business. (B1)

> After a very pragmatic screening process, we shortlist candidates. From these, we select through three rounds of interviews the five best to a selection day, where business representatives are present. […] One of the greatest concerns is how we ensure that candidates attending selection day are as promising as possible. (B2)

The decision to continue to a partnership is a significant part of the process. This was evident for all informants, and thus they articulated different company practices that aim to make that decision more informed. Executing a quick pilot or a proof of concept (PoC) was the primary way to ensure the fit. It was articulated to prefer quality over quantity to allocate resources better. Also, some highlighted putting effort on close dialogue from the very early phases of the process:

> We proceed by having a very close dialogue with our business department, first regarding start a pilot or not, and later, if the pilot was successful, that should we continue with either some kind of commercial agreement or partnership. Also, we have always the option to acquire the startup, so there are multiple options to be evaluated. (B5)

> We have an introduction meeting with all (shortlisted) startups. […] The reason we have this is that in many cases we have checked the website of the startups, stating that there is nothing relevant for (H9's company), but when we meet the founder, you hear so much more of the bigger picture. Often they have different ideas for ways of collaboration, they are willing to co-create and develop different new products with you, and always there are different insights that you simply don't get through reading their website. (T3)

The selection and validation phase is part of the process where single startups are easily forgotten and left, even without a clear response. A quick decision-making process and progress, in general, are particularly important in this phase of the process. The timescale understood to be very different for corporations and startups, and that needs to be addressed throughout the process:

> One of like worst-case scenarios for startups is that you are forever hanging on and giving endless maybe. And even if it is a 'no', they want to get it as quickly as possible. We always promise that answer within 2 weeks from the initial contact. We are deciding whether it is 'no', or if 'yes' we have resources allocated and we can proceed. The second thing is providing valuable feedback. (T3)

> When we have decided to collaborate with a certain startup, a contract is signed within two to six weeks, compared to the industry benchmark of two to eight months. (B2)

> First PoC is aimed to execute within the first months after the decision to collaborate. We always try to define such a limited scope that we gain indicative results very quickly. (B4)

> We have good a reputation for making very quick decisions. We rapidly inform those startups with whom we are not able to continue negotiations so that they don't need to use time trying to reach us. Our goal is to make final decisions within two weeks from the first contact. That is how we remain agile and bring value for startups. (B5)

The tendency of preferring more mature startups was related mostly to risk management. Small teams considered not having enough capabilities to partner with large corporation, provide sufficient support, and enable large scale delivery:

> More mature startups are preferred especially regarding co-developed solutions that need to be scalable. It requires some maturity from a startup, and possibly some existing clients. Partly it's also a matter of risk management [...] But of course, there are some cases with early-stage startups, especially regarding emerging technologies. (B4)

> Typically we don't engage with early-stage startups since those are not ready to collaborate with a corporation of our size, even though exceptions always exist. (B2)

> Often the more mature startups are being selected, which is, on the other hand, a bit weird since we are always talking about 'early-stage startup collaboration'. But when having the option to choose a more mature startup, it is usually selected, most probably due to risk management. (B5)

5.2.3 Choosing the Startup Engagement Model

Six different systematic models for startup engagement were exploited within represented case companies. Each informant said that they are using two or more different models, being chosen case-by-case. These models can be divided in multiple ways: inside-out vs. outside-in, equity vs. non-equity, and batch-based vs. one-to-one. The natural starting point for collaboration seemed to be a non-equity outside-in one-to-one collaboration.

5.2.3.1 Partnerships (procurement or co-development)

Partnership models are among the most popular ways of interacting with startups, mostly because this category includes a variety of engagement forms. The level of resource commitment from both the startup and the corporation defines what form the collaboration takes. A high commitment from each side takes a form of close co-development relationship, while lower commitment from both sides represents a startup-friendly procurement process. The former typically requires giving more extensive access for a startup to the company's intellectual properties than the latter:

> The second of our two models is the scouting of specific solutions, which is practically a fast-tracked procurement process. We get a request from one of our business units for an identified need, like using VR technologies in the training of our service personnel. (B2)

> We have a model for co-sell partnership. We have 200 local customers in Finland to whom we're willing to convey our startup partners' solutions. Mutually, we expect a certain level of commitment from the startup. (T1)

> We have two routes to incorporate a startup into our operation. If the solution is interesting and can be instantly implemented, it goes straight to the business unit where the decision is made 'business-as-usual' – like whatever interesting solution available. (B5)

5.2.3.2 Venture Client

The venture client model is one of the most exploited models in the engagement where external partners are used to a great extent. Venture client model is also a form of procurement, but it often begins with an outsourced open call sourcing process, proceeding eventually to a rather systematic form of engagement with light contracts. Typically, to gain scale advantages in sourcing and peer support through this form of partnering, the model is exploited with a non-competing cohort of industry-leading companies.

> In 2017 we began to figure out the ways to get access to more tactical engagement. To tap into the innovation pool, we initiated the (supporting partner) together with other Finnish companies. In 2018 we launched our first round with venture client model. […] The main goal is to match-make the startup ecosystem with the needs of our business. (B1)

> The open call goes hand in hand with the venture client model, which is becoming more and more popular: we are seeking for an innovative technology through with gain process cost savings or value additions for our customers. (B2)

> Our primary tool and engagement model is the venture client approach. First, we try to identify the need inhouse, with a very broad scope, and then communicate it to the world through an open call, facilitated by our partner. (B4)

5.2.3.3 Startup Platform

When the company's business characteristics require an efficient, scalable, and therefore operationally lightweight model, the startup program platform appeared to be the preferred engagement model. It is the most common inside-out model, where the value of the company offering increases through the ecosystem of partners. There is only a low cost and risk associated with onboarding new partners to the platform:

> We want the startup to be our partner. Therefore we have partner programs for each of our business areas. We are a giant global company, so the engagement needs to take the form of scalable programs to be viable: it's easier for a startup to adopt into our program than vice versa. (T1)

> The upside of these platforms is that startup can concentrate on their narrow area of capabilities: we are providing the platform they can build on, and some other startups are building their capabilities on top of our platform plus the solutions of other startups. It's mutually beneficial. We have low costs and risks to onboard new startups to our platform. (T2)

5.2.3.4 Accelerators and Incubators

'Accelerators' as an engagement category is very ambiguous, referring to activities from internal inside-out 'incubator' programs to outside-in type programs for startups to grow. Regardless of what part of this scale the accelerator represented, it usually seemed to include the goal of predisposing its personnel to startup culture and enhancing the organizational culture – among other more tangible goals. From the strategical perspective, involved startups are typically related to such business areas that are seen promising in the future:

> Our accelerator is run by our HR, developing our top talents by predisposing them to the startup ecosystem. […] External startups that are chosen to the accelerator get straight access to our strategical themes. There are three selected our own employees working three months intensively together with a startup to come up with promising new business initiatives. (B1)

> If we have an interesting startup case lacking a straight link to the business, they can join our accelerator. We support their growth without knowing the exact match to our current but probably to our future businesses. […] There are also our spinoff startups, which have originally started as startup-like internal teams and later moved to this our own separate accelerator facility to interact with relevant external startups. (B5)

5.2.3.5 Acquisitions

Acquisitions are a very typical activity to seek for company growth and renewal. Even though the general focus of startup engagement seemed to be in non-equity models, it was mentioned by a few informants that in a case of great strategical fit, they often consider to acquire the startup. Then it is crucial to evaluate, would there be more value for the corporation of the startup if it can grow separately through also other clients or would it be a competitive edge instead through the acquisition.

> The strategic fit defines how we proceed: if the company has critical resources to which we would like to limit the access of our competitors, then we most likely acquire the company. However, sometimes we gain greater value while the startup grows even with the help of our competitors. (B5)

> Quite often we assess their patent portfolio and the future of the technology it represents, how does it look from our perspective, and what kind of legal rights and protection it grants. These aspects affect the decision to acquire or not. (B3)

5.2.4 Organizational Roles in the Startup Engagement

Concerning the perspective of organizational areas of responsibility, the engagement operations can be divided into two parts: the *beginning of startup engagement,* starting from the sourcing and ending to a successful pilot, and the *actual collaboration*, being typically a smooth transition from pilot or PoC to the collaboration generating real business value.

5.2.4.1 Roles at the Beginning of the Startup Engagement

There needs to be a startup lead responsible for coordinating the *startup team* and the overall engagement operations. The startup team has a vital role as a 'bridge-maker' between startups and business units, understanding the needs of both sides. Various practices existed of how long the startup team was involved in the actual collaboration, some dropping off earlier than others:

> I'm the matchmaker between the startup ecosystem and our business needs. So that we can handle the whole pool. If someone is interested in startup collaboration, I can assist him or her to follow the process and get started. (B1)

> My team is under our Innovation and Venture operations, responsible for being up to date what is happening within the startup scene. Execute the preliminary assessment if something interesting turns out. My role then is to ensure that pilots are kicked off and having progress – and boost our own personnel to get things done. (B5)

> Core responsibilities take 50-60%. This is scouting startups, networking, inviting, and meeting startups. And then proposing internally projects and doing this kind of work of trying to understand internal needs. […] 40% of the time we're doing more project kind of work. Designing and taking actions on our accelerator for instance. […] And when the business owner takes the lead on, that's the point our team stops getting involved. (T3)

The startup team act as the first point of contact for startups, which is among its most essential tasks to make large corporation easy to approach:

> Our team is called the startup partnership team – a single point of contact for new startups. So we are making it easy for startups to do business with (H9's company). We train and guide (H9's company) to do business the best way for startups. (T3)

> Startup collaboration should exist as an own support function in the matrix organization. The same way as HR. Their role is to be the first point of contact and to seek suitable partners for the corporation. (S1)

However, in some cases, the collaboration needs to be much more scalable than what is viable through a small startup team. Then the process is based on online material, and not dependent on face to face human interaction:

> I am responsible for our partners' technological solutions, to gain input from them and being present when needed. […] However, this should work so that no one needs to reach me. Then it is scalable. Otherwise, an individual becomes the bottleneck. However, locally our role is to clarify things since the information overload is undeniable. So helping startups with where to start and where to get help. […] Still, we don't have anyone doing this full time. Therefore you need to find everything online. (T1)

5.2.4.2 Organizational Roles During the Actual Collaboration

The importance of the business owner's role during the actual collaboration was discussed already regarding the important pre-requisites for a successful engagement. The startup team's task is to identify the business units and individuals that are most willing to give a go for new initiatives and are capable of leading the collaboration. Typically, the business owner, who acts as a product owner of the startup case in question, tries to get involved in the engagement as early as possible:

> Business owner is involved already in the definition of the initial request for proposal, and if we find a promising startup, the business owner to whom this is of high interest has a budget and resources to start the collaboration. (B1)

> Usually, there is the business owner, who has access to the resources and budget. It can be also multiple business owners, but usually, there is one taking ownership of the collaboration. He/she allocates also the resources. (T3)

> There is always a nominated owner within our startup team for each case, but then we define an expert within the business – this business owner or expert is the one who takes the lead within the business. The role there is to ensure progress and involve all relevant people in the project. (B5)

Often the business owner has a quite high profile, and their time is limited and very precious. Therefore, multiple informants articulated how important it is to have a project manager looking over the daily tasks:

> There are typically two business representatives: a business owner and then more like a project worker who is running the operative actions. During the project, we try to minimize the workload of the business owner while the project manager is doing long hours. (B1)

> We have typically a tech-oriented project manager to lead each case operationally. He or she is working closely with the business owner. (B2)

> Some kind of project manager is needed. Resources vary a lot. It can be architects, legal, security, marketing, all sorts of different resources. Usually, there is a project manager who is responsible for taking the action and is also point-of-contact for startups. (T3)

The vital role of executives and their commitment was earlier discussed from the perspective of the most important pre-requisites for engagement. Executives set the tone for the rest of the organization, not just through announced strategy, but also via leading from the front by being involved in the collaboration. To a great extent, they define how lucrative do business units regard the startup collaboration:

> You need to have a growth board who is clearly giving a mandate in the form of funding and strategy. So executives who are articulating which kind of new solutions organization aims to seek after. (S1)

> The support of executives is a necessity. These innovation-centric operations require a mandate from the top management. […] Our executive team members are also using their time for this (startup engagement). They act as mentors for selected startups and are also present when startups pitch their solutions. (B1)

> We have a growth board doing decision regarding innovation projects, and they can also take a stand to startup cases which are not in a link with current business. That is a way to remove bureaucracy that there is no need to always find a business owner to kick off a promising startup collaboration. (B5)

5.2.5 Corporate Presence Regarding Startup Engagement

The company presence concerning startup engagement was covered both geographically and at different kinds of events. None of the informants articulated their focus to be merely Finland, but at least the Nordics, if not all of Europe. Some had specific focus areas while others aimed to have an as broad geographical reach as possible:

> In general, Nordics and Europe are our organization's focus areas. However, regarding startup collaboration, we have also well-established connections to the USA. At the moment Asia is kind of a black hole where we don't have any networks. (B5)

> We aim to reach globally the best startups. We are not looking from only Finland or Europe, or by any geographical focus area. China is a bit demanding due to very unique characteristics, requiring a physical presence and programs with native language. (B4)

> Our focus areas are Europe and Northern America, but we also screen startups from APAC and China. Practically speaking, most of the collaboration happens still within Europe, partly because EU legislation makes it so easy regarding transactions, etc. (B2)

Concerning the events, multiple interviewees mentioned that sponsorships and the overall visibility at the events were reduced due to limited resources. However, all of the companies mentioned that Slush was the most important event to be present. For many, startup leads generated from Slush represented a significant part of all leads:

> Our policy is not to sponsor any events. However, we actively attend and Slush is absolutely the main event. There we have 20 people from the business units having over 100 meetings within two days. 30% of those proceeded to a closer assessment and two pilots are now ongoing. So that is a quite large share of our total startup deal flow. (B5)

> For us, Slush is the best time to have the meetings and to really embrace the engagement. On Slush we are having the biggest investment and impact for startup activities. […] We (startup team) are coaching and helping the organization to book as many meetings in advance as possible and try to find all the relevant startups for different business units – so having good preparations before Slush. (T3)

> We have our own hackathons and other one-off events, but then we, of course, attend Slush. Those startup meetings are not necessarily as precise fits as those through the actual startup call, because we cannot affect which kind of startups are attending the event. However, we see it very valuable for us. (B4)

The reason to be an active ecosystem member and to interact with other corporations is to share the best practices. Companies have identified that openness gives them opportunities that were not accessible before:

> Ecosystem thinking is more and more popular. We systematically try to be involved in consortiums demanding close collaboration with stakeholders with a different technological background. It gives us access to knowledge and resources that used to be unavailable. We need to have capabilities to be part of those ecosystems. (B3)

> We get a lot of value through the network of corporations that are using the same third-party service provider for startup engagement operations. The topics your study is covering are such that we can learn by sharing the experiences and best practices with other corporations. The problems are universal. (B4)

> What has been very helpful is the increasing popularity of startup collaboration among large corporations. We can do collegial benchmarking and see what kind of actions emerge. (B1)

5.3 Outcomes of Startup Engagement

This section is related to the third and last research question of the desired and realized outcomes of the startup engagement. Both the actual business impact and the process itself was measured carefully, preferring quantitative metrics if available. Also, the critical success factors of engagement are discussed. Steep learning curve regarding these factors is of high importance for companies, and for some, even as high priority as the actual business impact.

5.3.1 Measuring Real Business Impact

It is natural organizational behavior that what can be measured is measured. Eventually, what matters is how profitably a business can be operated. Therefore it is not a surprise that interviewees articulated the **effect on the business** as the most crucial measure for startup engagement**.** The business impact and benefit derivers from collaboration that goes beyond mere pilots and PoCs:

> The most important measure for successful engagement is the outcome that has an impact on our current business, and not only executing tests PoCs. That is the most valuable result that is sought after through the engagement. (B4)

> If we can demonstrate clear measurable additional value (cost savings, efficiency, better forecast models) during the pilot, it is far more likely leading to further actions. (B5)

> We need to have a transition at some point from leading indicators to lagging indicators, measuring turnover, number of commercial agreements, or the number of launched new services. (B1)

> The success is measured absolutely through how much does business yield from the implemented startup solutions. And implementing is absolutely the hardest part of the collaboration. (B2)

The pursuit of real business impact requires a transition from a successful PoC to real collaboration, which is far from being trivial. Expectations management was mentioned to be a crucial part of the implementation process and prepared for additional investments while being patient regarding returns.

> A successful pilot can be basically executed by following a check-list. But the implementation of a commercial relationship between two fundamentally as different kinds of an organization as a corporation and a startup are, demands continuous improvement and exploitation of best practices. We made a study of startup expectations and accordingly identified the most important employees to be involved in the implementation process. (B2)

> Pilots you can execute without excessive investments, but to gain impact you need to be ready for significant investments. Especially regarding efficiency-related solutions that require integrations. […] And usually, the time needed for the real business impact is always underestimated. (S1)

Measuring the results of engagement was self-evident for all interviewees. Since tangible results from startup engagement become with a considerable delay, quantitative measures are scarce. The primary question instead was how to assess the collaboration if qualitative measures are not at hand:

> KPI should always be quantifiable, but if measuring the impact is not feasible, the question is how you not measure but reliably assess operations. With that mindset, one has a lot of outputs to observe, since collaboration is generating value through learning, market understanding, cultural change, ways of working, agility, and mindset. (S1)

> Of course, we aim always to measure the generated turnover but it's very demanding in these startup cases because it takes time before the value can be measured in euros. (B1)

> We have cases with different maturities, and the assessment has so far been qualitative, even though the direction is to find new ways to measure generated euros. (B2)

5.3.2 Measuring Engagement Process

The *number of startups applied (inbound)* or *screened (outbound),* and *the number of meetings,* are important metrics for the startup team describing the state of their groundwork. That is the startup volume, which is reduced through a systematic process to the actual volume of startup collaborations. Each corporation assessed, including both inbound and outbound, from around 100 to 2000 startups per year. The number of met startups ranged from 10 to 250.

> Measuring the beginning of our funnel is important. That consists of startups that applied to our programs or whom we met at Slush. The total number is around 900. Then there are numerous startups we have scouted as outbound. (B1)

> To do good business with startups, we need to meet many startups. Of course, you focus on quality, not quantity, but to find the best startups, you need to meet a certain amount of startups. So the number of startups is one KPI. We are meeting something like 250 startups every single year. (T3)

> We aim to screen as much as over 1000 startup for sourcing round. That is reduced to a shortlist of 50-70 startups. The top 15 startups we are meeting face to face are generated from the outbound. (B2)

The first real acid test for startup operations is the initiation of pilots and PoCs. If the startup team has a right hunch over business needs, there should be a constant flow of new initiatives. One important notion was that number of pilots indicates the learning, and the main goal is not necessarily to continue each case to collaboration. One interviewee also articulated how the number of pilots tells a lot more about successful startup operations than startup volumes at the beginning of the funnel:

> Our most important KPI is the number of pilots that have yielded something for the business […] and the number of active pilots tells that the pipeline has some progress. This is quite straight forward. […] Currently, we have 10 active pilots and 25 prospects waiting for the go or no-go decision. (B5)

> What is the number of PoC executed with startups by business owners? It's not about how many startups are going to production but how many PoC we are executing. So even if they don't see the light, it's good learning. So having a maximum number of PoC is one of the KPIs (T3)

The engagement also has other important parameters, of which interviewees mentioned time-to-deal, process throughput, and time-to-market. However, none of the interviewees mentioned measuring specifically the FTE used for the engagement, even though ensuring efficient employee time usage was one priority within multiple interviewed organizations.

> It is vital to understand what is the throughput time of the whole funnel. What are the parts where we are spending the most time? Through this, we understood the critical role of contracts. These aspects are important KPIs for us. (B2)

> Time-to-market is a quite centric measure for us. We have processes, roles, and responsibilities that all aim to support the quick evaluation and proceeding to pilot, and process further from that. (B3)

> Our ecosystem is hopefully learning faster than others, through which we gain time-to-market advantages. Concerning new products, we know first among our competitors what is the market demand, what is the solution, and who is the customer. (T2)

Multiple interviewees highlighted the role of external feedback from startups and internal from business units. The qualitative feedback said to be crucial to maximize the learning curve.

> One should underestimate the value of qualitative feedback since we are learning each time we (startup team members) are learning each time we discuss with people who have involved in the collaboration. (B2)

> One should always asses the success with respect to the initial objectives: learning, market understanding, cultural change, agile ways of working, customer-centricity, and so on. These are often the fundamental reasons to collaborate, not necessarily the new business. (S1)

People are always behind the operations. We need to hire employees that understand these things. We need to embrace internal innovation. Humility is always needed: we need to listen carefully to the feedback we get. We have objectives, then we iterate, collect new feedback from the field and redo it. Whatever you are doing, you need to ensure you have damn good tentacles. (T1)

One of the most important for us is the startup NPS. This is really related to continuous improvement and how we are doing business and how is our process. Always we ask startup the question after collaboration: "On a scale from 0-10, how likely it is you recommend […] startup partnership to other startups, if it's relevant for them?". […] Through NPS we can focus on the best experience, and to find the best value for the startups. So that we are always focused to provide value for them and not only selfishly for ourselves. In that sense actually year after year we have been improving the NPS. (T3)

5.3.3 Critical Success Factors of Engagement

When interviewees were asked to assess the startup operations in retrospect, four critical success criteria were identified to affect the most to the results: systematic process, prioritization and rapid progress, buffering startups form bureaucracy, and improving internal commitment.

5.3.3.1 Transparency and Systematic Approach

A systematic and transparent process, with clear internal roles and an explicit link to business needs, mentioned as be vital for prosperous startup engagement. Most importantly, the systematic process aims to embrace the culture of openness, avoiding situations of conflicting interests or different perceptions of expectations. Each business unit needs to understand how startup engagement is intended to incorporate into daily operations. Even though each startup might demand a case-by-case approach, a systematic process is required:

The whole approach needs to be systematic. So there are certain stages, and for example, contract templates are ready. Then it is straight forwarded. And then we need to have internal startup-friendly policies taken place at least regarding procurement. (B1)

Also just keeping the open communication, not having just a black box. Being really open what is the process, whom we are discussing internally, what is going on. Open and honest, clear communication is something they appreciate. These are basic things but it's about doing those really well. (T3)

> Internal efficiency and transparency are of high importance when building startup operations. Transparency is the key to understand where development is needed most urgently. […] It must be crystal clear for us that what happens after we meet a startup with identified potential for our business – a clear path must exist. (B3)

5.3.3.2 A Startup-friendly Processes

Prioritization and proceeding quickly mentioned being critical features of a systematic startup engagement process. Prioritization refers to the ability to identify when a certain startup collaboration has such a potential that it is worth prioritizing over other business activities. If a company lacks this ability, the collaboration most likely withers due to very limited resources startups have. Proceeding quickly throughout the engagement gives better chances to succeed:

> We have it very clear what happens when a certain startup has been recognized and what is required that the path onwards is clear and won't break. We need to be able to prioritize and to escalate important cases rapidly. If we begin to divide into silos regarding startup operations, it might be that the prioritization looks very different in our functions. (B3)

> Prioritization is balancing between the desire to bring new valuable ventures to business and their own objectives and core operations. Our task is to provide business with the relevant info: what is the company, what are the expected upsides, what it requires to start collaboration. Taking action needs to be made as easy as possible for the business, in which contracts have a centric role. Prioritization and decision making is always tricky in a large organization: who makes the last call? (B5)

> The worst thing to do for startups is to lead them on and having endless 'maybes'. We make the very fast decision: is this something for proceeding with, is this aligned with strategy or is this not relevant? […] Sometimes we require input from the business, but most of the time we don't need it. And then giving a go or an unfortunate but fast no-go's. (T3)

Due to a very different perception of time and general company procedures, startups easily struggle and spend a lot of resources to handle the company bureaucracy. Therefore, a corporation paying attention to be startup-friendly from the very beginning is an important means of a smooth engagement process. There are two main ways for **buffering startups from bureaucracy**: agile processes and expedient contracts. Majority of informants articulated the agility of processes to be the primary way to buffer startups from extensive bureaucracy:

> We have agile processes, a sprint approach, modern digital tools, and this kind of agile approaches. It follows the normal agile development steps. A PoC or minimum viable product is very brief, usually over in three months. During that time period, we need to ensure our willingness to continue. (B1)

> If a corporation has not yet culturally changed and prepared its processes, it is completely impossible for a startup to act with it. And the transformation needs to reach the whole organization from the bottom until the top management. (T4)

> We need to be able to proceed faster than our competitors, which are even larger than us. It is our lifeline and a way to incorporate startups in our technology development. (B3)

> The project (pilot) is started with one or two startups to validate if some additional value would exist for our operations. But not with more startups, as we must beware of suffocating our own startup process with too many simultaneous initiatives. That will only result in delays and we lose the agility of our processes. (B4)

The importance of contracts was highlighted by interviewees from multiple perspectives, but the role of buffering startups from company procedures was the priority. All companies had some kind of reduced contract templates for startup collaboration, said to be "two to three pages" of length:

> We have a ready-made template. We have agreed with sourcing on the policies of startup contracts. The first and the lightest one includes two pages stating the scope, and then just a signature, that's it. (B1)

> The truth is that if two or more entities interact, transactions or nothing happens if there are no contracts. That is why we've put a lot of effort to finetune these contract-related matters […] just agree on what needs to be agreed on. The template is chosen with respect to the selected engagement model. (B2)

> We have a brief three-page agreement template that can be employed in these cases. The worst-case would be that the startup would hire a lawyer to read through the corporate contracts. […] It can be also a competitive advantage if another corporation sends 50 pages of contracts. We need to compete for the best global startups. (B5)

5.3.3.3 Improving Internal Commitment

The lack of internal commitment is a matter leading to multiple challenges. If the three first factors are rather technical and can be pragmatically resolved, improving internal

commitment to engagement and more generally to open corporate culture is an adaptation challenge that takes time. This change towards more open organizational culture is a vital success factor but can be simultaneously one objective for collaboration as well as:

> The change towards more open culture has demand concrete and huge changes in our background systems, in organizational structures, and in everything else […] this change is fundamental, fully transparent. (T1)

> We need to get people to think and act the way they haven't before. The way how we implement and scale these (startup-based) solutions demands a fundamental change in organizational culture. […] The buy-in from business needs to be strong in order to initiate a successful startup collaboration. […] It is a quite large show-stopper if a solution is not bringing immediate business benefits. (B2)

> Where there is no commitment from the business, when it's not a priority for business, we are trying to tell "if you are not going to proceed quickly, just tell the startup that we postpone". And startups are quite happy still. They don't want to waste their resources. (T3)

The learning curve in startup engagement seems to be quite steep. Teams that had only once before involved in startup engagement told to stand out from the teams that have not yet. Showcases are a strong internal tool to convince about the value of startup engagement:

> Nowadays it's easier when we have showcases. Initiating the first cases was hard since we could only guarantee a process but no outcomes. Before we get a budget and case, we need to get people to understand what is possible through open innovation. […] And when we got the first cases and budgets, key business representatives did not use enough time for that. We almost failed the first round (of startup engagement). (B1)

> This hasn't been business as usual for us, as it hasn't been for any large corporation. We have been working with this for just a few years. The difference is huge between teams that have been already engaging with startups and the ones that are new to that. The first time always includes some friction since people have different expectations of time commitment and objectives. (B4)

6 Discussion

6.1 A Concept of Systematic Startup Engagement

The emerged model builds on the empirical findings of methods and the best practices of incorporating startup collaboration into corporate operations. The startup engagement is first to start informally, and over time evolved towards systematic engagement. Five dimensions identified to be essential regarding the transition from ad-hoc-based engagement towards more systematic startup engagement (see Figure 9). Pre-requisites for systematic engagement start to evolve during the informal, usually voluntary based, startup collaboration, paving the way for the transition towards more open corporate culture and the *systematic engagement process* itself.

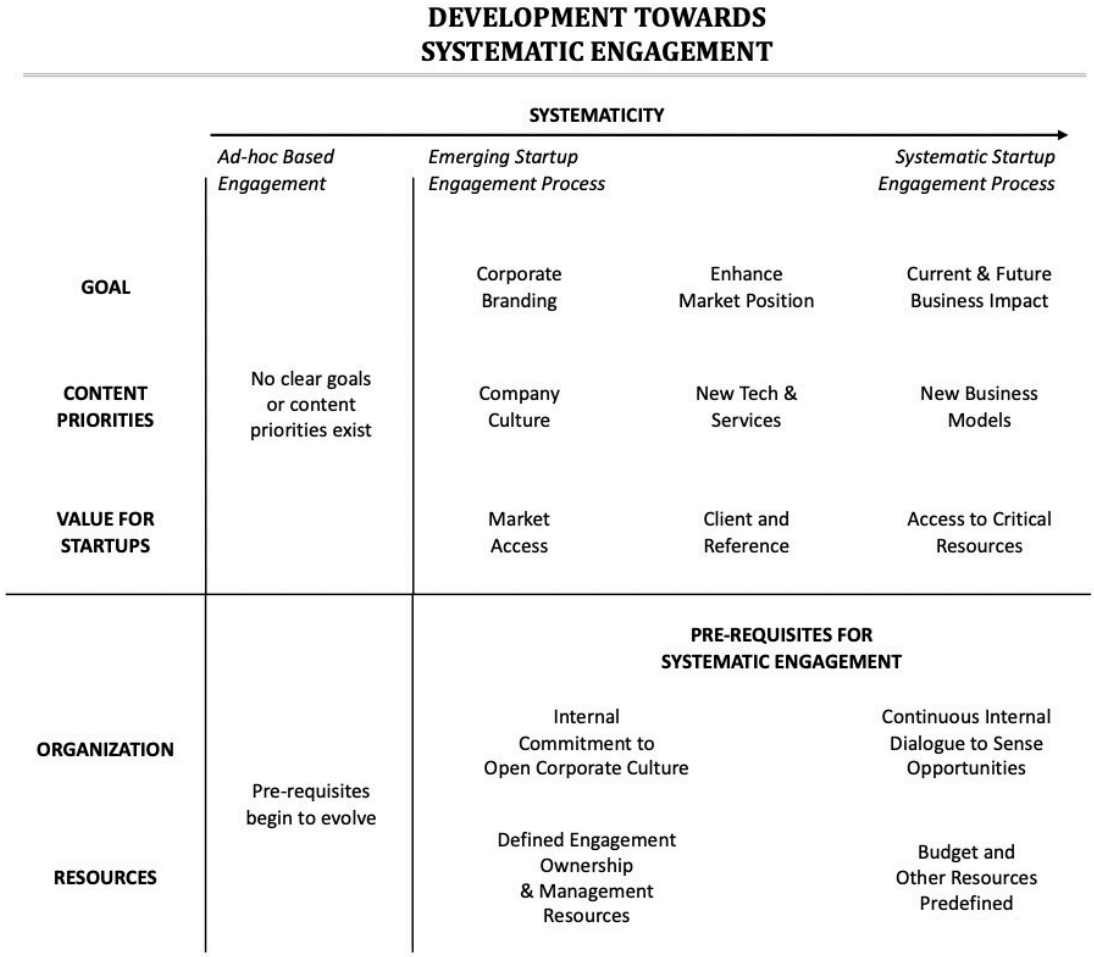

Figure 9. Five Dimensions Affecting the Development Towards Systematic Engagement

When corporations are at the beginning of the startup engagement journey, the goal, content priorities, and relevance for startups usually emerge during the engagement. When moving towards a more systematic process, these three centric dimensions become predefined and more apparent. There exist three common *goals* for the engagement: gain

current and/or future business impact, enhance the market position, or improve the corporate brand. These three can, and usually do co-exist. The *content priorities* of engagement varied from new technology and services to new business models, and company culture-related collaboration. Startups are seeking market access, large client and credible reference, and access to critical resources. Where the interests of both sides meet, a systematic engagement can generate real business impact, which is the most important outcome for the engagement. Importantly, some of the *goals, content priorities,* and *values for startups* cannot be reached before a certain level of systematicity in the engagement.

There are both organizational and resource-related premises for a systematic process. Organizational pre-requisites for a corporation to successfully operate systematic startup engagement are a sufficient level of internal commitment to open corporate culture and continuous internal dialogue to sense opportunities for engagement. From a resource perspective, the owner needs to be defined for each case, as well as the budget, along with other resources. Different emphases for the importance of these four factors exist. However, if a corporation entirely neglects one of these, expectations for valuable outcomes are low.

The five found dimensions – goal, content priorities, value for startups, as well as organizational and resource-related pre-requisites – collectively defines the systematicity level of the startup engagement (see Figure 9). When a corporation has reached sufficient capabilities within each dimension, readiness for a systematic startup collaboration process increases. The more systematic the engagement is, the more frequent are the triggers for startup engagement (see Figure 10). Consequently, the number of startup collaboration cases will increase, and cases will occur throughout different business units. The collaboration is not ad-hoc-based but incorporated into the daily operations and corporate culture. A trigger for collaboration can either originate from a business unit (*operative trigger,* identifying a business problem to be addressed) or from startup function (*strategic trigger,* identifying an interesting startup of strategic interest).

As presented in Figure 10, the trigger initiates startup collaboration and leads to the startup sourcing. The sourcing can be carried out as a public open call (inbound) or as direct scouting (outbound). It is also the most typical part of the process to be outsourced. The scouting generates a longlist of interesting startups. In the selection and validation phase, the roster is reduced to a shortlist and further to the final batch of or single startups to collaborate with. At this phase, the startup team and optimally the corresponding business unit itself are involved in the process. Business representatives can best predict the business impact and also assess the overall suitability of the startup(s). Both batch-based and one-to-one collaboration exist, and often simultaneously. Transparency is crucial, especially at the beginning of the engagement process. Otherwise, decision making and

proceeding might be too slow, causing collaboration to wither. At the beginning of the startup funnel, the number of startups screened and applied to programs is crucial metric to be followed.

Signing a contract is a vital part of the whole systematic engagement model. It has a significant role in making the process startup-friendly. Companies should put a great effort into generating contract templates for most typical types of collaboration. The extensiveness of the contract should be assessed case-by-case. Through this, companies can have a significant effect on the time-to-deal as well as the number of initiatives, which are critical metrics for successful startup engagement. Proceeding quickly to pilot is mutually beneficial. With a narrowed-down scope, the pilot or PoC can be carried out rapidly, answering the question of whether there is a business impact. If there is not, the corporation should not be afraid to terminate the collaboration. Startups appreciate quick answers since procrastination demands plenty of their resources. Also, some companies initiate more pilots than they afford for two reasons. First, some of the startup solutions are way ahead of the corporation's capabilities to be immediately implemented. Second, corporations, as well as startups, can learn quickly already through piloting, and not all initiatives are even intended to be continued further.

For collaboration itself, there are six most frequently used methods: partnership model, venture client model, startup program platform, acquisitions, accelerator, and incubator. All of these have different characteristics, and often multiple methods co-exist within a company. The exploited model is selected case by case, most importantly defined by the corporation's core business and strategic fit of the startup solution. These models can be categorized in multiple ways, based on the direction of the innovation (inside-out vs. outside-in), the involvement of equity, and being organized batch-based or as one-to-one. Different forms of partnerships are the most common type of engagement, at lightest, remaining *a startup-friendly procurement process*. A more systematic model for procurement-type of collaboration is *the venture client model*, often facilitated by a partner.

The time-to-market and the actual turnover generated are quantitative measures that corporations are trying to estimate. However, since the measurable outcomes of startup collaboration usually come with a delay, asking feedback from both startups and involved business representatives is crucial. Successful use cases are among the most efficient vehicle to embrace organizational learning, enhance the systematic startup engagement process, and further improve the pre-requisites for the engagement.

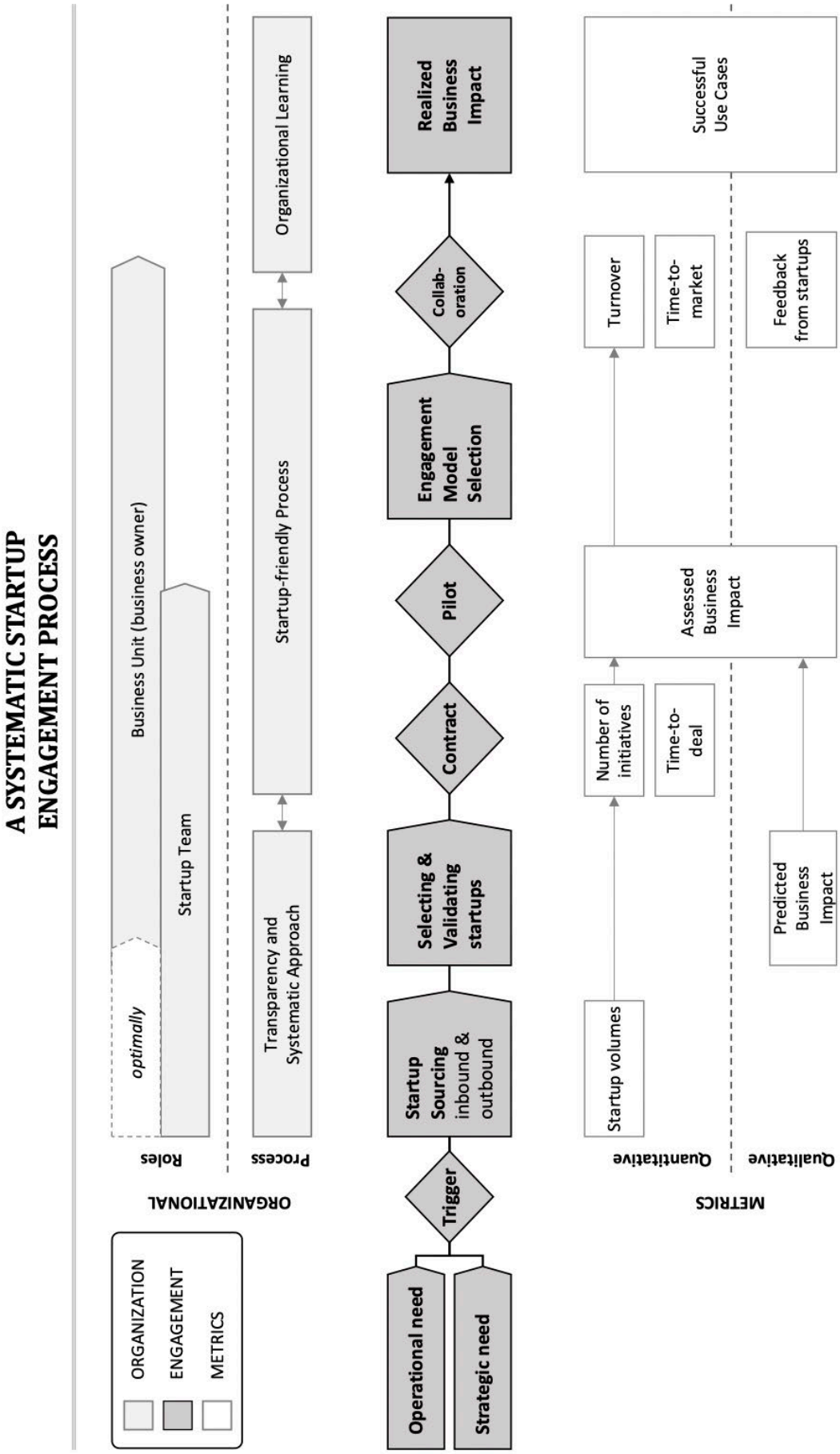

Figure 10. A Concept of Systematic Startup Engagement

6.2 Characteristics of Organizational Fields

The sample of the study can be divided into two organizational fields according to the represented core businesses: basic industry, and the technology-driven sector. The latter includes corporations from fields of software, ICT, and banking, and the former from energy to forest industry. This division is not entirely unambiguous but regarded as appropriate for the analysis. Instead of comparing single companies, differences and similarities were identified between these two separate organizational fields. Based on the results, even though differences occur, it is noteworthy how similar the engagement processes are across the corporations and industries.

First, all five companies representing the field of basic industry mentioned elements associated with company renewal as the underlying reasons to engage. On the contrary, technology-driven companies' reasons for the systematic engagement related mostly to the strategic objective of company growth. However, one of the companies from the basic industry, with probably most established overall startup engagement operations among all the cases, mentioned reasons related to not only renewal but also growth. When a startup engages with a corporation from the basic industry, the collaboration is rarely straightly linked to the core business but preferably to an add-on type solution, generating additional value for the end customer. Instead, technology-driven companies can usually incorporate startup solutions more closely with their core business. The company can act as a platform for startups and engage with numerous startups simultaneously to diversify the risk.

Second, the content priorities of engagement varied according to the organizational field. New technologies and services were popular content priorities and of high importance regardless of the industrial field. However, business models were a high priority within the technology field while completely missing within the basic industry (see Table 5). The difficulty in exploring new business models within the latter is that startups virtually ever have enough legitimacy, competences, and resources to deliver industrial solutions on the required scale. Additionally, the basic industry often involves asset-heavy investments that need to be technically supported for a long time. If a startup is delivering part of the product, the corporation needs to ensure that the startup's solution is supported years to come. Therefore, various add-ons are more popular due to the ease of incorporating them into the offering, as opposed to building new business models or products based on startup solutions.

Table 5. Goals and Content Priorities of the Systematic Startup Engagement

ACRONYM		GOAL			CONTENT PRIORITIES		
		Enhance market position	Corporate branding	Enhance current & create new business	New technology & services	New business models	Company culture
		strategical ⟷		*innovation*	*tangible* ⟷		*intangible*
Basic Industry	B1	+	+	+ +	+ +		+ +
	B2	+		+ +	+ +		+ +
	B3		+	+ +	+ +		+
	B4			+ +	+ +		+
	B5	+	+	+ +	+ +	+ +	+ +
Technology	T1	+ +	+	+	+	+ +	
	T2	+ +		+	+ +	+ +	+
	T3	+ +	+	+ +	+ +	+	+
	T4	+ +	+ +	+	+ +	+	+

On the contrary, within the technology-driven field, the business models are at least partly platform-based and since easier to address being scalable in their nature. Another difference was that the representatives of basic industry articulated company culture-related content to be of high importance. Globally the startup engagement started from the ICT sector (De la Tour et al., 2017) and rapidly spread to other technology-driven companies. Hence, there seems to be evidence that the basic industry still has more to learn from the startup ecosystem in terms of intangible cultural aspects than the technology drive sector.

Third, the goal of the engagement varied between the two assessed organizational fields. Enhancement of the *current business* as well as *creating new business opportunities* was articulated by each interviewee to be a critical goal for the engagement. This type of collaboration was most often related to innovation operations, and to have the most straight business impact. Within the basic industry, all other goals were rare. However, interviewees representing the technology-driven field revealed engagement to have also a critical strategic role in enhancing their market position. Instead of carrying out solely innovation-related, often one-on-one collaboration, engagement aims to build an entire portfolio of startups to strengthen the business.

Fourth, while pre-requisites for the successful startup engagement were very similar between basic industry and technology-driven field, the trigger and sourcing method

differed (see Table 6). A trigger is either strategically or operationally driven. Within the technology-driven field, the identified strategical vertical of technology, specific solution, or a niche market usually act as a trigger to initiate the startup collaboration. Correspondingly, if a startup fits into this particular open call's predetermined area of interest, the sourcing is inbound through a scalable online process, where human interactions are minimized. On the contrary, within the basic industry, it seems to be much more typical that a certain identified operational opportunity act as a trigger for the scouting process. Then the startup team, often together with external service providers, carry out scouting of relevant startups to be presented to business representatives.

Table 6. Trigger and Sourcing Methods

FIELD	**TRIGGER**		**SOURCING METHOD**	
	Strategic	Operational	Open call (online)	Scouting
Basic Industry	+	++	+	+ +
Technology	+ +	+	+ +	+

Fifth, the preferred engagement model varied according to the core business characteristics. The models are compiled to Table 7 from the most popular to the rarest one. Partnerships as the most common model include a variety of different types of engagement and occurs within both examined organizational fields. A venture client model that was also referred to as a fast-tracked procurement process was very popular within the basic industry. Often a partner was used to facilitate parts of the process. However, the model was virtually absent from the technology-driven field where inside-out type scalable startup programs were exploited. Accelerators, incubators, and acquisitions did exist across the two fields but were not mentioned by any interviewee as the primary model for the engagement.

Table 7. Exploited Startup Engagement Models

FIELD	**PARTNER-SHIP**	**VENTURE CLIENT**	**STARTUP PROGRAM**	**ACCELERATOR & INCUBATOR**	**ACQUI-SITIONS**
Basic Industry	+ +	+ +	–	+	+
Technology	+ +	–	+ +	+	+

However, besides these differences, the results indicate that companies and industries resemble each other. Most importantly, pre-requisites and critical success factors did not differ. Also, the real business impact is of high importance for all and drives engagement.

The metrics exploited to assess the outcomes and the engagement process itself did not vary, even though processes themselves might differ across industries and single companies.

6.3 Theoretical Implications

The results of the study contribute to prior academic literature in several ways. In the next section, these contributions are articulated according to each research question following the CIMO logic (Denyer et al., 2008). The elaboration aims to contrast the empirical findings to the prior literature (Ketokivi & Choi, 2014). The most significant contributions of the study are the introduced transition from ad-hoc-based startup collaboration towards a systematic engagement (See Figure 9), and the concept of systematic startup engagement (see Figure 10). Findings suggest a high-level explanation for systematic startup engagement, its pre-requisites, the most critical parts of the process, organizational roles, and exploited metrics. The finding that engagement serves the purpose of strategical growth and renewal is in line with the prior literature (e.g., Kuratko et al., 2014; Teece, 2009).

A fundamental transition towards open organizational culture, especially regarding innovation operations, was identified to be essential for the internal commitment to startup engagement. This evolvement of paradigms builds on the academic literature of open innovation (Chesbrough, 2003). Not only a mindset but also the actions of executives and managers in Finland are moving towards the general idea that innovation does not happen in isolation, not in their company, not solely in Finland or in Europe, but globally. Startups are seen to be one great source of innovation (Weiblen & Chesbrough, 2015).

The first research question is related to the *context* of engagement and aimed to expose the factors influencing the emergence of systematic engagement. The prior academic literature has had its focus on either comparing different startup engagement models used for corporate innovation (Weiblen & Chesbrough, 2015) or on a specific engagement model like accelerator (e.g. Kohler, 2016; Miller & Bound, 2011). This study did not focus on a specific model but revealed the three most important goals and content priorities for engagement. Findings suggest that these goals and content priorities should match with the needs of startups, and if a win-win case occurs, collaboration is possible to start. As the prior studies suggest, the strategic fit is a necessity (Imaginatik & Masschallenge, 2016, p. 7). Also, multiple interviewees articulated how the startup collaboration itself has lasted already very long, but the current 'startup boom' has created the need for making the collaboration

more systematic and efficient through establishing transparent company-wide startup engagement processes.

The four identified pre-requisites (Figure 9) have significant theoretical contributions when elaborating on the start of the startup engagement process. The two first – internal commitment to open corporate culture and internal dialogue – have a straight link to the broad base of organizational studies. In this sense, startup operations are similar to any other initiative that is rather new to the organization, confronts resistance to change, and requires convincing use cases and early adopters to be accepted and widely exploited. The third and fourth found pre-requisites – defining an owner for each startup case and resources for the engagement – are consistent with the prior studies. Mocker et al. (2015, p. 17) proposed best practices for collaborating with a startup, highlighting the effective management and simplified processes, to which these to latter pre-pre-requisites are essentially linked to.

The second research question related to exploited *interventions and mechanisms*, considering the elements of a systematic process for startup engagement. Prior studies have addressed models in terms of equity involvement and innovation flow (Weiblen & Chesbrough, 2015), and models determined by the resource commitment from a startup and a corporation (Mocker et al., 2015). However, the literature of engaging methods is somewhat fragmented and lacks a comprehensive understanding of all feasible engaging methods available. Also, even though the models themselves are universal, there are many national specificities making studies geographically limited. Therefore, generating a better understanding of the engagement experiences and the most exploited models among the large Finnish companies is a significant theoretical contribution. In total, six separate engagement models were identified as being exploited within examined companies. To sum up, companies seemed to prefer collaboration methods with no equity involvement, making time-to-contract shorter, and retaining the process more agile and scalable. This movement was also proposed by Weiblen and Chesbrough (2015).

The underlying *mechanisms*; in other words, organizational structures, and daily operations, are the actions through which the startup collaboration is incorporated into the existing business. There exist some related research which is to a great extent carried out by consulting companies and other expert organizations, working closely with large companies (e.g., Harlé et al., 2017a; Imaginatik & Masschallenge, 2016; Lindgreen et al., 2015; Mocker et al., 2015). The most significant contribution to mechanisms are the findings regarding organizational processes and roles, acting as the four critical success factors for the engagement: systematic engagement process, prioritization and rapid progress, buffering startups form bureaucracy, and improving internal commitment. The lack of

internal commitment to engagement is regarded as one of the main barriers of successful startup collaboration (Mocker et al., 2015, p. 17). The gradual three-step startup engagement process, proposed by Mocker et al. (2015), is aligned with the findings of this study. It starts from corporation clarifying its objects, then assessing options for engaging methods, after which systematically connecting startups to valuable resources.

Considering the generated concept of systematic startup engagement, the understanding of different engagement process phases itself also has a significant contribution to a rather uncovered area of academic research. Two different triggers, operational and strategic, were identified for startup engagement. Being aware of and embracing these triggers helps the organization to start the collaboration systematically and efficiently. The trigger initiates the process of startup screening, proceeding via a longlist generation to a selection and validation phase, where the most prominent startups are identified. The next step is to sign contracts, which are to cover only the relevant matters. This phase plays a crucial role in making the process startup-friendly and fast.

Measuring the process is also a high priority for corporations. "You get what you measure" was often heard from interviewees. The beginning of the process was measured through startup volumes (screened, applied, met), time-to-deal, and most importantly, through both qualitative and quantitative estimates of the potential business impact. Eventually, the collaboration with a startup realizes the time-to-market, generated turnover, and therefore the actual business impact – the most desired outcome of the collaboration.

The third research question addressed the desired *outcomes* of each engaging model. The found *goals* for the engagement was to gain current and/or future business impact, enhance the market position or improve the corporate brand. The three revealed *content priorities* were new technology and services to new business models and company culture-related collaboration. The study suggests that desired outcomes of systematic engagement are related to strategical growth and renewal. This aims first and foremost to the outcome of generating *real business impact*. Clear academic evidence exists that openness increases technical performance, faster project implementation, and financial gains (Du et al., 2014). When the long-term success of a corporation is driven rather by innovations than pure operational efficiency, engagement with startups enables corporations to explore new technologies and service solutions without possessing risk to their core business (Mocker et al., 2015).

6.4 Managerial Implications

This study has a few implications for both companies that are more experienced and those who are just beginning to engage with startups. For companies new to startup collaboration, this study might help them to understand the possible outcomes, the importance of pre-requisites, the probable pitfalls to be avoided, and the best practices of the engagement process. Through addressing these, companies can assess if startup engagement could generate value for the company, or is it feasible at all. If the objectives for the engagement remain unclear, the internal buy-in may be impossible to achieve, and consequently, both budget and employee commitment are hard to ensure. These companies are recommended to spend some time clarifying their objectives, assessing the most prominent avenues for startup collaboration, after which assess if the commitment is sufficient for initiating the engagement. For experienced organizations, the proposed systematic engagement process acts as a benchmark and a checklist to identify areas of strengths and weaknesses to be addressed.

Second, the findings of the study suggest a high-level concept for systematic startup engagement. Often, startup operations have been emerged evolutionary, and along the way, the made decisions are not necessarily well informed but made as a response to an urgent need. Therefore, companies both initiating and improving existing startup operations can use the concept as a guideline or template for their model. It provides an answer to executives of what are the most popular objectives and content priorities for startup engagement, and which premises need to be first met as a company. For example, awareness of the engagement triggers helps the organization increase the transparency and build avenues for triggers to emerge. Also, each should assess if the four critical success factors of the engagement process are fulfilled or if they need improvements. These factors are a systematic and transparent process, prioritizing and rapid progress, buffering startups form bureaucracy, and internal commitment to open corporate culture.

Third, companies are encouraged to measure the engagement process from the beginning as long as the collaboration lasts. Due to fundamentally different businesses of corporations and startups, the actual financial returns usually come with a considerable delay. Therefore, corporations need to replace lacking quantitative metrics with qualitative ones. Proper metrics have three essential functions: to secure a sufficient flow of new startup initiatives into the engagement pipeline, to ensure that not a single startup is entangled in red tape and that initiatives with the most positive future impact are prioritized. Companies that have a great understanding of their systematic startup engagement process have a better employee and startup satisfaction, resulting in a good reputation and brand image, helping to lure the most prosperous startups to collaborate.

Fourth, since all identified four pre-requisites for the engagement are extremely human-centric, embraced by the right kind of organizational culture, executives are strongly advised to ensure that current organizational structures, incentive logics, and processes generally support the desire to incorporate startup engagement into the core business. The lack of commitment found to be among the most typical reasons for unsuccessful collaboration. Organizational roles at the beginning of the engagement and during the actual collaboration were covered in the study. The role of startup lead as the head of startup operations and as bridge-maker between startups and business was highlighted. Also, the business owner's commitment during the actual collaboration is among the most significant factors determining whether engagement yields something.

Fifth, even though fitting together the odd-couple of the business world, startups, and corporations, often turns out to be hard, the learning curve is steep. The difference between business functions and teams that have collaborated with startups and those that have not is significant. Also, each startup can help the corporation to improve the engagement process. Therefore, a strong recommendation is to build a process for asking feedback systematically, both internally and from startups. Feedback seems to be sometimes overlooked, and even if it appears to concern only minor details, it became evident during the research that successful engagement is about doing simple things well. Organizational learning is also a reason why some corporations are initiating more pilots than they afford to continue further as a form of collaboration. The capabilities of core businesses might not yet be sufficient, but through pilots, the organization can assess where it has to be improved.

7 Conclusions

This research aimed to identify motives for a corporation to engage with startups, and above all, construct the concept of systematic engagement and the journey towards it. It can be concluded, based on qualitative research of the large Finnish corporations, that startup engagement is an efficient and increasingly popular method to explore avenues for future growth and renewal. The results demonstrate that the similarities of startup operations across the corporations are significant. Foundings of pre-requisites for successful engagement exploited collaboration methods, and critical success factors were represented. The study generated a comprehensive understanding of the systematic engagement experiences and the most exploited models among the large Finnish companies. In total, six engagement models were identified to be exploited within examined companies. Companies seemed to prefer collaboration methods with no equity involvement to make time-to-contract shorter and retain the process agile and scalable. Also, each company used two or more models simultaneously. Companies assessed case-by-case, which model serves best the purposes of each collaboration from the perspective of startup solution and the corporate strategy.

The startup engagement is first to start informally. Five dimensions were identified to be essential regarding the transition from ad-hoc-based engagement towards more systematic startup engagement. Clear goals and content priorities of engagement are a necessity to transparent startup collaboration. Along the way, value propositions for the startups should become more evident through constant feedback from both business representatives and startups themselves. Lastly, the four pre-requisites for systematic engagement to be addressed within each company are internal commitment to open corporate culture, continuous internal dialogue, defined ownership for each case and dedicated management resources, and budget along with other resources being always predefined.

Startup collaboration is incorporated into the existing business through organizational structures and daily operations, to which the four found critical success factors are related. These are systematic engagement process, prioritization and rapid progress, buffering startups form bureaucracy, and improving internal commitment. The presented concept of systematic startup engagement covers these factors. The desired outcome of real business impact is likely to be achieved if both pre-requisites and success factors are fulfilled. To be able to improve operations, each company should carefully measure the whole engagement process. Both qualitative and quantitative metrics are discussed in the study. Measuring startup volumes along with the engagement act as important indicators of a well-working process that is capable of generating startup leads into valuable collaboration.

The systematic process itself consists of either batch-based or one-to-one startup collaboration. An operational or strategic need trigger these collaboration cases. The five presented dimensions of systematic engagement need all to be sufficiently addressed to nurture the frequent emergency of triggers. In the following stage of startup sourcing, the startups are screened, usually with the help of external partners, resulting in a shortlist of potential startups. Rapid progress and minimal bureaucracy are crucial to not consuming startup resources unnecessarily and to avoid withering the collaboration before it started. Time-to-deal is a crucial metric to be inspected and enhanced. The number of initiatives maximizes the learning, and could even exceed the number of collaborations the corporation afford to continue; some of the initiatives are way above the general capabilities of the corporation and act as moonshots for future business opportunities.

The significance of predefined ownership and resources is too often underestimated. Based on the interviews, the case owner must attend the selection and validation phase increasing the business unit's commitment to the collaboration. Once contracts have been signed, the ownership at the latest moves from the startup team to the business. Predefined resources guarantee an instant kickoff of the collaboration, which is highly valued by startups. The collaboration method is always selected case by case, based on the characteristics of each engagement case. Multiple methods were simultaneously used within each case company. While this is necessary, companies should not have too fragmented operational practices but favor and enhance chosen methods.

The similarities between companies and, more generally, between organizational fields are significant. The pre-requisites and success factors for systematic engagement seem to be well generalizable. However, there is evidence that the basic industry has its focus mostly on *strategic renewal,* where technology-driven companies also sought for *strategical growth* trough startup collaboration. This finding is closely related to the differing goals of the collaboration. All companies articulated that enhancement of current and new business opportunities is a high priority, driving the strategic renewal. Above that, technology-driven companies regarded the improvement of market position as a critical goal for the engagement. This is allowed by their platform-based scalable businesses, enabling strategic growth through a portfolio of startups. Their resource commitment to single startups might be much lower compared to collaborations within the basic industry. The exploration of *new business models* was a high priority within the technology-driven field, while more or less missing within the basic industry.

The study contains several theoretical contributions, of which the most significant are the introduced five dimensions of transition from ad-hoc-based startup collaboration towards a systematic engagement, and the concept of systematic startup engagement. These act as a

high-level explanation for startup engagement, its pre-requisites, the most critical parts of the process, organizational roles, and desired outcomes. The findings are relevant for both corporations that have not yet started engagement and for the more experienced ones. For the former, the study helps to identify the opportunities and to structure the steps towards a more systematic process. Due to the continually evolving nature of startup engagement, the experienced corporations can and should critically assess their current operations in the light of the findings, to identify areas that require attention and enhancements.

There are several limitations to take into account. First, the study had its focus solely on large Finnish companies, being not necessarily as such applicable to small and medium-sized enterprises (SMEs) and companies within all geographies. Also, when assessed very strictly, each interviewee represented a different organizational field, even though for this study the division to basic industry and technology-driven field regarded as applicable. Therefore, this study might not be appropriate to understand very specific characteristics of certain industries but rather the factors that are universal across the industries.

Second, as subjective interviews acted as the primary data for this study, it is worth noticing that their answers reflect their own experiences and attitudes, and hence perspectives can vary even within the same company. Each informant was responsible for the startup or partner operations, but if executives from the management team were interviewed, they might have highlighted different aspects. Also, by selecting completely different companies, for example, the found pre-requisites for engagement might differ.

Third, the study has been carried out from the perspective of large companies, that have an incentive to collaborate with startups, and startups are excluded from the sample. Even though the majority of interviewees had experience as being an entrepreneur themselves, all startup perspectives represented in the study is either second-hand knowledge through collecting feedback from startups or generalizations made by the corporate representative.

The fourth limitation relates to generated startup solutions. Those solutions have often great corporate-fit but might be so tailormade that those lack the true scalability. Also, due to corporates overprotecting startups from market forces, the feasibility of the solutions outside of the context of the 'sponsoring' corporation might be poor. Corporations should be aware of these two pitfalls since startup being successful also outside the collaboration creates value for not only the startup but also for the corporation itself.

Although startup engagement as a research area generally requires more attention, a few specific proposals for the avenues of future research emerged. First, a more comprehensive understanding of different possible methods for collaboration is needed. Currently, a great

share of the startup collaboration is referred to as 'a partnership with the startup', including a variety of different sorts of collaboration. At its lightest, this partnership refers to a startup-friendly procurement process, while the corporation itself does not necessarily have separate startup operations. However, at the other end of the spectrum are long-lasting partnerships that include co-development of products and services, which often requires giving access for a startup to the IPRs concerning company core business.

Second, the sample of this research consisted of the large Finnish companies, even though startup collaboration is not limited to those, but exists also within SMEs. The capabilities to incorporate startup engagement into an existing business might be very similar between companies of different sizes. Also, according to the European Commission (2012), SMEs represents 99 percentages of all business in the European Union. Therefore, academic research could gain a lot of insights from studying this group of corporations.

Third, future studies could examine not only companies of different size but from different geographical areas, with different maturities regarding startup operations, and with even strict focus on the certain organizational field. Fourth, the perspective of corporations should be complemented with comprehensive studies with the focus on startups.

To conclude, this study gives a more comprehensive understanding of opportunities startup engagement could generate for large corporations. It also provides a guideline or template to build and assess engagement operations from various perspectives.

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Appendix

Appendix A. Interview guide

INTRODUCTION

- Structure of the interview and permission to record the interview?
- Introducing the topic and thesis
- Background: title / position, how long has run startup collaboration ops

CONTEXT

Proposition

- When and how the startup collaboration was originally started? How has it change since? The most recent activities?
- Corporation: The goal of the startup engagement from the company perspective?
- Startups: What the engagement offers for startups?
- Goals: Is the engagement driven by innovation, strategic or investment related goal? Or other goal? What are %-shares between these?
- Content priorities: Is the content related mostly to new technologies or services, culture, business models or something else? What are %-shares between these?
- How would you describe the ownership of the products of the collaboration?

INTERVENTIONS & MECHANISMS

Process

- What is the primary way of engaging with startups? Describe the process
    - How do you end up to collaborate with certain startup(s)?
    - Is there some other, secondary ways?
    - Key figures: Number of startups applied and accepted, length of the program, budget, FTE used, Timeline
    - Do you handle the trade-off between structure & flexibility? How?
- Do you buffer the startup from the bureaucracy or company procedures? How?
- How, if at all, the corporate alignment is ensured?
- What do you consider as the most important and valuable parts of the process?

People

- Who are involved in the collaboration and with what responsibilities?
- With who the startups mainly communicate within the corporation?
- How well and until which level are the executives committed? Is this ensured somehow?

Place

- Where the engagement takes place?
  If multiple, which is the most important one?
- List events, communities and other instances where your company is present / has visibility regarding startup collaboration? Which are the most important ones?

OUTCOMES

- How do you measure the success of your startup program? What are the KPIs?
- What are the most valuable outcomes of the engagement?
  - How well the actual outcomes are in line with the desired ones?
  - Has the initial goal changed along the way? Why and how?
- Has there been any defeats or disappointments regarding the startup engagement?
- Describe the main learnings

Appendix B. Data Structure and Example Quotes

- **Reason and rationale to start startup engagement**
  The informal engagement started already seven years ago when we realized that there were various startup events every week to be present. Our competitors were back then completely absent from these events. [...] However, our startup operations grew year by year, and therefore we initiated the more systematics engagement four years ago. (T4)
- **When was the systematic engagement started**
  The demand for systematization the startup engagement emerged five years ago when both the number of technology startups and available funding increased rapidly. [...] We started it (startup engagement) particularly because the ad-hoc-based nature of the engagement resulted in untapped business potential. (B2)

- **Providing a market access for startups**
  Startups are interested in global distribution, and we have an extensive global client base and other networks where we can give access for them through the Venture Client model. (B1)
- **Acting as a client and a reference**
  We, as a client, bring real business for startups. The collaboration with them is very lean: startups are doing business with our core business functions. If a startup gets us as their client, they have a large global listed company as their client reference, which automatically increases the startup valuation. (B2)
- **Providing startups with access to critical resources**
  Startups need many kinds of help. First, it is technical. We have done it very simply: you can apply online and become a partner just by click-click. [...] Startup gets free access to our development tools and website including thousands of hours of training material. [...] We have all the needed business contacts, support channels, pre-sales support, and global distribution channels for startups' products. (T1)

- Goal: Current & Future Business impact
  The majority of collaboration is related to our current business. It is always more demanding if the case is related to the future business opportunity. Generally, my experience is that cases that bring clear and concrete business benefits today are the most desired ones. (B5)
- **Goal: Enhance Market position**
  It is difficult to separate those two (strategic vs. innovation). [...] We are always developing and acting based on our long term benefits for our customers and stakeholders: always being driven very strategically. In many cases even though it is driven strategically, we are always innovating with startups. (T3)
- **Goal: Corporate Branding**
  We have great visibility in the startup events and the ecosystem generally. We definitely see this also as corporate branding. [...] One pleasant side product was also extremely high volumes of applicants for our open positions. (B1)
- **Content Priority: New Tech & Services**
  It can be a very small technological detail or enhancement to our current offering, or then entirely new service or solution we can offer to our customers. It varies. But first and foremost it's always about how we can enhance our offering or provide additional services besides our core offering, through technologies and services the startup can provide for us. (B4)
- **Content Priority: New Business Models**
  We don't seek only new technology but also business models. [...] Business models are changing rapidly. That is why those models are at least as important as the technology itself. [...] The most important outcome of engagement is new business models and opportunities. (T2)
- **Content Priority: HR & Company Culture**
  Our accelerator is very much focused on the organizational culture, and therefore it is operated by our HR. Simultaneously the aim is still to develop some of our technology or service. [...] The aim is to improve our top talents and predispose them to the startup collaboration culture. That is the main theme. (B1)

- **Internal commitment and transition towards openness required**
  This is a highly strategical activity, which derives from the top management team. And then it is implemented through the way each of us is acting daily. Everything starts from being innovative – we are actually a giant startup ourselves too. (T1)
- **Defining ownership and understanding business needs**
  The first principle is that each case has an owner with a focus on the startup. […] When a corporation initiates the engagement with a certain startup, there needs to be a business owner who is responsible for the outcomes. (S1)
- **Resources and budget must be predefined**
  For us, it is quite easy to find the right people, but there is practically always the debate on if the project is valuable since "it takes these X resources from us". So the actual price tag of the project comes from the human resources it requires from us. (B5)
- **Transparent and continuous dialogue across the company**
  We have regular meetings to understand business. […] The way we are learning is usually coming from making the proposals and having rejections. From those cases, we are learning far more about what are the actual needs than just by having a meeting and discussing the needs. (T3)

- **Sourcing method either open call or scouting**
  Our task as a startup team is to understand our business units' needs and articulate those to the world. Open calls, gaining usually 70-120 applications, are good for startups since they know for sure what we are looking for, reducing radically the time-to-deal. […] If the need is well known and defined, and we are seeking a precise match, we create an RFP (request-for-proposal) and use our partner ecosystem for the scouting. (B1)
- **Trigger: Identifying an interesting startup (strategic level) / Identifying a business problem (operational level)**
  We have different triggers: some cases come straight from businesses as requests if there exist some existing solutions. Then it serves our short term strategy. But because our strategy has a great emphasis on creating future business opportunities, it (startup solutions) isn't necessarily in any link with our current business but rather with our long term strategy: we start scouting cases that are not in line with our current core business. […] on my experience, the majority of the cases can be linked to our current business. (B5)

- **Startup introduction, validation and selection phase**
  After a very pragmatic screening process, we shortlist candidates. From these, we select through three rounds of interviews the five best to a selection day, where business representatives are present. […] One of the greatest concerns is how we ensure that candidates attending selection day are as promising as possible. (B2)
- **Decision to continue to pilot or PoC / premature termination**
  We have an introduction meeting with all (shortlisted) startups. […] The reason we have this is that in many cases we have checked the website of the startups, stating that there is nothing relevant for (H9's company), but when we meet the founder, you hear so much more of the bigger picture. Often they have different ideas for ways of collaboration, they are willing to co-create and develop different new products with you, and always there are different insights that you simply don't get through reading their website. (T3)
- **Proceeding quickly to decision**
  One of like worst-case scenarios for startups is that you are forever hanging on and giving endless maybe. And even if it is a 'no', they want to get it as quickly as possible. We always promise that answer within 2 weeks from the initial contact. We are deciding whether it is 'no', or if 'yes' we have resources allocated and we can proceed. The second thing is providing valuable feedback. (T3)
- **Preferring collaboration with more mature startups**
  More mature startups are preferred especially regarding co-developed solutions that need to be scalable. It requires some maturity from a startup, and possibly some existing clients. Partly it's also a matter of risk management […] But of course, there are some cases with early-stage startups, especially regarding emerging technologies. (B4)

- **Partnerships (procurement or co-development)**
  The second of our two models is the scouting of specific solutions, which is practically a fast-tracked procurement process. We get a request from one of our business units for an identified need, like using VR technologies in the training of our service personnel. (B2)

- **Venture Client**
  Our primary tool and engagement model is the venture client approach. First, we try to identify the need inhouse, with a very broad scope, and then communicate it to the world through an open call, facilitated by our partner. (B4)

- **Startup Platform**
  We want the startup to be our partner. Therefore we have partner programs for each of our business areas. We are a giant global company, so the engagement needs to take the form of scalable programs to be viable: it's easier for a startup to adopt into our program than vice versa. (T1)

- **Accelerators and Incubators**
  If we have an interesting startup case, which still lacks a straight link to the business, we have an accelerator they can join. We support their growth without knowing the exact match to our current but probably to our future businesses. […] There are also our spinoff startups, which have originally started as startup-like internal teams and later moved to this our own separate accelerator facility to interact with relevant external startups. (B5)

- **Acquisitions**
  Quite often we assess their patent portfolio and the future of the technology it represents, how does it look from our perspective, and what kind of legal rights and protection it grants. These aspects affect the decision to acquire or not. (B3)

- **Startup lead responsible for coordinating the startup team**
  My team is under our Innovation and Venture operations, responsible for being up to date what is happening within the startup scene. Execute the preliminary assessment if something interesting turns out. My role then is to ensure that pilots are kicked off and having progress – and boost our own personnel to get things done. (B5)

- **The Startup team act as the first point of contact**
  Our team is called the startup partnership team – a single point of contact for new startups. So we are making it easy for startups to do business with (H9's company). We train and guide (H9's company) to do business the best way for startups. (T3)

- **Business owner's critical role during the actual collaboration**
  Business owner is involved already in the definition of the initial request for proposal, and if we find a promising startup, the business owner to whom this is of high interest has a budget and resources to start the collaboration. (B1)

- **Critical involvement of executives in the process**
  The support of executives is a necessity. These innovation-centric operations require a mandate from the top management. […] Our executive team members are also using their time for this (startup engagement). They act as mentors for selected startups and are also present when startups pitch their solutions. (B1)

- **Wide geographical presence and scope of startup engagement**
  We aim to reach globally the best startups. We are not looking from only Finland or Europe, or by any geographical focus area. China is a bit demanding due to very unique characteristics, requiring a physical presence and programs with native language. (B4)

- **An active presence at events and seminars**
  For us, Slush is the best time to have the meetings and to really embrace the engagement. On Slush we are having the biggest investment and impact for startup activities. […] We (startup team) are coaching and helping the organization to book as many meetings in advance as possible and try to find all the relevant startups for different business units – so having good preparations before Slush. (T3)

- **Reasons to be an active ecosystem member**
  Ecosystem thinking is more and more popular. We systematically try to be involved in consortiums demanding close collaboration with stakeholders with a different technological background. It gives us access to knowledge and resources that used to be unavailable. We need to have capabilities to be part of those ecosystems. (B3)

- **The effect on current and future business**
  The most important measure for successful engagement is the outcome that has an impact on our current business, and not only executing tests PoCs. That is the most valuable result that is sought after through the engagement. (B4)

- **Transition from a successful PoC to real collaboration**
  A successful pilot can be basically executed by following a check-list. But the implementation of a commercial relationship between two fundamentally as different kinds of an organization as a corporation and a startup are, demands continuous improvement and exploitation of best practices. We made a study of startup expectations and accordingly identified the most important employees to be involved in the implementation process. (B2)

- **Ways to assess collaboration when lacking qualitative measures**
  KPI should always be quantifiable, but if measuring the impact is not feasible, the question is how you not measure but reliably assess operations. With that mindset, one has a lot of outputs to observe, since collaboration is generating value through learning, market understanding, cultural change, ways of working, agility, and mindset. (S1)

- **The amount of startups applied or screened**
  We aim to screen as much as over 1000 startup for sourcing round. That is reduced to a shortlist of 50-70 startups. The top 15 startups we are meeting face to face are generated from the outbound. (B2)

- **The number of startup meetings and initiated startup pilots**
  To do good business with startups, we need to meet many startups. Of course, you focus on quality, not quantity, but to find the best startups, you need to meet a certain amount of startups. So the number of startups is one KPI. We are meeting something like 250 startups every single year. (T3)
  Our most important KPI is the number of pilots that have yielded something for the business [...] and the number of active pilots tells that the pipeline has some progress. This is quite straight forward. [...] Currently, we have 10 active pilots and 25 prospects waiting for the go or no-go decision. (B5)

- **Parameters: time-to-deal, process throughput, time-to-market**
  It is vital to understand what is the throughput time of the whole funnel. What are the parts where we are spending the most time? Through this, we understood the critical role of contracts. These aspects are important KPIs for us. (B2)

- **Crucial feedback from startups and business representatives**
  One should underestimate the value of qualitative feedback since we are learning each time we (startup team members) are learning each time we discuss with people who have involved in the collaboration. (B2)

- **A systematic transparent process with clear internal roles**
  Also just keeping the open communication, not having just a black box. Being really open what is the process, whom we are discussing internally, what is going on. Open and honest, clear communication is something they appreciate. These are basic things but it's about doing those really well. (T3)

- **Prioritization and proceeding quickly**
  Prioritization is balancing between the desire to bring new valuable ventures to business and their own objectives and core operations. Our task is to provide business with the relevant info: what is the company, what are the expected upsides, what it requires to start collaboration. Taking action needs to be made as easy as possible for the business, in which contracts have a centric role. Prioritization and decision making is always tricky in a large organization: who makes the last call? (B5)

- **Buffering startups from bureaucracy**
  The truth is that if two or more entities interact, transactions or nothing happens if there are no contracts. That is why we've put a lot of effort to finetune these contract-related matters [...] just agree on what needs to be agreed on. The template is chosen with respect to the selected engagement model. (B2)

- **Internal commitment**
  The change towards more open culture has demand concrete and huge changes in our background systems, in organizational structures, and in everything else [...] this change is fundamental, fully transparent. (T1)