Increasing Exploration Capabilities Through Employee Entrepreneur Interaction

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Ökad organisatorisk förmåga för explorativt arbete genom interaktion mellan anställda och entreprenörer

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Sammanfattning


Det undersökta företaget (här nämnt som OEM) håller just nu på att utveckla och utvärdera en modell som de kallar Exploration Capability Model. Denna innehåller förberedelser för samarbeten med startups och skapandet av spinouts, vilket är utgångspunkten för detta examensarbete. Parallelt med den modellen, har OEM-företaget nyligen skapat en så kallad Venture Client-enhet, som syftar till att underlätta samarbeten med nystartade företag. Denna studie syftar till att identifiera betydelsen och vilken påverkan dessa samarbeten har med avseende på individerna i företaget. Således försöker denna studie fylla ett gap i dagens forskning genom att hitta en koppling mellan individens entreprenörsegenskaper och organisationens möjlighet att utforska mer. Vi argumenterar att förståelse angående (1) samarbetet mellan etablerade organisationer och startups, (2) skapandet av spinout-projekt, (3) relationen mellan anställda i det stora företaget och entreprenörer i startups, är av avgörande betydelse. Baserat på detta har följande forskningsfråga använts; Hur påverkar entreprenöriella karaktärsdrag på individnivå en organisations möjlighet att utforska?

**Abstract**

Large and established firms tend to be greater at exploiting their current business rather than exploring the opportunities of tomorrow. In industries facing changes, such a firm could lose their market place when the surrounding environment shifts. Thus, there is a need for new ways of increasing the exploration capabilities of many large and established firms. This thesis examines a German automotive OEM that is taking measures to become more explorative through collaborations with startups. Generally, startups are characterized as agile, risk-taking, innovative, rapid, and close to the customer. However, they lack the resources, industry knowledge and scale that larger organizations have. Therefore, a collaboration of the two could be fruitful for both parties.

The case company (referred to as OEM) is currently developing and evaluating a model, called the Exploration Capability Model, which includes measures for startup collaborations and creation of spinouts, upon which this thesis has its' starting point. In parallel with the model, the OEM has recently created a so-called Venture Client unit (referred to as VCU), with the aim to facilitate startup collaborations. This study aims to identify the importance and influence of these collaborations, with regards to the individuals in the OEM. Thus, this study is a response to a gap in the research on how to possibly link the individual’s entrepreneurial characteristics to an organizational exploration capability. We argue that understanding (1) the collaborations between established organizations and startups, (2) the formation of spinouts, (3) the relationship between employees in the large corporation and the entrepreneurs in startups, is of great importance. Based on this, the research question, “How do entrepreneurial characteristics at an individual level affect organizational ambidexterity in terms of explorative capability?”, was formed.

The methodology used in this research was an inductive and qualitative analysis approach, where the data gathering was done with an emphasis on a thoroughly formulated interview guide used in 16 semi-structured interviews. These interviews were transcribed, coded, and analyzed to find patterns and discrepancies connected to the research question.

The findings highlight the importance of the individual and their behavior in facilitating startup collaborations and spinout efforts. In addition, further recommendations consider how an established organization such as the OEM can approach these topics with an aim to increase the exploration capability of the company. Emphasizing how the individuals can be nurtured within the company with regards to motivation, change of mindset, organizational support, exposure to entrepreneurial ventures and the organizational view on risk.
FOREWORD

This report is the resulting work of a degree project in Product Innovation Management conducted by two students at KTH Royal Institute of Technology during the spring of 2017. Throughout this master thesis we have had the pleasure of encountering and working close with a lot of interesting and inspiring people, without whom a successful completion of this thesis would not have been possible. We therefore would like to dedicate this section of the report to express our great gratitude towards these individuals.

Firstly, we would like our thank to our supervisor Prof. Sofia Ritzén who has guided us with immense attention through the entire work. You have not only given us great insight in the subject matter but also given us a sense of caring, which was very soothing in times of despair. You are the true ambassador.

Many thanks to our contact person and fellow researcher Lennart Buck for your warm welcome and thorough input. Your email responses are quicker than Lucky Luke (now that we think of it, the resemblance is striking).

All the interviewees at the case company, who freed time from their busy schedule for us.

Our professors at KTH who gave us the foundation for this project, and to our fellow classmates who have made the last two years both interesting and fun. A special thanks to Hugo Scherwin for all our interesting (semi-off-topic) discussions, and all your feedback on our thesis.

To No18, definitely world-class!
Second place goes to Kennedy’s, thanks for the inspiration.

Most important of all,
to our family, friends, and loved ones.
Five years at KTH would not have been possible without you.

Johan Arekrans                                                                                                             Philip Gordin
Stockholm
June 2017
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1  INTRODUCTION

This chapter will describe the background, the purpose and the delimitations of this study, as well as the case description going into the project.

1.1 Background

To be ambidextrous is the ability to use both hands with equal ease or dexterity. In the context of organizational research, this term has received a substantial amount of attention following March’s (1991) article. Instead of being equally skilled with both hands, March discusses the organizational capability to be equally skilled in two distinct activities, namely exploration and exploitation. On the one hand, firms engage in activities to refine their current products and processes, they effectively exploit their current opportunities. And on the other hand, they search and explore for new opportunities. A balance of these two activities has been empirically shown to be desirable, since it has a positive effect on organizational performance (Birkinshaw & Gibson, 2004; He & Wong, 2004). The basic challenge, as explained by Levinthal and March (1993), is that organizations need to engage in sufficient exploitation to ensure its current viability and at the same time devote enough energy to exploration to ensure its future viability. However, large, and established organizations tend to have misbalance, favoring exploitation over exploration. Exploitation by its nature tend to have more certain short-term returns to the organization, much closer in time than exploration (Levinthal & March, 1993; March, 1991). In the strive for an ambidexterity balance, organizations need to find new ways to increase their explorative capabilities.

Large corporations are not known for being agile, they have accumulated a large amount of resources and scaled up to become more efficient in how they utilize them. Whilst great power comes from a large amount of resources, the organization is often slowed down by routines, internal processes and being less risk-taking. Consequently, creating a structural resistance to change (Weiblen & Chesbrough, 2015). On the opposite side of the ambidexterity scale, we find startups. Contrasting the large established organizations, startups are known for being organizationally agile, willing to take risks and keener to follow up on ambiguous opportunities. With methods that are rapid and close to the customer, such as build-measure-learn by Ries (2011), their exploratory capabilities exceed those of large established corporations. However, the startup organizations lack resources, scale and routines which can make it difficult to launch and sustain a business model. A working collaboration between the two could potentially be fruitful for both parties, which is why an increasing amount of managers are showing interest for opening up their research and development departments for external collaborations (Weiblen & Chesbrough, 2015; West et al., 2014).

Entrepreneurship holds several different definitions. Perhaps the harshest categorization comes from Schumpeter who states that there are two types of people: (1) the hedonistic economic beings and (2) the energetic entrepreneurs. The first is characterized as egocentric and consumed by utility maximization. In contrast, the energetic entrepreneur is an atypically motivated individual who acts in a dynamic part of the economy through a relatively undefined business development process (McMullan & Kenworthy, 2015). In an organizational context, Kirton (1980) uses a similar coarse categorization between adaptors and innovators. Kirton also underlines that the different behavioral characteristics of adaptors and innovators may tend to aggravate disagreements between the different individuals. Managers predominantly show adaptor-type of behavior, especially in large and established organizations, as precision, reliability and efficiency brought on by bureaucratic structures tend to favor conformist adaptors.
The problem however, is that adaptors tend to see innovators as being unsound, abrasive, and merely lucky survivors in turbulent environments. Both groups are generally poor at seeing the other’s perspective, making collaboration efforts more difficult. Effectively, this is true both for individuals engaging in intra-firm collaborations, but also within the same organization.

How to manage entrepreneurial individuals within established organizations (i.e. intrapreneurs) is a field of research in of itself (Antonicic & Hisrich, 2001). If entrepreneurial individuals are not appreciated within their parent organization, they might decide to leave the organization and follow up on their own ideas by creating a startup of their own. However, some organizations realize that ideas that for some reason do not fit within the company can be commercialized through a spinout, allowing the intrapreneur to seize the opportunity as their own startup (Chesbrough, 2003). The spinout process can be facilitated in several different ways and raises several questions, the implications for careers, how the intrapreneurs in the spinout can be replaced and how the relationship to the parent organization functions for instance. This underlines the need for a model describing how to handle collaborations with external partners as well as facilitating spinout projects.

1.2 Purpose

This study is a response to the gap in the research on how to possibly link the individual’s entrepreneurial characteristics to an organizational exploration capability. Sakhdari (2016) argues that surprisingly low attention has been given to the organizational mechanisms enabling firms to better stimulate entrepreneurial behaviors by their employees, and how these individuals can mitigate exploration-exploitation tension. As large and established organizations tend to have exploitation activities that overshadow their exploration efforts, new approaches such as startup collaborations and spinouts are required to achieve an ambidexterity balance.

In summary, firstly, we argue that understanding how the relationship between employees in large organizations and entrepreneurs in startups is established and nurtured is of great importance for successful collaborations. Secondly, the collaboration between large organizations and startups can hypothetically change the mindset of the employees within the large organization towards a more explorative one. How these individuals behave, and how their behavior changes, can be discussed through combining qualitative data with research in entrepreneurial psychology. Thirdly, with an increased number of entrepreneurial individuals in the organization, understanding how large and established organizations restrict or nurture entrepreneurial individuals within their own organization is crucial. Existing research in the area will be further developed from the empirical data and analysis regarding how intrapreneurs experience their own abilities to explore and innovate and how these abilities depend on their parent organization.

This study acknowledges that entrepreneurial behavior can be (1) learnt by the individual, (2) has influence on the surrounding environment, (3) is influenced by the surrounding environment. We therefore argue that there is a connection between the individuals’ entrepreneurial inclination and organizational exploration capability. Hence, the research question is:

*How do entrepreneurial characteristics at an individual level affect organizational ambidexterity in terms of explorative capability?*
1.3 Delimitations

This study examines a model that is at an early stage in its development and is currently being tested, and therefore quantifiable outcomes are outside the scope of this study. Hence, this study is of a more exploratory nature. Quantitative data could have been used to paint a more extensive picture of how the OEM organize for startup collaborations. However, being a novel model there are simply not enough people involved nor attainable information to get quantifiable results. Furthermore, within the period for the study, some of the contacted employees stated that they did not have possibility to prioritize participating, which was an additional limiting factor.

Another aspired approach was to divide the respondents into entrepreneurs and non-entrepreneurs but this would also require an excessive personality assessment, apart from the interviews held. In this study, the attentiveness was aimed towards the experiences of the people of interest for this topic, where the entrepreneurial characteristics play an important role. Conclusively, we do not position a standpoint on which we argue that the respondents are objectively entrepreneurial or not. Furthermore, there are ethical aspects to consider regarding such a positioning and the aspired personality assessment as well.

This study uses psychology research which sets additional limitations. The researches conducting this thesis is not from a psychology education background and the access to theoretical literature is limited.

1.4 Case Company and The Exploration Capability Model

The company investigated in this study is a large established German automotive original equipment manufacturer (hereby referred to as the OEM). Large and established in this context means more than 120,000 employees, over 30 different production locations and founded more than 100 years ago. The automotive industry has changed drastically during the last decade, and is still in a turbulent state, and estimated to be so for a long time. On the business side, some markets are saturated and customers are beginning to question what the benefits are to own a car when there are new car sharing startups, cheaper alternatives to taxi companies and expanding municipal transportation systems (Mittelstaedt, 2010). On the technical side, new regulations are pushing for lower emissions, making customers interested in alternatives to the traditional gasoline combustion engine as gas prices increase. In addition, innovative technologies are opening possibilities for new types of driver assistance, computer interaction, big data cloud connectivity and even autonomous driving. In summary, there is an increasing need for large and established automotive OEMs to follow the technical development and customer need closely, and perhaps to question their current business models, even though they been profitable for a century.

In the recent years, the studied company has introduced a Venture Client Unit (hereby referred to as the VCU), as a first measure to address this issue. The VCU started at the end of 2015, and was up and running in the beginning of 2016. As a venture client, the OEM becomes a client of a startup at an early stage when its product, service or technology is not yet fully mature. In comparison to venture capital, the company purchases a first unit of the startup’s product, service, or technology, upon launch, not its equity. The idea behind this approach was to, from an internal point of view, ask what the company can do for startups. Today, the OEM can in a defined matter state a business proposal to a startup, whose technology is attractive and might deliver value to the company. If the startup can provide the technology, the VCU can offer help with requirements towards the mother company, the regulations needed to work in the automotive industry, teach them about the supply chain and the cost structure.
This company has defined a model for different forms of interaction with startups with the ambition to affect the parent organizations’ exploration capability, hence the name; The Exploration Capability Model. The model includes five different cases of collaborations: Joint Technology Development, Establish Suppliers, Startup Investment, Workbench, and Spinouts. Some of the cases are collaboration scenarios that are already taking place at the OEM, while others are currently being established. The five different cases are described below.

**Case 1: Joint Technology Development**
Joint technology development is a collaboration where the startup and the corporation develop one specific technology together. The startup brings knowledge and an agile workforce, while the corporation assists with the resources needed for further development. For the startup, the interaction is profitable due to the increase of the technology readiness level, access to a big corporation, funding, and a getting potential new customer. The corporation profits from the benefits of a more agile workforce, working with a lean mindset. Employees of the corporation will personally experience the differences between working like a startup compared to working for a large established corporation. By realizing the advantages, this will hypothetically change the mindset of the corporate employees to become more entrepreneurial and have a more exploratory behavior. In addition, the employee works as a representative for the startup within the corporation, giving him or her a greater sense of ownership for the technology compared to regular projects within their ordinary job tasks, and therefore the employee leads the startup towards market launch.

**Case 2: Establish Suppliers**
In some cases, startups can have a newly developed technology or product that the corporation is interested in, but the startup lacks the resources required for scaling up to the production volume required by the corporation to be considered a possible supplier. In this case, the corporation can act as a first customer and mentor, by introducing the startup to the department interested in their technology or product. By gaining access to a first big customer, the startup get insight into corporate processes and needs, making their work toward becoming a viable supplier easier. For the corporation, the benefit comes from early access to new, possibly radical, technology that they can bring to the market without taking too much of a risk. For the corporate employee, the possibility to work with a startup of their choosing or to observe them solving problems that could not be solved by the corporation will hypothetically improve their explorative capabilities.

**Case 3: Startup Investments**
By a Corporate Venture Capital (CVC) – investment, the corporation can have an influence on the startup subject for investment, steering it in a direction that is profitable for the corporation. The exploration activities are performed by the startup, and the equity gives direction. Such investments are traditionally for strategic and financial reasons, to startups that are relevant to the company and that show a high growth potential to ensure financial goals are met. As the relationship is merely transactional, this option to interact with startups will supposedly have the least influence on the individual employee as well as the organizational ability to explore.

**Case 4: Workbench**
To access the startups agility, the corporation can present them with a problem or challenge. This could be facilitated through a open competition or presented directly to the startup. A feasible solution or proof of concept works as a quick evaluation of what the startup can actually perform. The startup can profit from this collaboration in two ways. Firstly, they can be presented with a novel technology from the corporation that shows great potential, but is not market ready. Secondly, if the startup manages to perform and present a solution that interests the corporation, then they are almost guaranteed a buyer of the developed product if it fits the
needs of the corporation. The quick and direct access to a startup enhances the organizational capacity for exploration activities.

Corporate employees will experience different styles of approaching a challenge and see the startups demonstrate their problem solving skills. By juxtaposing the startup approach to that of the organizations, the employee will hypothetically adapt their way of thinking and working when faced with similar challenges.

**Case 5: Spinouts**
Commonly, companies that facilitate spinout projects have the aim to re-integrate them into the parent company if they prove to be useful, i.e. the spinout project is never a standalone company. If they do not have any value for the mother company, they are sold off to a more suitable parent organization. In contrast, the spinout processes in the case company have the goal to make the spinout company completely self-sustaining and outside the parent organization. In addition, it does not necessarily mean that the parent organization takes equity in the spinout organization. The decision to take equity would be treated just another CVC-investment as covered in the investment case, with no difference in affiliation to the parent company.

This scenario allows employees to create a startup of their own based on an idea, business case or technology that they have developed while working for the parent corporation. The pursued spinout business case could have a high potential, but could be too far away from the strategy of the parent organization. In other cases, the parent organization could be unsuitable to follow up on a presented opportunity, due to the structural inertia that makes radical innovations difficult to achieve. For the parent organization, the fruitful scenario is if the spinout develops into a suitable supplier with radical innovative offerings, so that that the parent becomes the first customer. Given that the spinout is derived from the parent, the spinout knows how the organization functions as well as the industry standards and requirements that they are expected to deliver. Therefore, the parent organization can benefit from risky exploratory projects without having to be directly involved. In addition, the possibility of spinning out means that “unfit” technologies and projects developed at the organization can be turned into standalone businesses, thus indirectly encouraging employees to continue working on radical ideas even if they are unsure if the end result will fit with the parent organization or not.
2 FRAME OF REFERENCE

This chapter will present the theoretical reference frame that is necessary for the performed research. The topics include ambidexterity, entrepreneurship, intrapreneurship and absorptive capacity.

2.1 The Ambidextrous Organization

One topic of increased interest in organizational research is the issue of ambidexterity, emphasizing the importance to be aligned and efficient in the management of today’s business demands while simultaneously being adaptive to changes in the environment and future challenges. Organizational ambidexterity has been described in various ways, normally with the use of antonyms, and as a balance between two distinct activities, exploration of new possibilities and exploitation of old certainties (He & Wong, 2004; Raisch & Birkenshaw, 2008; Tushman & O'Reilly, 2008). Additionally, Tushman and O'Reilly (1996) define ambidexterity as the ability to simultaneously pursue both incremental and discontinuous innovation and change.

Further, the distinction between exploration and exploitation is shown in Table 1 below.

<table>
<thead>
<tr>
<th>Exploration</th>
<th>Exploitation</th>
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<tr>
<td>Search</td>
<td>Choice</td>
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<tr>
<td>Variation</td>
<td>Production</td>
</tr>
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<td>Risk-taking</td>
<td>Execution</td>
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<td>Experimentation</td>
<td>Implementation</td>
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<tr>
<td>Play</td>
<td>Efficiency</td>
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<td>Flexibility</td>
<td>Selection</td>
</tr>
<tr>
<td>Discovery</td>
<td>Refinement</td>
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<td>Radical innovation</td>
<td>Incremental innovation</td>
</tr>
</tbody>
</table>

The essence of exploitation is the refinement and extension of existing competences, technologies, and paradigms. Its returns are positive, proximate, and predictable. On the other hand, the essence of exploration is experimentation with new alternatives (March, 1991) which benefits are uncertain but may be beneficial in the longer run.

The problem

Several big established organizations tend to follow earlier successful patterns in their organization which could be the mechanism that precedes failure in fast changing environments. In many cases, success in one area of business often brings with it inertia and dynamic conservatism, hindering a firms’ possibility to react in dynamic surroundings (Tushman & O'Reilly, 1996). Existing capabilities are claimed to create a stable basis for a firm’s current competitive position, but without renewal these capabilities become rigidities with the effect of constraining the firm’s future competitive ability (Ahuja, 2001). Moreover, large and old organizations tend to be greater at exploiting rather than exploring (Levinthal & March, 1993), creating an imbalance that requires an explorative counterweight to fully achieve organizational ambidexterity. Both parts, exploration and exploitation, are essential for the sustainability of an organization, however organizations tend to choose between the two, explicitly and implicitly (March, 1991). This can to a considerable extent be explained by the differences in organizational structures required by exploitation and exploration respectively (Lavie et al., 2010).
By being more explorative in its work, companies strive for creating breakthrough innovation that have a distinct impact on the industry. However, there are various factors that could hinder a firm’s ability to create breakthrough inventions. Ahuja (2001) suggest three pathologies that causes these hinders: (1) the familiarity trap, favoring the familiar, (2) the maturity trap, favoring the mature and (3) the propinquity trap, favoring search for solutions similar to existing solutions.

Further, the firm’s ability to both exploit and explore is what creates dynamic capabilities that helps an organization to respond to the changing outside world. Research on organizational adaptation focuses on the importance of balance between incremental and radical organizational change. To meet the needs for dual organizational capabilities the company needs to continuously increase the focus on process management (Benner & L.Tushman, 2003). If there is no effort in this area, the company might miss a moment of opportunity and thereby risk losing their competitive position on the market.

The simple idea behind the value of ambidexterity is that the demands on an organization in its task environment is always in conflict to some degree. For instance, investment in current versus future projects and differentiation versus low-cost production are some of the trade-offs to be made. Although these trade-offs can never entirely be balanced, the most successful organizations resolve them to a large degree, and in doing so, enhancing their long-term competitiveness. The successful ambidextrous organization achieves both alignment in its current operations while also adapting effectively to changing environmental demands (Birkinshaw & Gibson, 2004).

Achieving Ambidexterity
Organizations that are considered ambidextrous achieve it in various ways. The most commonly mentioned approach throughout the literature is organizational separation, also known as structural ambidexterity. This type of ambidexterity separates units within the company, appointed to be dedicated specifically to either exploitation or exploration. Another commonly used type of ambidexterity is the contextual approach, which is more based on an individual or group level. This includes a certain freedom for employees to, by themselves, divide their time for exploring or exploiting (Lavie et al., 2010). Researchers argue that in a setting characterized by a combination of stretch, discipline and trust, contextual ambidexterity is beneficial. Contextual ambidexterity differs from structural ambidexterity since it is not best achieved through the creation of dual structures, but by building a set of systems and culture that inspires individuals to autonomously divide their time between conflicting demands for alignment and adaptability. Lavie et al. (2010) expands the framework with two other forms of ambidexterity, namely temporal ambidexterity, and domain separation. Temporal ambidexterity is characterized by switching the focus between exploration and exploitation in defined periods of time, whereas domain separation is the division of exploring and exploiting in different domains of organizational activity separately and simultaneously. A summary of explanation of the different forms of ambidexterity can be shown in Table 2.
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<td>Organizational level</td>
<td>Organizational level</td>
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<td>Mechanism of balance</td>
<td>No buffers between concurrent exploitation and exploration</td>
<td>Separate units dedicated to either exploration or exploitation</td>
<td>Sequential shifts over time from exploration to exploitation and vice versa</td>
<td>Exploring in one domain while simultaneously exploiting in another</td>
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<td>Management role</td>
<td>Management provides a supportive structure</td>
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<td>Proactive management is essential</td>
<td>Proactive management is not a necessary condition</td>
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<td>Coordinating across units and managing contradictions at the senior management team</td>
<td>Managing transitions between exploration and exploitation and dislodging from inertial pressures</td>
<td>Identifying applicable domains and deciding whether to explore or exploit in any given domain</td>
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There are several factors influencing whether an organization is more easily steered into exploitation or exploration. Such factors can be everything affected by environmental pressures such as dynamism, shocks, and competitive intensity but also organizational history involving absorptive capacity, slack resources, organizational structure, culture, age, and size, together with individual managerial inclinations. Also, to counterbalance exploitation, some organizations try to harvest the potential of external resources, which requires high levels of absorptive capacity (Ellen Enkel, 2016). Included in absorptive capacity, learning, analysis, imitation, regeneration and technological change are major components of any effort to improve organizational performance and competitive advantage (March, 1991). In addition, managers of ambidextrous organizations need to be prepared to cannibalize their own business idea at times of industry transitions (Tushman & O'Reilly, 1996).

Some researchers claim that established firms can and may be contributing to breakthrough innovation to a far greater extent than is generally recognized. Contrary to common belief, it appears that some large firms do indeed establish routines that enable them to generate significant technological breakthroughs and reinvent themselves in order to retain technological leadership in their industry (Ahuja, 2001). The topics of ambidexterity and absorptive capacity, and their interrelationship, are not only to the interest of researchers but practitioners as well. A particular interest, recently identified in practice, relating to external resources is an increased collaboration between mature and young firms. The company investigated in this study is trying to create value of those collaborations beyond the technology of the startup by trying to capture the explorative capabilities of entrepreneurs.
2.2 Entrepreneurial Characteristics

Entrepreneurship holds several different definitions, as researchers deriving from a broad spectrum of disciplines show interest in both the entrepreneur as a person and entrepreneurship as a process (Y. Li et al., 2008). Consequently, a too simplistic definition of an entrepreneur as a person who establishes a new organization would neglect the opportunity identification and vice versa. As Shane and Venkataraman (2000) argue, two phenomenon’s are intertwined: the presence of lucrative opportunities and the presence of enterprising individuals. Thornton (1999) divides entrepreneurship literature into two parts: the supply-perspective and the demand side perspective. The prior focuses on availability of suitable individuals to occupy entrepreneurial roles, whereas the latter focuses on the number and nature of the entrepreneurial roles that need to be filled. A definition focusing solely on one or the other leads to disharmony in entrepreneurship as a field of research. Further, at least three distinct branches of research questions regarding entrepreneurship used by organizational scholars can be identified: (1) why, when, and how opportunities for the creation of goods and services come into existence; (2) why, when, and how some people and not others discover and exploit these opportunities; and (3) why, when, and how different modes of action are used to exploit entrepreneurial opportunities (Shane & Venkataraman, 2000). In a recent literature review, Gorgievski and Stephan (2016) proposed a tentative framework for psychological entrepreneurship research, illustrated in Figure 1.

![Nested levels of analyses](image)

**Figure 1:** A tentative framework for psychological entrepreneurship research, after Gorgievski and Stephan (2016).

The context in which the entrepreneur is active is of importance when describing entrepreneurship as a research topic. On a national level, the traditional view on the entrepreneur as a business owner is prevalent, allowing for topics such as national culture encouraging entrepreneurship (input) and macroeconomics (output) to be discussed (Thomas & Mueller, 2000). New ventures are viewed as possibilities for an increase in job offerings, economic growth, and flexibility. However, as Shane and Venkataraman (2000) argue, entrepreneurship does not necessarily require creation of new organizations, the concept of the corporate entrepreneur (i.e. intrapreneur) has gained an increase in attention (Burgelman, 1984). For this report, the discussion about entrepreneurs is either at individual level without the need for a
setting, or in the immediate context of a startup or a larger organization (i.e. intrapreneurship), respectively.

**The Entrepreneur as a Person**

As entrepreneurs have interested a wide spectrum of researchers, one branch of studies has focused on differentiating entrepreneurial individual characteristics (Landström, 2010). For instance, Gürol and Atsan (2006) examine how entrepreneurial propensity among a group of Turkish students is related to six individual characteristics, namely need for achievement, locus of control, risk-taking propensity, tolerance for ambiguity, innovativeness and self-confidence. These characteristics are frequently recurring in entrepreneurship literature (Begley & Boyd, 1987; Koh, 1996). Adding to these, Engle et al. (1997) found empirical evidence for the Kirton (1976) Adopter-Innovator (KAI) scale as a suitable distinguisher between entrepreneurs (defined by Kirton as self-employed) and employees (defined as working for others). The KAI suggest that individuals can be placed on a creativity continuum ranging from adaptive to innovative. The adaptive individual is compliant and rarely challenges rules, norms, or authority. They are characterized by precision, reliability, methodicalness, discipline and conformity. At the other side of the scale, the innovator challenges rules and authority in pursuit of goals. They are characterized as undisciplined, thinking tangentially and approaching tasks from unsuspected angles (Kirton, 1976). However, both theoretical discussions and empirical evidence have pointed out that even though the entrepreneurial traits and characteristics have been studied for decades, there is no causality between individual traits and probability of entrepreneurial success (Drucker, 1985; Landström, 2010; Shane & Venkataraman, 2000). Therefore, adding to the psychological approach to explaining entrepreneurship, some researchers have focused on connecting these individual traits to parts of a proposed entrepreneurial process such as opportunity identification (Gagliò, 1997; Gagliò & Katz, 2001). This effectively turns the discussion from performance in terms of entrepreneurial success, which engulfs several factors, to narrower research questions to find individual behaviors that can differentiate individual performance in specific parts of the entrepreneurial process.

As Drucker (1985) argues, entrepreneurship is not a personality trait, but rather a behavior that can be learnt by anyone decisive enough. Human personality traits are generally considered to be stable over time, with little or no change. On the other hand, cognitive processes can be changed (Palich & Bagby, 1995). When Chen et al. (1998) examined how self-efficacy distinguishes entrepreneurs from managers, they adopted social learning theory in their study. Social learning theory suggests that there is reciprocal causation between cognition, behavior, and environment. In other words, human behavior is not unidirectionally caused by environment. Instead, it is the combination of the three interdependent factors behavior, cognition, and environment, see Figure 2. Thus, behavior contributes to creating the environment, and the resultant environment, in turn, influences the behavior. This creates a two-way causal process, where environment is just as actuable as the behavior it controls (Bandura, 1971; Wood & Bandura, 1989).

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![Figure 2: The bidirectional relationships between behavior, cognition and environment, after (Bandura, 1971).](image-url)
By acknowledging social learning theory, we recognize that entrepreneurial behavior can be (1) learnt by the individual, (2) has influence on the surrounding environment, (3) is influenced by the surrounding environment. We therefore argue that there is a connection between the individuals’ entrepreneurial inclination and organizational exploration capability.

The Exploration Capability Model is hypothesized to influence a set of individual entrepreneurial characteristics. These characteristics are a part of the presented case, and are described in literature as follows.

**Need for Achievement**

One of the cornerstones in research on human psychology is Maslow’s pyramid of needs, a model based on his 1943 article on human motivation (Maslow, 1943). The article introduced self-actualization, meaning the desire to become everything that one is capable of becoming (ibid.), to live up to your potential as you perceive it. A widely used term in entrepreneurial research is the need for achievement (commonly referred to as nAch), which has its roots in a book written by McClelland (1961) that suggest a link between societal motivation and economic growth. It can be described as personal striving of individuals to attain goals within their social environment (Ward, 1994). On an individual level, McClelland suggests that a person with high need for achievement engages in energetic and innovative activities, plans for the future and claims responsibility for task outcomes (Collins et al., 2004). In addition, it predisposes a young person to follow an entrepreneurial career where they will attain more achievement satisfaction compared to other types of careers (Collins et al., 2004; McClelland, 1961). Consequently, the need for achievement characteristic is one of the most recurring in entrepreneurship literature (Gürol & Atsan, 2006; Hansemark, 2003; Macdonald & Hyde, 1980).

**Locus of Control**

Continuing on the subject of human motivation, Rotter (1966) suggests that there is a difference in how humans perceive the world around them as a consequence of their actions or by chance. In other words, to what extent they believe that their achievements can be explained as a consequence of their actions (suggesting an internal locus of control) rather than as an outcome of chance, luck, fate, or other higher powers beyond the control of the individual (suggesting an external locus of control). An entrepreneur is frequently suggested to have an internal locus of control in articles on entrepreneurial characteristics. However, the empirical evidence is inconclusive, yet still considered acceptable for continued research (Begley & Boyd, 1987; Engle et al., 1997; Gürol & Atsan, 2006; Hansemark, 2003; Ward, 1994).

**Risk-taking Propensity**

Several researchers support the notion that venture creation requires both personal financial and psychological risk taking (Begley & Boyd, 1987; Gürol & Atsan, 2006; Landström, 2010; McClelland, 1961). Empirical evidence has shown that individual business judgement moderates risk raking. For instance, McClelland (1961) linked entrepreneurship to a similar interest in situations that involve moderate risk or maximum opportunity of getting personal achievement without running excessive risk of failure. The entrepreneur’s propensity to take a risk can also be related to how he or she perceives the situation and the risk in question. Empirical research has shown that entrepreneurs do not perceive themselves as more risk-taking than non-entrepreneurs, despite perceiving ambiguous scenarios as more lucrative (Palich & Bagby, 1995). This creates a predisposition to see opportunities in situations where others see low potential. With this argument, entrepreneurs are not taking more risks than non-entrepreneurs by choice, but rather by perceiving the situation as less of a risk.
Tolerance for Ambiguity
Ambiguous situations are those where the available information is open to more than one interpretation, leaving the interpreter without the chance to assess what risk he or she is taking by pursuing an opportunity (Gürol & Atsan, 2006; Koh, 1996). Some define this as the difference between risk and uncertainty, since risk involves recurring events whose relative frequency can be known from past experience, whereas uncertainty involves unique events that can only be subjectively interpreted (Macko & Tyszka, 2009). As entrepreneurship often includes venturing into territories that lack structure, the individual needs to tolerate operating with some degree of ambiguity or uncertainty. An individual with a high tolerance for ambiguity can even find ambiguous situations challenging or tempting, and would therefore find it motivational to overcome unstable and unpredictable situations to perform well. Empirical evidence linking entrepreneurial inclination to a high tolerance for ambiguity has been found in some studies (Begley & Boyd, 1987; Koh, 1996) and not found in others (Gürol & Atsan, 2006). Due to such inconsistencies, Scott et al. (2003) therefore argue that the evidence is inconclusive.

Innovativeness
The word innovation undoubtedly has an extensive amount of definitions, and therefore the use of it should be clear and with a distinct purpose. In the context of entrepreneurship, innovativeness can be identified in terms of opportunity identification (e.g. entrepreneurial alertness) by coordinating processes to realize values from opportunities (Gürol & Atsan, 2006). In a sense, this use of innovativeness is related to turning an invention into an innovation through realizing its economic potential (Z. Li, 2013). As Drucker (1985) argues, the very definition of resource requires that someone find a use for something in our surroundings. It does not have to be technical, nor physical, but the real definition of innovativeness in the context of entrepreneurship is to be able to realize the value and monetize it. Adjacently, individual characteristics such as creativity, resourcefulness, farsightedness, inventiveness are commonly associated with entrepreneurial innovativeness (Kirton, 1976; Koh, 1996; Thomas & Mueller, 2000).

Self-Confidence and Self-Esteem
To follow an opportunity that is associated with some risk or ambiguity, an entrepreneur needs to believe that he or she is capable of achieving the goals that are set. Empirical studies have found that entrepreneurs have a higher degree of self-confidence relative to non-entrepreneurs (Koh, 1996). A more commonly used term in entrepreneurial literature is self-efficacy, which can be described as an individual’s cognitive estimate of his or her capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise control over events in their lives (Chen et al., 1998; Wood & Bandura, 1989). In other words, it is not enough to possess the required skill, you need to believe in your own skills and your ability to exercise control. Chen et al. (1998) found that a high self-efficacy is related to pursuing an entrepreneurial career, a result which Macko and Tyszka (2009) reproduced. However, a high self-efficacy is not necessarily related to entrepreneurial performance, it merely predisposes the individual to make certain career choices (Chen et al., 1998).

Dominance
Some branches of entrepreneurial research examine how an entrepreneurial person behaves in a social context or working together with a team. In one direction, the leadership perspective tends to describe entrepreneurs as leaders of people, with the ability to adapt their style to the needs of the people (Landström, 2010). In contrast, the review by (Gorgievski & Stephan, 2016) paints a different picture with so-called “dark traits”, for example narcissism and psychopathology. Furthermore, one recurring entrepreneurial characteristic is the need for total control (Koh, 1996). Therefore, despite the term dominance is rarely used in literature on entrepreneurship, several of the topics touch upon the same subject using different perspectives. For example,

In addition, empirical research has shown that growth-minded entrepreneurs compete with themselves to surpass their own results. Since small business CEO’s are free from all hierarchical rivalry, Begley and Boyd (1987) hypothesized that founders will manifest more Type A behavior than nonfounders. Type A behavior can be described as being aggressively involved in a chronic struggle to achieve more in less time, and if required, against opposing people. However, the conducted study could not support the hypothesis, as no such difference was found. The proposed reason for the lack of empirical support is the method used to measure used to assess the Type A behavior pattern, suggesting that the hypothesis should not be discarded.

Need for Support
One test that is recurring in determining what underlies an entrepreneurial individuals’ behavior is Gordons Survey of Interpersonal Values (Begley & Boyd, 1987; Gordon, 1976; Moran, 1998). In one study, Moran (1998) used this survey to determine which interpersonal values were associated with individuals who show a high growth orientation (which the author acknowledges might appropriately label them as entrepreneurs). One examined factor in the survey is “Support”, defined as being treated with understanding, receiving encouragement from others and being treated with kindness and consideration. A high need for support was the second highest ranked value for the group with low growth orientation (e.g. the least entrepreneurial group), and in addition, there was a significant correlation between a low need for support and a high growth orientation.

Need for Autonomy
While autonomy often is considered a stable trait of the entrepreneur, many scholars have overlooked how autonomy, independence or self-regulation in of itself can be a motivation for pursuing an entrepreneurial venture (Gorgievski & Stephan, 2016). For example, a study on American female firm establishers found that one of the prime motivations for starting a business was a desire for independence (Scott et al., 2003). Gelderen and Jansen (2006) examined autonomy as a startup motive and found two distinct types of motives for autonomy. Firstly, a proximal motive, where the task characteristics of being self-employed is desirable. This is mostly explained by decisional freedom, that the individual can go in whichever direction he or she prefers. Secondly, there are distal motives, meaning that autonomy acts as intermediary between the individual and the true motive. These distal motives include avoiding organizational rules and managers, self-expression of ones’ values and goals, and finally, to lead instead of being led (Gelderen & Jansen, 2006; Gorgievski & Stephan, 2016).

Conformity
One school of defining entrepreneurship is through deviant behavior, to not fall in line and accept surrounding systems and structures, perhaps even going back to Schumpeter’s’ description of innovation and entrepreneurship through creative destruction (McMullan & Kenworthy, 2015). Conformism can be defined as doing what is socially correct, following regulations closely and doing what is accepted and proper (Moran, 1998). To understand conformism, Kirton (1976) suggests that individuals can be placed on a continuum between being an adaptor and an innovator, often referenced as the Kirton Adaptor-Innovator scale (KAI). An adaptor is characterized by discipline, prudence, methodicalness, precision and conformity. In contrast, an innovator is described as undisciplined, thinking tangentially, abrasive and challenging of rules and customs. The KAI scale has been empirically shown to be suitable for distinguishing people with entrepreneurial characteristics (Engle et al., 1997).
2.3 Intrapreneurship

The last three decades, a new branch of research on entrepreneurship has started to examine entrepreneurial activity within the context of existing organizations (Antoncic & Hisrich, 2001). A new term, corporate entrepreneurship, was made popular by Burgelman (1984). He introduced a model where entrepreneurial activity is a natural and integral part of the strategic process in large established firms. The underlining need for acknowledging entrepreneurial activity within existing organizations can be explained by the following contrasting stories used by Burgelman (1984):

In 1966, calculators were largely mechanized. A young man working for one of the calculator companies brought a model for an electronic calculator to Hewlett-Packard. His own firm was not interested in it because they didn't have the electronic capability. In spite of unfavorable market research forecasts, William Hewlett personally championed the project. (Atherton & Crites, 1980; Burgelman, 1984).

Back in 1980, Sam H. Eletr, a manager in Hewlett-Packard's labs, tried to persuade the company's new product people to get into biotechnology. "I was laughed out of the room," he said. But venture capitalists didn't laugh. They persuaded Mr. Eletr to quit Hewlett-Packard and staked him to $5.2 million to start a new company. Its product: gene machines, which make DNA, the basic material of the genetic code and the essential raw material in the burgeoning business of genetic engineering. Now, three years later, Hewlett-Packard has formed a joint venture with Genentech Inc. to develop tools for biotechnology. One product it is considering: gene machines. (Burgelman, 1984; Chase, 1983).

The picture that these two stories illustrate is interesting for several reasons. Both tell the story of individual initiatives that fall outside of the current scope of the organizations where the individuals are employed. Burgelman (1984) categorizes these initiatives as autonomous strategic behavior in his model for strategic process, see Figure 3.

The autonomous strategic behavior is mostly derived from entrepreneurial individuals who are closer to the market or product level and take initiative to mobilize organizational resources to conceive new business opportunities outside the structural context of the organization. However, these opportunities cannot be seized without the support of the organization, and therefore the
task falls upon middle managers to mediate between top management that set the organizational strategy and the entrepreneurial individuals within the organization (Burgelman, 1984). According to Pinchot (1985), it is often this link that fails, that great ideas are encouraged but rarely successfully implemented. It lies upon the intrapreneur to challenge corporate inertia, which in effect leads to frustration and that innovative people ultimately leave their organization. According to a review on entrepreneurship research by Sakhdari (2016), a surprisingly low amount of attention has been given to research on how management can use intrapreneurs to mitigate exploration and exploitation. In addition, more research is required on how to stimulate entrepreneurial behavior among employees.

To understand which factors that nurture intrapreneurial activities, Antoncic and Hisrich (2001) suggested a refined intrapreneurship model, see Figure 4. This model is aggregated from several different scales that form subscales in the proposed model.

One of the main hypothesis’s behind the suggested intrapreneurship model by Antoncic and Hisrich (2001) is that certain organizational characteristics will influence intrapreneurship. To a large extent, positive nurturing of intrapreneurship is dependent on the individuals within the organization as well as the values, beliefs, and visions of strategic leaders. Several of the organizational factors are derived from a previous study by Zahra (1993). The study found empirical evidence for a positive association between corporate entrepreneurship and formal communication, scanning, and differentiation (i.e. the division of labor within the organization). Communication exposes employees to ideas and enables sharing different perspectives across departments. Scanning is the formal efforts to collect, analyze and interpret information about the competition and external environment to see trends, changes, threats, and opportunities. Differentiation promotes employee dedication to the mission of the organizational unit and the formal goals that are to be reached. In contrast, the study also found a negative association between corporate intrapreneurship and formal controls as well as excessive integration. Even though some amount of formal controls is considered positive for corporate entrepreneurship, the intrapreneurs can get frustrated throughout the extensive process of trying to receive formal support. Integration aims to disseminate corporate entrepreneurship ideas throughout the organizational units and hierarchical levels, e.g. an admirable intention to create comprehensive organizational support. However, these activities are often associated with rigid controls, and therefore impedes corporate intrapreneurship (Zahra, 1993). This study is not alone in these conclusions. Topics related to rigid controls, hierarchy, bureaucracy and mechanistic structures
are often criticized for obstructing entrepreneurial activity in organizations (Burström & Wilson, 2015; Menzel et al., 2007).

**2.4 Absorptive Capacity**

Another area of importance when it comes to a firm’s competitiveness is the ability to acknowledge and make use of what is happening in the environment surrounding the firm. The ability to take in outside information and utilize it in the interest of the company in this manner, is called a firm’s absorptive capacity. Further, a firm’s absorptive capacity can be defined as its ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends. Therefore, it is a critical part of the firm’s innovative capabilities. A compilation of scholars’ different definitions of absorptive capacity is presented in Table 3 below. It is suggested that the absorptive capacity is largely a function of the firm’s level of prior related knowledge (Cohen & Levinthal, 1990). In addition, this capacity also enhances the overall dynamic capabilities of the company, which also enhances the firm’s ability to react quickly in fast changing surroundings. Dynamic capabilities do not only facilitate the ability for an organization to identify a potential technological shift, but also the ability to adapt to the changes of the environment through innovation (Rothaermel & Hess, 2007). Through an increased absorptive capacity, any organization could benefit in the areas of product development, improving strategies, react and adapt to market change, position themselves to better respond to needs of the customers, take advantages of external valuable information and create a better flow of information within and out from the organization (Ndiege et al.).

<table>
<thead>
<tr>
<th>Definitions</th>
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<tr>
<td>1 Ability to recognize the value of new external knowledge, assimilate it and apply it to commercial ends</td>
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<tr>
<td>2 A set of skills needed to deal with tacit part transferred knowledge and the need to transform this knowledge</td>
</tr>
<tr>
<td>3 Ability to learn and solve problems</td>
</tr>
<tr>
<td>4 Ability of an organization to learn from another</td>
</tr>
<tr>
<td>5 Includes evaluation, acquisition, integration, and the commercial utilization of new external knowledge</td>
</tr>
<tr>
<td>6 A set of an organization’s routines and processes used to acquire, assimilate, transform, and exploit knowledge</td>
</tr>
<tr>
<td>7 Organization’s ability to learn and act on scientific findings and technological activities outside its limit</td>
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The development of an organization's absorptive capacity builds on development of its individual’s absorptive capacities, and organizational absorptive capacity tend to develop cumulatively with this. Absorptive capacity is more likely to be developed and maintained as a byproduct of routine activity when the knowledge domain that the firm wishes to exploit is closely related to its current knowledge base. One prerequisite for absorptive capacity is that the organization needs previous related knowledge to assimilate and use new knowledge. Studies in the area of cognitive and behavioral sciences at the individual level both justify and enrich this observation (Cohen & Levinthal, 1990). Further studies narrow down the absorptive capacity problem to being constituent of two components, which are (1) communication channels within and across the organization, and (2) the common knowledge that is shared within the organization (Debrulle & Maes, 2013).

**Organizational Level**

A firm’s absorptive capacity is the resulting mix of the dynamic capabilities of the organization, the individual’s absorptive capabilities and the intellectual human capital. As with exploration and exploitation (i.e. ambidexterity), there is a specific trade-off between potential absorptive capacity and realized absorptive capacity. Where potential absorptive capacity requires change, flexibility and creativity, realized absorptive capacity require order, control and stability
Organizations need to structure their business to find a balance between these, as well as the balance of ambidexterity. A firm needs a significant internal research capability to recognize, understand, appraise and apply internal knowledge that has been placed on the shelf (Rothaermel & Hess, 2007).

One effort for organizations to expand their external information flow into the company is to engage in collaborations. Especially when it comes to cooperating in technology-based alliances, scholars argue that the positive effect for firms is much higher when engaging in more radical, exploratory alliances than in alliances of a more exploitative nature (Nooteboom et al., 2007).

**Individual Level**
Regarding the absorptive capacity construct, Cohen and Levinthal (1990) proposes that individuals, similar to organizations, are assumed to acquire information and put new knowledge into memory. Afterwards, they can then recall and use this knowledge to generate new insights. Upon transferring this individual level understanding to the organizational level, it is stated that organizational knowledge processing builds on the corresponding individual capabilities of each firm. Moreover, it is argued that for external knowledge to evolve into a competitive advantage, individuals are essential to acquire, interpret, communicate and combine information creatively and uniquely (Cohen & Levinthal, 1990). Further, an individuals’ absorptive capacity conciliates three different dimensions that are: (1) the individual’s ability to identify valuable knowledge external to the firm’s environment, (2) the individual’s ability to assimilate the external knowledge to its existing organizational identity and (3) the individual’s ability to advocate for the utilization of the external knowledge within its organization. The conclusive difference between these three and their contribution to exploratory and exploitative innovation lies in the individual’s efforts to assimilate external knowledge (Ellen Enkel, 2016).

**Startup Level**
Startups are generally smaller enterprises with more possibilities for flexible organizational structures which are, in turn, believed to be associated with greater capacities for knowledge acquisition (Ndiege et al., 2012). These are conditions in which absorptive capacities are strengthened. Further, processing information efficiently is important for all kinds of firms, but the absorptive capacity is of particular importance for startups as they need to quickly learn how to act and proceed in new environments. Younger firms suffer from liability of newness, which could increase the risk of failure in comparison to established companies. One way to overcome this risk is to create an absorptive capacity to learn from the environment. Since startups are less steered by bureaucracy and are generally quicker to adapt to changing surroundings, their efforts to gather, integrate and exploit external information could be a successful way to get ahead of their established competitors (Debrulle & Maes, 2013). However, smaller firms are often dominated by their managers. Consequently, leadership style and personality of the managers easily influence the organizational culture. Smaller enterprises are therefore argued to be to a larger extent affected by the individual absorptive capacity of the manager or owner (Ndiege et al., 2012).

Higher levels of individual entrepreneurial orientation have been found to increase motivation to overcome the inertial forces and structural hurdles that companies face as they grow. The current research suggests that management that seek change through strategic learning should take the size and age of the company into account when considering what level of entrepreneurial orientation should be cultivated. It is argued that highly entrepreneurial firms are more open to information that exists outside their core business, and this is what facilitates the creation of breakthrough technology from new sources. Conclusively, it is argued that entrepreneurial orientation enables a firm to choose from a more varied base of approaches to react to the dominant environmental conditions. Furthermore, if an organization maintains their
entrepreneurial orientation at a higher level it is more prone to develop specialized competences and processes in the area of knowledge distribution, assisting a more coordinated innovation effort and learning throughout the entire organization. (Sirén et al., 2017).

**Dynamic Capabilities**

Based on the definition of Teece et al. (1997), Eisenhardt and Martin (2000) define dynamic capabilities as:

The firm’s processes that use resources – specifically the processes to integrate, reconfigure, gain and release resources – to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve and die. (Eisenhardt & Martin, 2000).

Furthermore, Eisenhardt and Martin (2000), argue that dynamic capabilities are not, in contrast to some other scholars beliefs, tautological and vague. Instead, they consist of numerous well-known processes such as alliancing, product development and strategic decision making, whose strategic value is in their ability to manipulate resources into value-creating strategies (Eisenhardt & Martin, 2000). Building on the theory of organizational ambidexterity, many studies have found that established firms usually cannot achieve high performance of radical innovation since they lack the ability to handle both internal and external changes. According to Wen-Hong Chiu (2016) the reasons for this can be due to the following inhibitors: (1) bounded searching (2) insufficient planning and risk-taking and (3) improper structures and systems. It should be noted that dynamic capabilities are necessary but not sufficient conditions for competitive advantage and overcoming these inhibitors. (Eisenhardt & Martin, 2000).

The dynamic capabilities framework emphasizes how firms utilize resources and capabilities to promote competitive advantages in rapidly changing environments (Wen-Hong Chiu, 2016). In markets where there is a rapid change occurring, it is the dynamic capabilities by which managers integrate, build and reconfigure internal and external competencies that become the source of continued competitive advantage (Teece et al., 1997). Further, dynamic capabilities can be described as a firm’s capabilities of sensing, seizing and reconfiguring (Wen-Hong Chiu, 2016). More concretely, these capabilities consist of specific strategic and organizational processes like product development, alliancing and strategic decision making that are value creating for firms in dynamic environments. This results in greater equifinality, meaning the outcome is consistent in shifting contexts, creating greater homogeneity and sustainability across firms than, for example, traditional resource based view thinking implies (Eisenhardt & Martin, 2000; Teece et al., 1997). Dynamic capabilities could be beneficial for any organization in several scenarios as these capabilities take on different characters depending on the situation. In moderately changing environments where, inter alia, the industry structure is stable, the dynamic capabilities resemble the traditional conception of routines. In other words, they are complicated, detailed, and analytic processes that rely on existing knowledge and linear execution to produce predictable outcomes. On the other hand, in the case of a firm being in high-velocity markets where industry structure is blurring, dynamic capabilities take on a different role. There, they are simple, experiential, unstable processes that rely on quickly created new knowledge and iterative execution to produce adaptive but unpredictable outcomes (Eisenhardt & Martin, 2000). Additionally, studies show that a high level of management experience significantly stimulates the absorptive capacity of startups within highly dynamic environments while it hinders the absorptive capacity within stable environments (Debrulle & Maes, 2013). The dynamic capabilities of an organization are in direct symbiosis with the strategic routines by which managers alter their resource base acquire to generate new value creation, evolution, and recombination of other resources into new sources of competitive advantage.
3 METHOD

The purpose of this chapter is to describe the working process used in this research study. The procedure is created in order to fit the purpose of the case study.

Qualitative Data Gathering
This study can be described as exploratory study, i.e. a current phenomenon whose nature is not completely understood is to be studied and described through a case study. Our study is a part of a larger case investigation, that aims to collect both qualitative and quantitative data to explain the influence of the Exploration Capability Model on the studied organization. Therefore, the aim of this study is to contribute to understanding the ongoing situation through a qualitative approach. Quantitative data collection was considered not suitable for this study as it regards a model that is evolving, and subsequently there were not enough people knowledgeable in the studied area. Additionally, this model will arguably not show tangible results until a few years. The qualitative data is aimed to provide a deepened understanding of the area of concern and to give guidelines for further research. Another goal was to identify interesting areas and correlations with expected effects on the organizational ambidexterity, explorative capabilities, absorptive capacity, and dynamic capabilities. For the data collection, employees within the case company were identified as persons of interest for the studied topic as they are participants within the studied model, and were therefore invited to interviews.

One precondition for finding usefulness in the gathered data is that the data needs to be analyzed and the meanings understood (Saunders et al., 2009). Qualitative research methods are descriptive and mostly include passive observation, participant observation and open-ended interviews.

Inductive Approach
The approach to collect the data was an inductive one, meaning that the researchers collect data to assess which themes are emerging from the data as they progress. In comparison, a deductive approach is when you presuppose from theoretical propositions and try to collect data to confirm the theory. An inductive approach is recommended in an exploratory study (Saunders et al., 2009). Thus, one does not engage such a study with a clearly defined theoretical framework, instead you identify relationships between the data collected and develop questions to test these as you proceed.

Semi-Structured Interviews
The chosen approach for data collection was semi-structured interviews, resulting in the qualitative data which is highly suggested for exploratory studies (Saunders et al., 2009). Semi-structured interviews were considered appropriate for attaining information from the selected persons of interest to find out their experience and how they think and feel. They were semi-structured in the sense that an interview guideline with questions was followed, but if the respondent wanted to say anything else that they considered relevant to the topic, this was appreciated as well.

The interview questions were in direct relation to the studied topic, nevertheless, there is always a risk that the interviewees have given biased answers due to poorly expressed questions or if the interviewer, consciously or unconsciously, steer the interviewee towards a desired answer. This phenomenon is called reflexivity, where the relationship between the researcher and the object of research affect the interview (Saunders et al., 2009). Consequently, this could create a situation where the interviewee merely responds with what the interviewer wants to hear. This phenomenon was arguably mitigated by having three interviewers conducting the study.
Additionally, due to this realization, an extensive effort was put on creating the interview guideline, explained in the following section.

**Literature Review and Interview Guide Creation**

A systematic literature review was conducted to build a suitable theoretical background to the study. The major categories consisted of absorptive capacity, ambidexterity, dynamic capabilities, entrepreneurship, intrapreneurship, open innovation, organizational change, organizational innovativeness, and spinouts. The literature was used as a foundation to summarize a frame of reference for this study. Furthermore, the gathered literature was probed for questionnaires, research questions and interview guidelines that could be relevant for this study. These were collected in a document and reviewed with consideration to the entrepreneurial characteristics used for this study. After reviewing, all the questions with an adequate connection to the characteristics were gathered in an extensive sheet of questions. The complete list of questions accepted in the first review can be seen in Appendix B. Furthermore, these questions were screened and redundant material was removed. Following, the remaining questions were revised and rephrased to deepened questions, more suitable to the qualitative approach in this study. Lastly, the deepened questions were then systematically ranked based on their relevance to the different entrepreneurial characteristics in an evaluation sheet, which can be seen in Appendix C. The purpose of this was to use the different entrepreneurial characteristics as anchors when reviewing and aggregating the questions that were to be used in the interview guide for the empirical data gathering in this study. The ambition was to create a stronger connection between the empirical data and the frame of reference. A model visualizing the entire process, from literature research to analyzed interviews, is shown in Figure 5.

![Figure 5: Illustration of the process leading up to the interview guideline.](image-url)

The resulting interview guide was continuously iterated throughout the total of 16 interviews that were conducted. Additionally, three versions of the interview guide were created, each specifically aimed towards startup collaborations, spinout efforts and facilitator related activities.
For a merged interview guide, see Appendix A. Eight of the interviewees were involved with start-up projects that could be classified as product co-development up to establish supplier, six were part of a potential spinout team at the OEM and one interview was done with a facilitator of start-up collaborations, the leader of the VCU of the OEM. Two of the interviews were carried out over video call and the remaining in person. One interview was rescheduled to a significantly later point in time, so that it was excluded from the analysis of this report. Similarly, one interviewee would only agree to be interviewed in German and was also excluded from this report. Out of the 14 remaining interviews, one interviewee declined to being recorded. Consequently, notes were taken by two interviewers as the third led the interview. Furthermore, the interview was followed by a discussion meeting where notes and thoughts were compared and summarized. The interviews were finally analyzed with respect to the frame of reference.

**Interview Specifics**
The 13 recorded interviews had a duration between 30 and 60 minutes. They were held in an office environment, in a conference room at the case company by the three interviewers. By having three interviewers, the level of subjectivity in the discussion was decreased. One of the interviewers was more affiliated to the company than the others, which brought two effects to the handling of the interview. This person knew more about the company regarding the studied subject and could therefore fill in relevant follow-up questions that the others might have missed. However, the more affiliated interviewer was likely more prone to steer the respondents to a desired answer. Because of this last factor, the interviews were mostly conducted by the remaining two interviewers that were less inclined to being biased.

**Transcription and Coding**
The recorded interviews were transcribed to a 75,072-word document and these were then coded to highlight relevant quotes. The codes used were partly derived from the frame of reference as well as impromptu codes for interesting or recurring themes and topics uncovered. This resulted in 41 different codes, amongst which 10 of them were the entrepreneurial characteristics used for this study. The codes were collected with the aid of a software environment for statistical computing, called R, and an internal package tool, called RQDA, for qualitative data analysis. The data was analyzed qualitatively by examining the coded texts in search for patterns and inconsistencies, connected to the research question and frame of reference. The relevant coded texts were then summarized to create an outline for the findings presented in the results.

**Delimitation**
Moreover, in RQDA, the transcribed interviews were processed using statistical computing to find frequently occurring words. Words associated to those frequently occurring words and to topics of interest based on the theoretical background were examined to find emerging patterns through a quantitative approach. This effort to quantify the data was neglected in the later analysis since it was found unsuitable for this study. However, the identified codes were also processed to find the frequency by which they were used and in how many of the interviews they were used, to evaluate how relevant and suitable the gathered data was with regards to the frame of reference.
4 RESULTS

In this chapter, the results will be described. The aim is to reveal implications on how the entrepreneurial characteristics of the individual affect the dynamic capabilities, absorptive capacity and overall explorative capability of the case company.

The disaggregation of the transcribed texts was performed with an open coding approach. The process resulted in 41 different codes, used 908 times in total, see Table 4 below.

Table 4: Used codes, respective frequency in numbers of usages and in number of interviews, with explanations.

<table>
<thead>
<tr>
<th>Code</th>
<th>Usages</th>
<th>Interviews</th>
<th>Comment/Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Culture</td>
<td>67</td>
<td>11</td>
<td>Customs, rituals, and values.</td>
</tr>
<tr>
<td>Organizational Support</td>
<td>67</td>
<td>12</td>
<td>Tangible and intangible means through which the organization supports the employee</td>
</tr>
<tr>
<td>Search, Variation, Experimentation, Discovery</td>
<td>62</td>
<td>13</td>
<td>Exploration, see Ambidexterity in Frame of Reference</td>
</tr>
<tr>
<td>Barrier, Obstacle, Hurdle</td>
<td>54</td>
<td>13</td>
<td>Problems that have occurred, personal experiences</td>
</tr>
<tr>
<td>Evaluation, Screening</td>
<td>42</td>
<td>12</td>
<td>Proof-of-concept, determining diligence and credibility</td>
</tr>
<tr>
<td>Motivation</td>
<td>36</td>
<td>9</td>
<td>Incentives and reasons to take action</td>
</tr>
<tr>
<td>EC7 - Conformity</td>
<td>33</td>
<td>11</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Absorptive Capacity</td>
<td>32</td>
<td>9</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Career</td>
<td>30</td>
<td>8</td>
<td>Planning for/reflecting about profession</td>
</tr>
<tr>
<td>EC0 - Innovativeness</td>
<td>27</td>
<td>6</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>27</td>
<td>11</td>
<td>Task allocation, coordination, supervision</td>
</tr>
<tr>
<td>EC9 – Need for Achievement</td>
<td>26</td>
<td>10</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Implementation</td>
<td>26</td>
<td>8</td>
<td>To put into effect, startups into OEM</td>
</tr>
<tr>
<td>Spinouts</td>
<td>25</td>
<td>3</td>
<td>Statements regarding spinout-projects</td>
</tr>
<tr>
<td>Internal Processes</td>
<td>24</td>
<td>8</td>
<td>Descriptions of OEM procedures</td>
</tr>
<tr>
<td>Money, Finance, Investments, Returns</td>
<td>23</td>
<td>7</td>
<td>Statements regarding financial means</td>
</tr>
<tr>
<td>Startup as an Organization</td>
<td>22</td>
<td>6</td>
<td>Properties, culture and structure, characterization</td>
</tr>
<tr>
<td>Risk</td>
<td>21</td>
<td>8</td>
<td>Situations involving risk and how risk is perceived</td>
</tr>
<tr>
<td>CENSORED (Venture Client)</td>
<td>21</td>
<td>9</td>
<td>OEM entity handling startups, see chapter 1.4</td>
</tr>
<tr>
<td>EC8 - Need for Support</td>
<td>20</td>
<td>8</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Refinement</td>
<td>20</td>
<td>9</td>
<td>Exploitation, see Ambidexterity in Frame of Reference</td>
</tr>
<tr>
<td>EC1 - Risk-taking Propensity</td>
<td>19</td>
<td>10</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>EC3 - Autonomy</td>
<td>19</td>
<td>10</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>EC4 - Locus of Control</td>
<td>16</td>
<td>7</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Series Development, Production</td>
<td>15</td>
<td>7</td>
<td>Main OEM business, products, manufacturing</td>
</tr>
<tr>
<td>EC6 - Self-esteem, Confidence</td>
<td>14</td>
<td>8</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Autonomy</td>
<td>13</td>
<td>9</td>
<td>In terms of work nature, organizational</td>
</tr>
<tr>
<td>Inertia</td>
<td>13</td>
<td>7</td>
<td>Resisting change, slow to react</td>
</tr>
<tr>
<td>Learn/unlearn</td>
<td>11</td>
<td>5</td>
<td>Learn/discard previous knowledge</td>
</tr>
<tr>
<td>Hierarchy</td>
<td>10</td>
<td>6</td>
<td>Organizational, ranking people</td>
</tr>
<tr>
<td>Flexibility, Speed, Agility</td>
<td>9</td>
<td>3</td>
<td>Properties and situations</td>
</tr>
<tr>
<td>Leadership</td>
<td>9</td>
<td>7</td>
<td>Position or function of a leader</td>
</tr>
<tr>
<td>Bureaucracy</td>
<td>8</td>
<td>5</td>
<td>Excessive administrative procedure due to hierarchy</td>
</tr>
<tr>
<td>Marketing, Boasting, Overpromising</td>
<td>8</td>
<td>4</td>
<td>Startup motives for OEM collaboration, and negative effects</td>
</tr>
<tr>
<td>Scalability</td>
<td>8</td>
<td>5</td>
<td>Ability to change the scale or size of operations</td>
</tr>
<tr>
<td>Communication</td>
<td>7</td>
<td>6</td>
<td>Between coworkers, departments, startup-corporation</td>
</tr>
<tr>
<td>EC2 - Tolerance of Ambiguity</td>
<td>6</td>
<td>4</td>
<td>See Frame of Reference</td>
</tr>
<tr>
<td>Individual as “function”</td>
<td>6</td>
<td>2</td>
<td>Employees as functions in OEM</td>
</tr>
<tr>
<td>Efficiency</td>
<td>5</td>
<td>2</td>
<td>Priority to accomplish a job with a minimum expenditure of time and effort</td>
</tr>
<tr>
<td>Initiative</td>
<td>5</td>
<td>4</td>
<td>Approaching a collaboration</td>
</tr>
<tr>
<td>EC5 - Dominance</td>
<td>2</td>
<td>2</td>
<td>See Frame of Reference</td>
</tr>
</tbody>
</table>
This table is disclosed with the purpose to offer full transparency and demonstrate to the reader what material the analysis is built upon. For instance, a code such as “EC5 – Dominance” that was only used two times arguably offers less of a basis for discussion. On the other hand, one could argue that the lack of usages is in of itself a topic to discuss. However, for this analysis, codes with low occurrences are given lower priority.

**Premise of the Analysis**

For the sake of a clearer and more niched analysis, some simplifications are made. Firstly, the analysis will be conducted based on three scenarios instead of the five listed collaboration cases in the Exploration Capability Model. These introduced scenarios will be presented as before and after the launch of the VCU and before and after the possibility of spinout efforts. For a description of the Exploration Capability Model and the VCU, we refer the reader to chapter 1.4 where the model and the case company are introduced. The three scenarios that will be examined are hereby introduced as follows.

*Scenario 1 – the OEM Approaches a Startup*  
Regarding the Exploration Capability Model, this could be viewed as case 4, the workbench case. When the OEM has an idea, project, or problem that they need to solve but lack the internal resources for, they can “openly” suggest it as a challenge or competition for startups to work on it. It should be emphasized that this case is the one where this study provided the least insight, as few of the interviewees had personal experience of this scenario.

Before the VCU, if the OEM wanted to contact a startup, they had no official strategy or process to do so. Collaborations with startups have existed for several years, but up until the VCU the lack of internal processes made it difficult to facilitate a startup collaboration. One interviewee demonstrated this by claiming that the only way that the OEM used to engage a startup was if an engineer personally went to a conference and asked a startup if they were interested in starting a collaboration.

After the VCU, if internal experts at the OEM see that there is a need for a certain technology they can approach the VCU. Once the need is communicated to the VCU, they act as a mediator, announcing the need through its channels to the external environment. The responding companies (predominantly startups) are then screened by the employees at the VCU to make a first judgement over their appropriateness. If they are deemed able to perform, contact between the startups and the internal experts is established through the VCU.

*Scenario 2 – A Startup Approaches the OEM*  
If a startup feels the need to expand their business through a collaborative effort with a large organization, they might try to take the initiative to contact the organization with which they want to start a collaboration. In this relationship, the startup could be either a supplier or a collaborative partner in developing a technology, product, or service.

Before the VCU, there was no clear entry point for the startups that wanted to get in contact with the OEM. There was no structure and very difficult for a small startup to know how to deal with a big a company such as the OEM. Some of the interviewees described that it might even be frightening and off-putting to face such a huge façade that a big company like the OEM have. Furthermore, after taking the step of approaching the OEM, the processes of getting a project going took very long time. Interviewees have experienced that a lot of the startups do not have an idea about how a big corporation works. When facilitating a startup collaboration, it could take six to nine months just to set up regulations and write contracts to get the project started.
Several of the interviewees claim that there were not enough resources within the OEM to take care of a startup and guide them all the way to production.

Before the VCU, the OEM had merely a venture capital investment approach where the OEM assisted with financial support. In this case though, they had the risk of investing in a startup whose technology could be outdone by another technology in a near future, upon which the OEM could not do anything but to accept the financial loss.

When establishing the VCU, one of the OEMs goals was to make it as easy as possible for the startups to come in contact-, and start a project, with the organization. It was initiated with a “everyone can apply”- approach. The thought was to bring in the startups early in the process to guide them with the internal expertise to efficiently fit them into the business values and the automotive industry. The VCU was launched as a response to the problems described by the following respondent:

> Also, personally, I used to work in a startup so I know how hard the huge façade of a company is. If you look at a company like us from the outside, you might know people that work in there but there’s not very often a starting point or something.

Through the VCU, the startup will get a contact person from a suitable department within the OEM. This employee will help the startup understand the processes in the OEM as well as mentoring them if they are unfamiliar with the requirements of the automotive industry.

*Scenario 3 – The Intrapreneur Scenario (i.e. Spinouts)*

This scenario is identical to the Spinout case as described in the Exploration Capability Model. Meaning, individuals within the OEM that are entrepreneurially inclined try to take initiative within the OEM to undertake something new and different. This could be a new technology, product or service that might not fall under the OEMs strategy, business model or values.

After creating the possibility of spinning out a project, as described in the Exploration Capability Model, the OEM can allow their employees to venture off without completely breaking their relationship to the organization. The spinout organization is not affiliated with the OEM, but the employees could be offered the opportunity to come back to their regular job, should the spinout project fail. The spinout can, in some cases, get financial aid for starting up their company. Other types of support include permission to access internal experts at the parent company with knowledge that the spinout team does not have.

To clarify the relationships between the OEM, startups and spinouts, a model was created, derived from the input of respondents, see Figure 6. Furthermore, it attempts to illustrates the processes and communication paths in the organization, concerning the scenarios described above, after the launch of the VCU. The model includes the actors and organizational factors influencing the collaboration efforts. This model is important to understand and identify where in the process issues may occur and what leads to successful launched collaborations.
Further, derived from the interviews, the model illustrated above contains two actors that we chose to highlight. These are:

The ambassador
This person represents the OEM in collaborations with external partners. The ambassador is the one taking care of the startup project and facilitates the communication between the startup and the OEM. This is an employee who is either the one who initiated the collaboration, or, has been identified by either the VCU or managers as a suitable person to represent the department within the OEM. For instance, this could be an internal expert at the OEM that has extensive knowledge about a certain technology related to the collaboration. How this person behaves to facilitate the collaboration is relevant to this study.

The intrapreneur
This person is the entrepreneur within the OEM that wants to start something new, based on a new idea, technology, or service. These are the people who often want to spin their idea out of the company. Once spinouts are spun out, they become startups and the communication and relation between their startup and the OEM transfer into the “normal” case of startup collaborations. This is where the intrapreneurs insight in the OEM could be highly beneficial in knowing how startups should approach the company. Therefore, this person is relevant to this study both in understanding how entrepreneurial individuals are nurtured or hindered within the OEM, and in understanding how startups should approach the company.

The following is therefore mainly focused on these roles and how their individual, entrepreneurial, characteristics affect the collaboration between startups, spinouts, and the OEM. The section will illustrate the outtakes from the data collected through the interviews in two parts. Firstly, we will exhibit some of the identified conditions in the organization as expressed by the interviewees. The second part will consist of the identified phenomena that seem to occur within the context of these conditions, see Figure 7.
Figure 7: Model for the structure of the results chapter, with conditions and phenomena.

There is not necessarily a stated causality between condition and phenomenon. Instead, the conditions are merely used to further describe the environment in which the observed phenomena occur.

4.1 Conditions

The conditions that will be described in this chapter are labeled: *Facilitating a Spinout*, *Organizational Support*, *Hierarchy and Bureaucracy*, *Motivation*, and *Experience and Trust*.

**Facilitating a Spinout**

The impression that a majority of respondents shared in the interviews was that the large and established organization acted to keep their employees in the company. Therefore, spinning out a project seemed to be the last option offered by the OEM. For instance, one interviewee felt the need to spin out since the project was too far from the OEMs regular revenue stream, and the close customer development that would help the project was not possible while staying at the company. This intrapreneur had to actively push for becoming a spinout, both when discussing with the internal accelerator and the closest management:

> And, at the beginning it was “okay, try to talk to the internal guys, and maybe you can, you know, can use synergies” and all this stuff. And after that, we came all the time we came and asked them “this should be a spinout! **This should be a spinout!**”. And at some time, you know, they realized “the guys are right” you know, “this should be a spinout” […] so, we started talking to the guys that we wanted to spin off. And after that I approached my boss, my direct report. And I said to him “it makes sense to spin this out, with or without COMPANY”. So, that was, you know, this “**don’t ask for permission, pray for forgiveness**”-thing.

Another interviewee painted a similar image of lacking organizational support,

> From COMPANY, itself there was **not so much support**. We had the contact to UnternehmerTUM, but this was, yeah, made by ourselves so this part from COMPANY was just “**oh, don’t leave, we give you the money so you can do it here**” so it was the first thing we heard and that they **just see the risk of four people leaving** the company. And they are
asking “how should we, solve the problem when four people of one office are leaving” but they were not like “how can we support the...”. No one asks this question. [...] I think is, they have the base for support for startups now but what they need is a change in their mind that if people leave doing a startup this is not bad for the company. At the moment… Now, COMPANY always overthinks and that they’re losing the control over the people and the startup. If they let them leave. And this is more a change in the culture, that they shouldn’t be afraid… and...but I think this is a problem that is working on at the moment.

and others had a generally better experience regarding support for spinning out, such as this interviewee:

[...] and, it’s, somehow strange but I guess, in terms of obstacles I guess there are not so many to basically get out of COMPANY, to do a startup, I guess. So, human resources departments set up kind of nice conditions to come back after a few years. We talked to COMPANY to do the financing for the whole thing as well and they were really interested and well, at least our boss said to me “if you want to leave, I can’t hold you. I just can talk to you and try to convince you but if you want to go” … and he said it’s a good idea anyway so, well.

This underlines the influence that the relationship to the closest management (e.g. the head of the department as in most cases of the interviewees) has on establishing a spinout project. The logistics of financing and employment are handled by other departments in the parent organization, and the interviewees were seemingly satisfied with the support given related to this. However, when approaching the closest management, spinning out was seemingly not encouraged, but allowed. It can be argued that the individuals that are spinning off show a low need for support in these situations. They are breaking loyalty to their superiors and department. One interviewee described how it is frowned upon to switch companies, and related this to culture on a national level instead of organizational:

[...] because in Germany you are always very engaged to the company you work for. So usually you are very loyal to the company you work for. Somebody who is switching companies is not seen as a loyal employee. So, yeah. Because! I mean, it’s a case, if someone pays a little bit more and you go to this company, you are not loyal. So, if your company is maybe having a bad time, you will always try to jump off, do something else, do something new. But loyal employees, they will stay there, and they will try to help the company to come back into a better economic basis. [...] In Germany, it is more or less in the way that, if you leave a company and go somewhere else, it’s always like you think the way is not given to come back again. So, that’s a high risk if you have a good job, a job that you like, but you are just too creative to… Can do more, you also want to do more but you… but, also, be able to come back.

This quote touches upon one of the many risks there are going into the spinout projects. Providing the spinout teams with the security to come back to the parent organization within a few years seemed to be a very comforting type of support. It might even be an essential factor to initiate the spinout, considering the following quote:

[...] They should not, you know, start with “okay, that’s our idea, and how can we bring this back to the standard department?” and all this stuff. They should give you the opportunity to spin this out [...] You have the security of, if you go out, you have the possibility to come back. And also, you can participate on the success on your idea, that’s for me the main factors.

Seemingly most of the people involved in spinout efforts have the opportunity to come back to the company as a form of job security.

Organizational Support
The interviewees were asked about the organizational support they perceived to have received to indirectly see whether they praised intangible support such as encouragement, or, tangible
support, in the form of financial aid. A majority of respondents included financial means in their answer, and this was also predominantly the quickest answer that was thought of. This was true both in the context of projects within the organization, as well a startup collaborations and spinout-projects. As one respondent put it:

Yeah, I only need money…That’s the only problem, and the “go” from my chief. Though… In most cases of the last years, without the last half year, it’s never been a problem. I go to my chief and tell him about this new, cool idea or a cool startup and I need 20 000 euros, then he says “go” to this.

However, in contrast, a significant portion of respondents also experienced that the process of getting money was strenuous and time-consuming. Sometimes this required creative workarounds to find the money quicker than through the correct process. Mostly, this problem occurred when working on projects that do not directly fall under the employees’ regular job description. This was illustrated by one respondents experience when asked about hurdles encountered while working for the OEM:

Well, the standard thing is money, not for me personally but you wanna do project but you need money for that but you learn being creative about that. If you have the types of bosses that supports that kind of thing. But it’s like, the standard issue, you wanna do something and you feel really good about something and… If you go through the regular processes of getting support in a way so like, I don’t know… Technically I would need support if I work on a project by my bosses, because I spend working time working on that project, or, I step out, but then I have an insurance problem. That’s the type of issues that we’re talking about and so I guess the obstacles I had were a lot of kind of financial things and I started becoming creative around it…

Additionally, the organization seems to have a zero-fail culture which in some cases scares employees from taking risky initiatives. In the following quote, a senior employee of the company discussed this issue:

And this is a clash of mindset. COMPANY at the heart is an engineering company. We want to make products which are 99.9% perfect. So, you can’t build a product which is 80% perfect. You won’t be allowed to do this. And that’s the case also today. Yesterday, I gave a speech where I sketched some of the advantages and disadvantages we have in our mindset and thinking, and it’s very clear, if we can’t manage to go away from this zero-error culture which we call it, others will take over.

In terms of startup collaborations, most interviewees considered the support sufficient and it primarily came in the form of money. Encouragement by the organization to collaborate was lacking, as one interviewee answered when asked if a startup collaboration was supported:

In a way, yeah…Well they’ve not been not supported and the other way around… That draws a very dark picture but I guess that it’s not about, you know, if you’ve try to get them supported… But if nobody tells you “don’t do that’ I guess that’s a good thing. And you should try to keep that state, keep it calm for a while…

When it comes to the spinout projects, the people going in to the projects do not expect much support from the organization, besides being given the opportunity to spin out and the chance to come back to the organization in case the spinout fails. However, the monetary support is appreciated, as illustrated by one respondent:

Well, I guess we didn’t actually need the support from upper management, I would say. Well, it’s nice to have it and we kind of had it from the beginning since we talked to them and we had discussions with them and they said “yeah, we can support you there if you come up with a business plan and business model and so on, then we can talk about it, how COMPANY
So, the view of support was not whether it is there or not, but more a question of how you ask for it. One general response is that employees had not thought about if there is any support present in the organization or not.

Hierarchy and Bureaucracy

A majority of respondents saw the organizational culture and structure of the OEM as very hierarchical. The descriptions indicated a mechanistic structure with formalized processes as well as specialized departments and functions. Several interviewees found this problematic or frustrating, as this interviewee who believed that the joint effort of the organization is blurred as a consequence of the highly specialized departments:

A big thing here at COMPANY is that everyone is focused on his function and his short-description department code. This is one of the biggest things at COMPANY, to break out, to open this and say “okay, we are working together on the same thing, and the department code is not relevant”.

The scenario above was also described by another interviewee, who illustrated how this is a barrier for sharing ideas within the organization if it does not fall directly under your job description or responsibility. Furthermore, this was in connection to the start of a spinout project, that an unfriendly working environment was described:

From an organizational perspective, it was… That people are still thinking too much in silos, you know? “It is my department, it is my responsibility, and if someone else is coming to me and is trying to propose some idea, it is going to be very very hard!”, so people are just thinking in their department. You have jealous… Really, really jealous people inside the company, so, you have think kind, you know, some people try to hinder you because they say “okay, now he has all this freedom to participate and I have to work on my daily stuff”, you know, and blablabla… and *pff*. “Okay, let’s be…” I don’t know, “let’s start talking bullshit about him!”

The previous quote describes how conflicts may arise between the different departments. In addition, the culture within respective departments is seemingly determined and influencing the individual employee. As described by the following interviewee, it can be frustrating if there is a mismatch between your personal views and your department:

[…] I need a new job, but you want to hear that *laugh*. That’s one of my goals, we have a reorganization… We had a reorganization last year. And the new organization is… Absolutely not the thing I think “so that’s positive”, or, “that’s the correct way how to think about new technologies, innovations, about digitalization or how to implement new technologies in our plants”. Actually, we are… The guys are working on PowerPoints, PowerPoints, and PowerPoints… That is bullshit.

Employees engaged in a spinout project described several scenarios where they have acted non-conforming, because their personal view differed from their managers or the department. As one interviewee described it:

So, I don’t care about if somebody says, “these are your targets and work on them” and I’m pretty much sure they are really rubbish. I take those targets, I look at them, and say “ok we are doing 20% of this stuff you just mentioned and we are doing 80% other stuff”, and people will follow me, and this is a cool thing [laughing].

Finally, as the organization is large, there are some issues with the coordinating efforts across departments. This is also true in the case of startup collaborations. Consequently, this leads to
inconsistent information from the corporation being output to the startup as explained by one interviewee:

[...] Because our company is so big, you know, we can’t do anything for it, they’re, they’re being shot at all different parts of the company and if, of course, we haven’t talked with each other so there’s always conflict information coming to them, that’s also frustrating and you can tell that they’re, they’re trying to bring everyone in our company together [laughing]. So, they’re kind of managing us uh, from their side. Yeah. So. Yeah, I think these kinds of things, they’re just frustrating but I think most startups can deal with it. They have the energy for that… [chuckle]

The respondent touched upon this from an interesting perspective, describing how sometimes the startup needs to coordinate the mother company instead of the other way around. This is quite similar to the classic problem of over-the-wall engineering.

Motivation
The majority of interviewees acknowledged having some kind of plan related to their career. However, the plan was mostly related to everyday company-structured business. Multiple respondents explained that the career path within the organization was clear and fairly determined. Despite this, only one of the 13 interviewees showed explicit interest for being a team leader or in a managerial position in five years. In addition, that respondent explained that the position did not necessarily need to be at the OEM, it could also be within a startup. When another respondent was asked about why he did not want his managers job, he gave the following response:

It’s boring [laughing]. No, it’s away from the process. It’s further away. [...] The further away from the technology the more boring it gets. I wanna be involved and I wanna actually do it differently than we do it today.

A majority of the interviewees showed a similar interest in controlling the hands-on work, and less interest in managing people or the bureaucracy associated with administrative work. Another interviewee gave a very similar description:

I mean, this is a problem at most German companies, and quite often in US as well, so US is much better off… That, of course, you can’t really have a career staying close to the actual technology, to the actual coding or whatever… Development. Especially at COMPANY, the normal career path is that you become a team-leader, a group leader, head of department and so on… And of course, the higher you go, the less you get in touch with the actual hands-on work.

When asked about motivation, money was not mentioned as a motivating factor. However, several interviewees did mention that the salary at the corporation is quite high, and one interviewee even described this as a motivating factor for not accepting another job offering:

[…] I mean, there’s a lot of people, and I know people in my age they were like “I know it’s not perfect but what the heck, I make 95’000 a year for 30 working hours” and I mean that’s true. Like, my brother works at OTHERCOMPANY and he tried to get me a job at OTHERCOMPANY the other day, like, a few months ago. And they gave me an offer, but you never get that package, like, 40 hours for that amount of money. Never ever, ever again, never ever, ever again. That’s like the most securest thing you ever get, and whenever you go away, that changes rapidly. So that’s the big hypothesis, a lot of people feel like that but they don’t dare to do that step like... And sure… Understood. It’s kind of like, how you balance your personal goal, security, self-development, achievements, risks. Kind of... And I guess a lot of people, especially in Germany, have a bias to safety, security. So, the big
hypothesis is a lot of people feel that way, would actually like to work that way but don’t dare to go away once they’re in here.

This interviewee described a balance between personal goal, security, self-development, achievements and risks. In this context, security is assumed to be represented by the high salary. Even though an employee might not get satisfaction through performing his or her job at the OEM, the salary compensates for the dissatisfactory work. The same interviewee also raised the question of a challenging and inspiring work-task, as well as the type of environment that facilitates this:

[…] So, you’re very limited in your choices you have. And bluntly speaking a lot of the people in my team, I don’t think they’ll work for COMPANY after their jobs here I mean… Even right now there’s like, two colleagues left to OTHERCOMPANY1, one left to OTHERCOMPANY2… Because they didn’t feel like they found something challenging, well not challenging is the wrong word, but like inspiring, in a way. With that whole package of having nice people, knowledgeable people, and ecosystem that allows to do things.

This quote illustrates how the corporation fails to retain driven individuals, and the interviewee indicated autonomy as one of the cornerstones in a desirable ecosystem.

Experience and Trust

Several interviewees gave the impression that, in some cases, managers and more experienced employees of the company do not trust employees with less experience. Seniority is greatly valued within the organization and a status factor, to the extent that it becomes an obstacle for less senior individuals proposing their ideas, as explained by one interviewee:

[…] generally speaking, overall, I think there’s a problem with culture sometimes. Like, I’ve heard in my former jobs, I’ve heard jobs like “I don’t believe what you say unless you’ve worked 5 years here”. So that’s a cultural issue and an obstacle that prevents you from, you know, I mean that’s kind of the… If you’re a young person, that kind of stops you from pushing like, because you know “ok that’s five years that this guy doesn’t trust me” and that’s kind of tough. So, we have a culture issue with supporting new ideas and new concepts.

Seniority as a barrier for unlearning is an experience shared by several interviewees, and is further explicitly supported by this quote by a different interviewee:

You totally notice a difference between older and younger workers and COMPANY is typically a company where… You stay, here. Because it is a great employer, and I agree! I am, despite my criticism earlier, I am actually really happy I’m here. But, you tend to have the ones that have been here for decades, and they are the ones who are strongly programmed in one direction. The ones that are particularly hard to switch into a different direction. And a lot of the decision makers are… Older.

Paradoxically, seniority is also described as a key asset for those trying to do things differently. It takes time to build up a personal network and to understand how the processes work. Several respondents explained how they go around the official processes by using their personal network and contacts within different departments. Without the seniority and experience, moving away from the internal processes is difficult, as explained by this interviewee:

[…] It’s depending on your personal network its… again the same thing, it’s having contacts into our factories, to leaders of departments or groups or production lines. If you have… If you know which… To who you have to talk to and who might be interested in this technology or in this project and you talk to them and they “oh great, we’ll do that, it’s no problem.” But this is coming with the time, you need to know a lot of people and you need to know whom you can ask, and then there’s no problem. For younger colleagues, it’s difficult sometimes. […] a
colleague of mine who is here at this department for one and a half year and he has much more problems as he has network and doesn’t know who to talk to and also to “where can I get this money from when I can’t get the money from my personal chief”

When the interviewees evaluated their own self-confidence, a majority of respondents saw it as increasing with the time being at the company. Some respondents made a connection to organizational trust. As the organization trusts the employee more over time, they are given more responsibility, and therefore they can feel more confident, as explained by one interviewee:

[…] the only point I can think about this is that they gave me more responsibility that gave me the possibility, you know, to be more confident because, you know, as I get more responsibility I feel like they can trust me […]

However, a majority saw that their confidence cumulates with learning more about the industry and organization, as explained in this following quote:

I mean, leaving university you don’t really know how this industry works even though you did maybe, with them, internships or whatever… So, staying three years at the same department, taking care of student interns and master thesis and so on, obviously, you learn quite a lot. Those three years now at COMPANY as a regular employee… I think they gave me a lot of confidence on how to deal with external partners.

So not only is seniority valued by others within the organization, it also generates confidence which can be important in unfamiliar situations, such as when representing the OEM dealing with external partners.

4.2 Phenomena

The phenomena identified and discussed in this section are here called: Contact Person Acting as an Ambassador, Working as a Startup Within the OEM, and Intrapreneurs Wanting to Spin Out.

Contact Person Acting as an Ambassador

One interviewee introduced the term “ambassador” to describe a role required within the large established organization to facilitate startup collaborations.

Ah that’s an important thing… Having an “ambassador” … I have not found like the right place, or the right role within the company yet. But here it is, in the end the startup to COMPANY at various points and people try to find the right spokesperson. I think the VCU do a good job, because they try to work at the same eye-level. But, in the end, if a project is over they don’t have an ambassador anymore. And sometimes that might be for a reason I guess, but I don’t think that is a conscious decision in the company yet. There is not that person that says “well okay, we have done the project, we have learned of it, it is OK or it is not OK. If it is not OK I’ll stop being your ambassador, but if it is OK I’ll be the one that promotes you! Like, tries to find new contact people, because you know how we work yet you have proven you are worthy, but how do we continue from here?”. I think that is something that I have been missing in the past. Also, a few collaborations stop at some point and they don’t pick up at anymore, because there’s nobody there anymore.

This highlights the importance of a specifically appointed individual in the relationship between the large established corporation and the startup. What is helpful to facilitate the collaboration is if there is a person within the corporation that represents the startup and pushes their cause through different actors within the corporation. This person within the corporation could therefore either be a bottleneck of the collaboration or be a large contributor to the success of a collaboration. In other words, on one hand the corporation could be represented by a person that simply acts as a contact person that formally manages the communication and evaluates the
startups performance through a proof of concept. On the other hand, the person responsible could also act as an ambassador, with personal dedication to championing startup within the corporation. The following is an example of an interviewee that showed ambassador behavior, sharing an experience of internally speeding up the process to match the startup:

[...] they delivered within one week, which is really, really quickly! Complete with all analysis and everything. And so, I wanted to give them a feedback quickly! And officially, I have to go through the hierarchy. I have to wait, “this guy is on holiday away until then and then, and then the meeting…”. And realistically from us, we need about four weeks to give a feedback… Just don’t do that! You know? *laugh* Maybe take a little bit of a risk? Maybe, send a few emails perhaps a little provoking to many people who you shouldn’t have to. *laugh* You know? Try and do this kind of startup mentality within the big company, and often it works! Often, some people feel a little bit kind of stamped upon, you just got to take a bit of risk in trying to adapt this startup mentality. And, yeah, it works! But that really comes down to really personal, what kind of person… I’m not German, you know? And I wouldn’t say that I’m somebody who’s strongly programmed in one direction, so perhaps a little more [inaudible, get out?] just do it! *giggle* Just kind of act a bit like a startup!

The quoted person took a personal risk going around the normal processes and showed low conformity by not adapting to the hierarchies, in order to help facilitate the startup collaboration. It was a personal agenda to help the startup, no processes or routines expect this type of behavior from the employee. The personal dedication by this person is further epitomized by this quote regarding startup collaborations:

It’s my thing! [chuckles] I love coming here and I love listening to startups, I love… This is… That’s the fun part of work, yeah. And it’s very… Spoiled as an engineer that you can just, kind of, come here and sit back and they present their really cool work, you can just ask any kind of question, a dumb question. They won’t, they’ll never treat you as a dumb [chuckles] you just, they’ll answer it and its very comfortable position to be in and its, yeah.

In a different startup collaboration, the person responsible to represent the corporation in the collaboration was less ecstatic about the startup collaboration. The collaboration was handed over to him when a colleague did not have time for it anymore, as explained below:

We said, “okay we can look into it”, and throughout the project he just past it over to me. […] I mean the problem was that I was not in the project from the beginning, so I only took over after it was bit… It has been decided that we look into this startup further by doing evaluation so basically, I just provided a third part of this evaluation for data that I thought that is more important than the rest. So… Yeah it would have been better if only one person at COMPANY decided accompanied this corporation from the beginning to the end, maybe this would have helped. […] My impression was that they didn’t spent that much effort on it… I don’t know how much money they received, so the setting was like they received some money from COMPANY to put an effort in to this evaluation and to provide an example on how good they can perform on our data… And I was very disappointed by their presentation […] Actually, I prepared a document… Actually, we provided test data and 2 or 3-page document explaining what exactly we need and what their evaluation criteria will be. […]

In this collaboration, the representative acted as what we label a gatekeeper, evaluating the startups performance. For this individual, the focus was the assessment of the product that the startup aimed to deliver. It was not a mentorship, or championed within the company. This collaboration was cancelled by the corporation, as the product from the startup did not perform as well promised and the employee therefore acted as a gatekeeper between the startup and the organization.
Working as a Startup Within the OEM

Some interviewees that had been in contact with startups mentioned how they had personally acted like a startup within the company, especially when asked how they try to overcome barriers and hurdles while working for the corporation:

I try! I really try! *laugh* I just try to be like a startup within the company. It comes down to a personal thing you know?

Adding to this, one spinout team member was asked about if their project could have been developed inside of the corporation instead of spinning out, and gave the following response:

I think it can be achieved, but not as quickly. And I know that their, or… We are working sometimes like a startup within the company and it’s kind of hard because you have so many regulations to work by, so many rules by the company, so many boundaries that you have to overcome. Plus, I don’t have the time here. I’m stuck with all my personnel to talk to, I have all the rules to follow, it’s… It’s kind of hard to be very creative in a big company.

The startup-way of working is therefore difficult to achieve within the company, but it is associated with speed, agility, and creativity. Another interviewee described how a workshop with startups had inspired the department to use similar methods in their own project:

[…] We basically said that “this is not good for developing products, not with automotive standards that we usually set within our company”, even within mobility services we have very high standards. But “what it is good for is learning quickly and developing some kind of a blueprint”. And I know that has been used in two teams at least, by the way doing digital products, not physical products. […]

One member of a spinout team saw the personal dedication and passion as a crucial part of becoming a startup:

You have to dedicate really really… Time, do develop something like this. So, you can’t do this with working you know… Two hours a day. You don’t have this 9 to 5 time, forget about this. You have to work until three or four in the night. And you have to be passionate about it. If you don’t have passion, forget it. It’s only going to be this project, a side-project, but never a full-time startup.

Lastly, one interviewee with experience from working within a startup discussed how this motivated him to make it easier for startups to approach the corporation:

I guess some part of it is personal. I like the way we work. I would say we work a little bit like a startup within this company. If working like a startup means working very lean and focused as well. So personally, it’s always good to get in contact with new people. Also, personally, I used to work in a startup so I know how hard the huge facade of a company is. If you look at a company like us from the outside, you might know people that work in there but there’s not very often a starting point or something. And it’s often: go there, present, never hear back. So, for me personally it is about opening up some space…

One entity within the organization that deliberately work as a startup is the VCU itself. From the very beginning, the VCU had minimal resources and was developed ad hoc iteratively by mainly two people, as explained by the following quote:

But, we started small, we were two people, we printed out our own business cards. We went to conferences, we went to investors and say “Hey, this is the VCU. We have nothing.” [laugh]. So, then we started and we did it all maybe, also like a startup, we developed everything as we needed. So, we said “ok, now we talked to them, let’s think about how we can do application, how should the people apply” so we went, had a look and found a tool and said
“ok, let’s use this tool, it’s for free, use this one. Put it in the website”. Ok, it’s there. “Ok, what might be the criteria? Ok, let’s put a questionnaire in there.

As a startup within the corporation, the VCU ignores or works around some of the standard processes and regulations, if they do not believe in them. This is done with a logic of “the end justifies the means”, as explained hereafter:

So, but we, yeah, I think somehow, we acted like a startup. As far as it was possible. The most important thing what I learned is eh, don’t ask for permission, ask for pardon. And that’s it. And if you think that’s reasonable, that it really makes sense to do it and it’s good for COMPANY, do it. Even if it’s forbidden for now with some regulation, nobody cares really. Do it and then see what happened. And if it’s really good and makes sense, nothing happens.

In terms of size, the VCU team is minimal (less than five people). The two founders have two different responsibilities, one handles the corporate side, while the other handles the startup side. They are using their differences in personalities to their advantage in the different responsibilities, in an ambidextrous manner, as explained in the following quote:

So, NAME, he is not here today, but we have really different personalities. He is the startup-guy and I’m the corporate guy, more or less. And he’s really pushy towards the startup way somehow. That’s good. Because I have to go sometimes out of my comfort zone, “oh we can’t do that” [laughing, being unsure] “naah, no we can’t”. Then we did it and at the end, it worked out… And I say “ouhh, ok,ouhh” [laughing]. So, on the other side, sometimes it’s too much and I say, or then I can explain other people in the company. “We didn’t know” and “let’s see, next time we do it differently…” And, so, that’s a good mixture, so we have both sides within the team. And, that’s good. That helps. I think that’s the perfect setup because he really understands the startups, I have somehow, connections to startup but I can help them maybe to explain a little the corporate world and how they have to act and the other side around it. And also, when NAME talks to internal people, they, he can maybe explain then the internal, and say “hey, that’s a startup. They do it that way” and they say, “ah ok”.

Even though working as a small group might have benefits, it can also mean that the capacity is limited. Another interviewee believed that the OEM should not consider themselves as open to startups just because of the VCU, and that much more resources are required, as explained in the following quote:

[…] So, everyone has to ensure, the corporates and the startups, to, you know, focus a little bit more on each other. Of course, the corporates because they have more resources to be more open to topics like this, you know, not to have only one department consisting of two guys that are trying to scan the whole outside environment and I think, in this specific case, COMPANY needs to be much more open to startups. To have a really, really whole department not only, you know, these guys from the VCU that are doing this stuff and, you know, putting this whole responsibility to two people, and maybe 2,3 or 4 that maybe, I think, I know that two guys have experience and… You have to have experience to work in this field so I think they should focus more on getting. Of course, you have the management side but you have to also to get people in this kind of department to create one really big department that is focusing only on this kind of collaboration, on startups and don’t give this whole responsibility to, I don’t know, to three people.

The number of people involved is one topic for discussion. Another topic is the interface between the VCU and the OEM. In terms of implementation, the VCU team has one additional person from the corporate side that has worked several years within the organization, with a great amount of technical knowledge, who is responsible for due diligence and transferring the startups to the right person within the organization.
Intrapreneurs Wanting to Spin Out
The motivating factors behind a spinout project that interviewees disclosed can be categorized as either directly related to the project itself or related to personal agenda. Project-related motivations can be a mismatch between the project and the parent organization in terms of strategy, business model, customer segment, revenue stream or suitable product development methodology. On the personal side, the spinout project allows you to work with a topic that you find interesting and you get a sense of achievement as you get to partake in the success of your idea. Autonomy in of itself was a motivating factor according to some interviewees, either implicitly, or, explicitly as with this interviewee:

I guess, it’s to make the startup thing happening is one of the personal goals since it is kind of freedom in decision. Some kind of, not doing all the administrative things, which are necessary at COMPANY and to be some kind of free in mind and develop your ideas for the, for your own profit, that would be a nice thing.

Another employee talked about his motivation behind engaging in spinouts, emphasizing the importance of seeing the impact of his efforts:

To create something that is tangible. Because my work right now is intangible. You are working, you are trying to keep the applications alive, and… It’s intangible, you know? So, at the end of the day I would like to have products, physical or non-physical, you know? To say… To look at it and say: “that’s my project, I did this, from scratch!” and you know, to have this… You know, everybody says this… This impact. But to have people talk about you “hey, this is a cool product that he developed” and to see people that are using my product, so that motivates me.

Answers that were largely project-related showed great similarity to the following quote:

[…] in a big company like COMPANY there are always complicated processes and processes are mostly slow, I would say and what we wanted to do, as we saw that the topics in itself goes to slow, within COMPANY, our idea was to spinout and fast it up to make it available for COMPANY and to, yeah have some kind of own recreational part of this whole thing and just work on our own purpose and not for the purpose of guys who were three to four steps higher than we in the hierarchy and yeah, I guess that was the main thing I would say. Annoying, annoying processes. But yeah, I guess, that’s the thing everyone, yeah, I could imagine, would say.

However, there are factors that were described as risky or ambiguous when spinning out. One interviewee compared working for a large established corporation to creating a startup, and described how you move into a more ambiguous setting where you cannot know for certain where you will be within the next years:

[…] you leave your comfort zone a little bit so. COMPANY everything is secure around you so you know, you can calculate what you’re earning in ten years. You can calculate which house you can buy or not. You can calculate which car you drive and that… Making a startup you don’t know where you are in ten years and that’s the difference I think, so yeah… You’re thinking a lot more about the future… COMPANY you’re like, ok you’re making a career or you’re not making a career, but you’re not losing your…. Your life.

One respondent commented on how he regarded the balance between positive and negative outcomes from the spinout projects as follows:

Well, I think that’s affected in two ways. First, it changes for bad, because you have to pretty much do everything. If you fuck up, you are done. In a big company like this, you can probably fuck up millions and it’s… You’re still going to be in the company, have a job and be happy, after a couple of… *big laugh* nice talks with your boss. But in the end, if you are self-reliant, you probably have to plan a bit better than in the big company. But it opens a
lot of opportunities also, that’s the pro-side I would say. *You’re doing whatever you think is right.* And in the end, if you were right, you are doing well. *If you are wrong…* Well, let’s hope you still have a job.

Concluding, there are several reasons for spinning out a project present within the OEM, and the respondents shared their views on the possibility with both positive and negative remarks. The phenomena described above will be discussed with regards to exploration-related outcomes in the following chapter.
5 DISCUSSION

In this chapter, the phenomena described in the Results-chapter will be discussed, first in terms of how they relate to the frame of reference, and then their possible outcome in the form of organizational exploration capability. Finally, the chapter ends with a brief reflection on the chosen method.

In terms of ambidextrous balance, much of the interview data suggest that the case company struggle in their exploration activities. The organizational inertia that Tushman and O'Reilly (1996) describe is noticeable in the OEM, since a majority of interview respondents described a mechanistic structure with exhausting internal processes as barriers for rapid changes. No respondent explicitly connected the internal inertia as directly impeding a competitive ability, however, this outcome is empirically supported by Ahuja (2001).

As Birkinshaw and Gibson (2004) argue, organizational ambidexterity can be achieved through organizational separation (i.e. structural ambidexterity), or, through a contextual approach. The launch of the VCU can arguably be seen as organizational separation, as most interviewees regarded startups as suitable for explorative efforts rather than exploitative. To put it more simply, this allows the employees to focus on the standard business within an organization that is suited for it, while startups act as the explorative workforce. When asked about the personal balance between exploration and exploitation within the job, a majority of respondents were satisfied with their balance, that was predominantly focused on exploration according to their own assessment. However, when describing the organizational culture, the freedom to individually divide the time between alignment and adaptability as required for contextual ambidexterity is seemingly not actively inspired by the organization.

Phenomenon - Contact Person Acting as an Ambassador

Firstly, we would like to highlight the mere function that the corporate employee serves in a startup collaboration, before discussing any individual characteristics or outcomes. One interviewee explicitly stated that some collaborations stop and are not continued, since the responsible employee within the corporation is no longer present (e.g. switched department or left the corporation). Furthermore, another interviewee suggested that the startup collaboration that he was a part of could have been improved if there was only one appointed person who represented the corporation from start to finish of the project. We argue that this emphasizes the importance of the function that this person serves in a collaboration. Adding to the basic functionality, we argue that the level of engagement in a collaboration differs between the interviewees. We suggest a continuum ranging from Gatekeeper- to Ambassador behavior among employees representing the corporation in a startup collaboration. The Gatekeeper serves the basic function as a contact person for the startup. These individuals view their main function as evaluating the startup, effectively being the one standing between the startup and the resources of the corporation, hence the name Gatekeeper. In contrast, the Ambassador behavior can be described as energetic, passionate, and enthusiastic championing of the startup within the corporation, as well as hosting and mentoring them.

We chose to label this phenomena of acting as an Ambassador as a deviant behavior, since it far exceeds what is required or expected by the role as a contact person. In contrast to the spinout teams, that personally engage in startup-like activities by choice, the individuals representing the OEM in startup collaborations did not necessarily take initiative to be in this position. They could have been identified by the VCU as a suitable person based on expertise for example, or, be assigned the responsibility by a manager. This study did not fully reveal how these
individuals were chosen by the VCU. However, every respondent was asked why they, personally, engaged in these types of collaborations. Based on the interview data, we have hypothesized these following underlining reasons:

- **Induced interest**: conforming to the influence by organization, managers, department, team, or project.
- **Personal interest in the deliverable**: personal interest in the technology, product, or service.
- **Background-related interest**: job description, educational background, previous collaborations with startups or experience from working in a startup.
- **Individual stimuli**: working as a startup, creative thinking, challenging norms, networking, achieving tangible results.

The interviewees in this study shared several defining factors. For instance, in terms of background, a majority of these individuals are engineers who also have technical work tasks within the corporation. Furthermore, several of the interviewees expressed a personal interest in the technology that the respective startup was working on. However, besides sharing these basic components, a minor portion of the interviewees derived a personal satisfaction by interacting with startups. These are the same individuals that acted autonomously within the corporation, taking personal risk in favor of the startup collaboration, and did not conform to the corporate culture. This is the behavior that we have labeled as Ambassador behavior. The correlation between the different behaviors and successful startup collaborations is not known. However, based on the experiences shared by the interviewees, this type of behavior seems to mediate the differences between the corporation and the startup.

When collaborating with a startup, we argue that the induced interest is the major driving force for the Gatekeeper, while individual stimuli drive the Ambassador. We have illustrated this is what we have labeled the Level of Engagement Pyramid in Figure 8 below.

![Figure 8: The Level of Engagement Pyramid, describing motivations for the employee in a startup collaboration.](image)

In terms of entrepreneurial characteristics, there are some similarities between the identified behavior and that of the entrepreneur described in literature. By actively wanting to collaborate
with startups, the employee actively seeks out energetic and innovative activities as described by McClelland (1961) when defining need for achievement. In terms of locus of control, the Ambassador behavior does not let the collaboration be in the fate of the processes, instead, seeing how personal effort leads to positive outcomes, showing internal locus of control and high self-efficacy as they act. Naturally, by working in a rather mechanistic organization, the process of championing the startup requires a non-conformist behavior, as the standard processes described by the interviewees are too excessive and time consuming for startups. To leave the standard processes might require taking personal risk, and causing other coworkers some discomfort, and thus a low need for support is shown.

To summarize, this study has identified various levels of engagements by the employees representing the corporation in startup collaborations. With regards to the interview data and the entrepreneurial characteristics described in the frame of reference, we have argued that the level of engagement (i.e. to behave as a Gatekeeper or Ambassador) is influenced by individuals’ cognition. Finally, the outcome of such a behavior in terms of successful collaboration outcomes is not known. However, we suggest that the Ambassador behavior mediates the differences between the corporation and the startup, thus increasing the chance for a successful collaboration outcome. Considering the research question, the increase of the organizational exploration capability would therefore be positively affected by the increased probability of successful startup collaboration, as the individual characteristics of the corporate employee mediates the relationship between the startup and the corporation.

If our suggestion is true, that the individual is not only important in terms of fulfilling a function in the collaboration process, but in terms of their individual characteristics, this raises a number of important implications and questions. Firstly, if the ambition is to build a sustainable and resilient process for startup collaborations, should a single individual be able to have such a large influence as suggested? On one hand, being a lone Ambassador could increase the ability of matching the startup in terms of speed by overcoming hurdles through personal endurance and autonomy in the corporation. Furthermore, in terms of communication, a single channel in- and out of the corporation prevents conflicting information. In terms of absorptive capacity, there might be a higher chance that the quality of interaction helps the individual assimilate knowledge. On the other hand, having a project team that handles the startup might increase the chance of transferring the knowledge into the organization, minimizing the risk for the individual as a bottleneck. Furthermore, a team would arguably have access to a wider network within such a large organization, which could increase the chance of a successful implementation of the startups product or service. If a team of employees would take responsibility of hosting the startup collaboration, the effects of the individual characteristics might be more redundant, arguably creating a more sustainable process. However, the personal dedication labeled as Ambassador behavior could consequently be eradicated, creating a Gatekeeper-type of relationship between the corporation and the startup.

**Phenomenon – Working as a Startup within the OEM**

By “Working as a Startup within the OEM” we do not necessarily mean in department-level specific work, where the organization would have departments or domains acting as startups. Instead, we choose to discuss the influence on a more individual level, meaning the mindset, attitude, and behavior of the individual within the corporation. In the pursuit of creating a mindset that strives to resemble the one of employees in a startup, we argue that this might be a result of the exposure to startup collaborations, in accordance with social learning theory (Bandura, 1971). When working together with startups, either in a proof of concept project or in a set collaboration, one may claim that the employees would see the benefits of startups such as speed, agility, attitude, and methods and are prone to use these and apply in their everyday work. The kind of mindset present in a startup is something rarely deemed useable in a large
organization. The barriers within an established organization are in some cases arguable too big to work in any alternative way, as implied by some of the respondents. However, seeing that this type of attitude is practicable, induces employees to further acknowledge the usefulness and benefits of this behavior, and the interviewees of this study claim to want to put these benefits in action and further spread this mindset and way of working. The entrepreneurial characteristics, as described in the frame of reference, also resemble the characteristics of startups, as described by the respondents in this study. When assessing the startups, most of the interviewees express a positive view on the agile way of working, and it is implied that they want the OEM to learn from this, emphasizing that it is possible to take more risks without hazarding to lose an entire business. These respondents, showing entrepreneurial characteristics such as risk-taking, autonomy or internal locus of control can arguably have enhanced these characteristics by working closer to startups. As Drucker (1985) claims, entrepreneurship is not something you are born with but it is a skill that anyone can learn, some may have developed these characteristics more distinctly than others. The exposure to startups might enhance these characteristics and spread them into the company, creating a positive feedback mechanism.

Interviewees have further discussed how they view their possibility to influence the organization, which seems to have a correlation with the size of the company. Some of the respondents described their role as nothing but a function and implied that their individuality in the corporation is more or less neglected. However, by acting more as a startup, employees follow this bold approach of, as a respondent put it, “ask for pardon, not permission”. This further encouraged the individuals to see that they have the possibilities to impact their own surroundings, indicating an increased belief in an internal locus of control. Additionally, it appears the larger the organization becomes, the less similar to the individual it acts in the organizational work. A small organization is to a larger extent a reflection of the individuals working in the organization in comparison with a large firm. Consequently, individuals that see themselves as functions do not see their impact in this large organization and depending on their level of conformity, locus of control and to some extent self-confidence they may or may not actually have that big of influence on the organization they are in. Even though locus of control is seemingly harder to stimulate in a large organization like the OEM, several respondents showed indications of this entrepreneurial characteristic. Individuals may lose sight of their influence, and importance, the bigger an organization get. Therefore, we emphasize the importance of stimulating individuals by letting them see the value of their actions. By doing so, in addition to promoting working as a startup, we argue that this would lead to an increased number of employees working autonomously. Adding to this, the collective understanding received from the respondents is that employees can make a difference in the organization, but it requires that you are pushy, driven, and passionate about your work, also indicating entrepreneurial traits such as autonomous behavior and risk-taking propensity.

One example of where the OEM already has been influenced in the way of working by startups is in the VCU. From the interviews, one respondent believed that one condition leading to this was the dual personalities leading the VCU. This interviewee further explained his thoughts about the colleague of his that had more startup experience and worked in cohesion with startup characteristics. Another respondent emphasized the importance of having people that “speak both languages” meaning that you need employees that understands both the startup side and the corporate side. This leads into the ambidextrous work, resulted from having this semi-external entity. The creation of the VCU is, from an ambidextrous view, a type of organizational separation but with contextual individual ambidexterity within. To explain, as the entity is a separate unit from the organization it is a structural ambidexterity approach, but further, the individuals within this entity are together working ambidextrously with one having a startup approach and the other a corporate approach.
Conclusively, working more as a startup within the organization requires some of the entrepreneurial characteristics explained in this study and expressed by the respondents. Nevertheless, the outcome of such a way of working in terms of exploration capability are not known. However, we argue that working as a startup within the company may follow with increased contextual ambidexterity and thus allowing for explorative activities.

**Phenomenon - Intrapreneurs Wanting to Spin Out**

The previous section discussed how the interaction with startups could influence employees within the corporation to think and act more like startups. This raises the question of how such attitude and behavior operates within the organization in practice. One observed phenomenon in this study is that intrapreneurs actively want to spin their project out of the OEM. The interviews suggest that the motivation behind spinning out can be either project-related or personal.

Project-related reasons for spinning out can be described as a mismatch between the intrapreneurs project and the parent organization. Such a scenario could be that that the project is too far away from the corporate strategy, current business model, targeted customer segments and standard revenue streams. Either the intrapreneur concludes that spinning the project out is the best option by him- or herself, or through discussion within the organization. Regardless, this motivational factor, as described from the interviews, can be seen as a comment on how rigid the OEM is in its way of working. As several respondents replied in the context of explorative work, the OEM could benefit from being far more risk-taking. One respondent described a zero-fail culture within the organization and derived this from the strive for engineering perfection in their products, underlining the focus on production and refinement, supporting exploitation as described by March (1991). We therefore argue that an organizational culture that favors more risk-taking would lessen the project related factors behind spinning out. Using the model described by Burgelman (1984), the autonomous strategic behavior in the OEM definitely is present. However, currently, the structural context seemingly impedes the impact of the intrapreneurial activity, as it is yet to be accepted and implemented into the corporate strategy. Such a scenario is arguably demotivational for intrapreneurs, and might ultimately cause them to leave the OEM, therefore negatively impacting the organizational exploration capability. We argue that in response to this, the option to spin the project out could alleviate a potential organizational loss for several reasons. Firstly, if the spinout project is successful, then the parent organization could easily establish a supplier relationship with them. As several respondents revealed, knowing how the corporation and industry works is a key advantage for spinout projects in comparison to other startups. Secondly, if the spinout projects fail, then the employees could be offered a position within the corporation again, with newly gained knowledge and experiences from working in a startup. Thirdly, it lowers the risk of losing the knowledge that entrepreneurially inclined individuals possess, and therefore maintains the sustainability and innovative competitiveness of the corporation. Concludingly, using this project-related mismatch perspective, we argue that the possibility of spinning a project out mostly functions as alleviating a potential loss of exploration capability, rather than enhancing it. This is further supported by the managerial view on spinouts, as revealed in the interviews. The fact that intrapreneurs actively had to push for becoming a spinout project demonstrates how spinning out is viewed as a last option, rather than actively supported or suggested.

Personal reasons for spinning out are more related to the individual, and thus the entrepreneurial characteristics. The interviewees illustrated how working in a spinout project gives you the chance to work on a topic that you are personally interested and passionate about. Given that you are one of the key driving force of the project, you get a sense of achievement as you are seeing the project evolve as a product of your personal effort, thus making it easier to get a sense of satisfaction if you have internal locus of control. In comparison, a standard project within the corporation can involve a large number of employees and different departments, making it more
difficult to see your individual contribution to the outcome. Autonomous work not only seems to be a necessity for the project, but also a motivational factor behind the intrapreneurs wanting to spin out, in accordance to Gelderen and Jansen (2006). The interviewees mostly expressed distal motives for autonomy, such as self-expression of values and goals, rather than being self-employed. Furthermore, it is easier to partake in the success of your idea in a spinout project compared to a project within the corporation. On the other hand, you are also leaving a fairly determined career path within the corporation for an ambiguous situation as a startup. Thus, the spinout teams show a high tolerance of ambiguity and risk-taking propensity. Concludingly, using the individual perspective on spinout efforts, the entrepreneurial characteristics mostly act as prerequisites for the venture creation. The potential feedback to the organizational culture and impact on employee mindset have not been revealed through this study.

Evaluation of Methodology, Validity, and Suggested Improvements

We chose to add this section to discuss the validity of the methodology used in this study, in an attempt to find possible improvements for future research. We have tried to address the issue of reflexivity, meaning the values and thoughts of a person may be represented in the work. However, another issue that might affect the results is that the interviewees are seemingly biased in some of their responds. Interviewees working within the VCU are prone to responding positively regarding startup collaborations. Furthermore, the decision to spin out is in many cases due to a conflict with the organization, this could therefore lead the interviewees towards revealing predominantly negative aspects of the OEM.

Caution is also required regarding the usage of the entrepreneurial characteristics described in the frame of reference. These specific characteristics were used as an input to this study since they are part of the bundle that makes up the currently small amount of research there is on the Exploration Capability Model. As mentioned, the literature holds limited support for these characteristics being evident, and the evidence is in some cases inconclusive. Another issue is that several of these characteristics are overlapping to some extent, making them difficult to discuss and analyze separately. This was one of the main reasons for using conditions and phenomena as a structure in this report. Problems arose when trying to structure the gathered information based on the characteristics, as the experiences shared by the interviewees touched upon several characteristics simultaneously. Dominance was a characteristic that was not observed enough in the gathered data, and was therefore excluded from the analysis. In contrast, innovativeness is a word that the respondents explicitly used, generating a large number of occurrences in the coded data. However, as an everyday word, innovativeness is equivocal, and therefore we do not know how different respondents define it.

One additional realization was that a redefinition or clustering of these characteristics would be helpful for the discussion and study. Since the research question was based on specific entrepreneurial characteristics, the structure in which we chose to present these results might be not have been expected by the reader, nor our initial preference. However, we believe that the limitations set due to the issues found made the analysis and discussion more feasible.

A revised narrower research question was also considered. As this study is one of the initial stages in a larger research effort, we concluded that by including more material through a wide research question, this report is of a greater value to the researchers conducting the longitudinal study. For a broader understanding of this topic and further study, a comparison case with another company could have been useful and contributed to a stronger validity. Since this has been an exploratory study, no generalizable results or conclusions can be drawn. However, we have throughout the discussion argued for several interesting implications which will be highlighted in the following concluding chapter.
6 CONCLUSIONS AND FUTURE RESEARCH

In this chapter, the conclusions drawn from this study will be presented. Furthermore, several recommendations are given, aimed primarily towards the case company. Lastly, suggestions for future research are proposed.

6.1 Conclusions

Firstly, we would like to briefly reconnect to the purpose of this study. In terms of organizational ambidexterity, large and established firms tend to have exploitation activities that overshadow their exploration efforts. Consequently, with the ambition to increase their exploration capabilities, the large established automotive OEM examined in this study is currently developing a model for startup collaborations and how they facilitate spinouts. The chosen approach for this study is a response to the gap in the research on how to possibly link the individual’s entrepreneurial characteristics to an organizational exploration capability. This is related to the review by Sakhdari (2016), which argues that surprisingly low attention has been given to the organizational mechanisms enabling firms to better stimulate entrepreneurial behaviors by their employees, and how these individuals can mitigate exploration-exploitation tension. Thus, the research question used to guide this study was:

How do entrepreneurial characteristics at an individual level affect organizational ambidexterity in terms of explorative capability?

As this is a study of exploratory nature, we have presented several observations that we consider to be relevant for mapping the environment in which the Exploration Capability Model is being developed. Several observed phenomena at an individual level have been identified that are related to the research question, and we have discussed how these are connected to ambidexterity balance on an organizational level. In the following section, we will summarize our reasoning and present our drawn conclusions.

Gatekeeper – Ambassador

The person that represents the corporation in a startup collaboration fulfills an important function in the collaboration. For instance, this function consists of basic expected tasks including communication with the startup, evaluation of performance, and initial proof of concept. However, this study has identified a behavior that exceeds this stated function, which has been labeled Ambassador behavior. In contrast to the basic functions expected in the collaboration, the Ambassador behavior includes personally championing the startup within the corporation, as a response to slow processes and mechanistic structures. Based on the interview data, we have hypothesized what motivates the Ambassador behavior, and how this is related to entrepreneurial characteristics. With regards to the research question, we have argued that this behavior mitigates the differences between the startup and the corporation, therefore affecting the exploration capability through successful collaborations of explorative nature. However, if the Ambassador behavior affects the probability of successful outcomes in the collaboration is not revealed by this study, and is a suggested topic for future research. Furthermore, how management can be better at identifying these individuals and make use of their behavior in efforts to increase their exploration capabilities could also be a topic for future research.
In summary, the following conclusion has been drawn:

- Distinct types of individual behaviors of the corporate employee affects the facilitating of a startup collaboration

In addition, we state the following recommendations:

- Managers need to carefully consider who is responsible for startup collaborations. We suggest considering our Level of Engagement Pyramid (see Figure 8, page 42).

**Acting as a Startup within a Large Established Corporation**

In accordance with social learning theory (Bandura, 1971; Wood & Bandura, 1989), some change of mindset is expected within the corporation as they are influenced by the interaction with the entrepreneurs working in startups. A majority of respondents regarded several aspects that characterize startups and their way of working as positive. When juxtaposing the startup with the large established organization, the startups were prevalingly described as quick, risk-taking, agile and with a can-do attitude suitable for exploratory work. Therefore, if the corporate employees’ mindset were to be influenced by this, it could increase the organizational exploration capabilities. However, other than relying on self-evaluation of the interviewees, this study cannot conclude with certainty that there is such an influence, as the empirical data is only gathered at one point in time. Supporting the idea of an influence, a few respondents explicitly described how they had been influenced by the interactions with entrepreneurs. Furthermore, when considering the interviewees overall positive standpoint towards startups, in combination with social learning theory, we strongly encourage further research on the topic. A longitudinal study might be more suitable to accurately describe the influence on corporate culture and employee mindset.

Several interviewees shared experiences where they had acted autonomously, not conformed, and taken risks within the corporation. To apply the startup attitude within the corporation is seemingly influenced by the entrepreneurial characteristics of the individual. Some respondents also stated that they try to work as a startup within the corporation by acquiring some of their work methods. However, most experiences showed that these were difficult to implement in the corporation and not deemed as entirely suitable. In terms of increasing exploration capabilities, the important thing might not be to copy a startups way of working, but rather to learn it. Thus, allowing for easier collaboration efforts with explorative startups through a mutual understanding.

The OEM’s standard departments are seemingly not suitable for hosting startup behavior. Therefore, the type of organizational separation that is used for the VCU could be a requirement, as they manage to function as an autonomous startup entity within the parent organization.

In summary, the following conclusions have been drawn:

- Employees working closely with startups were positive about how quick, risk-taking, and agile they are along with their can-do attitude, all of which is suitable for exploratory work.
- There is activity and attitude amongst employees within the corporation that resembles that of a startup, however, it is not yet determinable whether this is correlated with the startup interaction or not.
In addition, we state the following recommendations:

- More employees should be exposed to the VCU, to inspire them towards future collaborations and exploration. In addition, spreading knowledge about startups and the VCU within the corporation.

### Intrapreneurs wanting to Spin Out

Several factors within the corporation were identified as reasons for interviewed intrapreneurs wanting to spin a project out. They can either be related specifically to the project or personal reasons. The project-related reasons are linked to the organizational culture, structure, and process. In comparison, personal reasons are connected to the entrepreneurial characteristics. The zero-fail culture described by interviewees obstructs the possibility for explorative work, seemingly regardless of the level of entrepreneurial characteristics present. Consequently, if there is a mismatch between an entrepreneurially inclined individual and the parent organization, the intrapreneur may be inclined to leave. With this argument, we view the possibility of spinning a project out mostly as alleviating a potential loss of organizational exploration capability, rather than enhancing it. This opens up questions for future studies. For instance, is it better to nurture the intrapreneur and include them in the corporate strategy as described by Burgelman (1984), or is a structured approach allowing for spinout-projects a more fruitful way of increasing the organizational exploration capabilities?

Another possible outcome of the facilitation of spinout projects could be that it influences employees to seek out more exploratory projects and ideas, as they have a chance of being picked up even though they are not completely within the scope of the corporation. This could also lead management to support more exploratory activities and risk, thus affecting the corporate culture towards a more exploratory one. However, as the possibility of spinout projects has just recently been established, this study cannot draw any conclusion regarding this possible influence. Future research is required and encouraged.

In summary, the following conclusions have been drawn:

- In the case company, the current organizational culture is to a large extent myopic and not risk-taking. Furthermore, it encourages exploitation activates and adaptors, whereas exploration activities and intrapreneurs are not nurtured.
- In the case company, spinout projects are allowed, but not encouraged.
- The overall setting described by the two observations above create tensions between innovators and adaptors within the organization.

In addition, we state the following recommendations:

- To nurture explorative behavior through intrapreneurs:
  - Managers should allow time for intrapreneurial activities as well as shorten the process for getting financial support.
  - Reward risk-taking and creative failures in the rest of the organization. Zero failure is a strategy only suited for a factory.

Since this was an exploratory study using an inductive approach, numerous areas of interest arose. As continuously suggested throughout the report, our findings can be further investigated in future studies. However, some sub-findings that were either unrelated to our research question
or showed unsubstantial empirical support were secluded from this report. We therefore call upon future research to study some of these areas in the following chapter.

6.2 Future Research

Initially we propose to expand this study by more thoroughly searching for quantifiable results and adding a quantitative study to this qualitative one. For instance, it should be noted that the studied organization has a list of registered suppliers (approximately 300’000) which could be examined to see how the use of startup collaborations is evolving. Examining entry date as well as the size of the firm by the point of entry could reveal interesting results. In addition to this, surveys could be used to get a wider base of inputs for this study. To advance the understanding of the entrepreneurial characteristics and their effect on the organization, the identified respondents could be examined with a more specific goal to figure out their individual level of entrepreneurial behavior.

The proposed different levels of stimuli and motivation in this study is another area of interest to look further into. By researching how organizational culture and management can influence the motivation for employees to engage in different types of projects, findings may contribute to managerial implication for exploration activities.

One of the conditions identified in this study is Experience and Trust. This was not directly connected to a defined phenomenon. This condition should therefore be further examined to see antecedent and the outcomes that it might affect. One possible study is to examine what type of entry point employees have into the organization. This might affect the amount of trust that managers put in that employee. Furthermore, the academic perspective on the organization might create another type of knowledge, compared to an employee hired through the regular recruiting methods. A few interviewees indicated that if an employee started working at the OEM via an academic entry point, for example master thesis or PhD, they receive a greater amount of support.

Including national- and organizational culture to the frame of reference of this study would have added an additional layer to the analysis. Several interviewees brought up a “German mindset” about risk and being programmed in one direction, which was not further examined in this report, but is suggested for future studies.

Furthermore, one area of research that this study does not fully expand on is the area of knowledge management. One interesting and important question is to examine whether the organization loses or retains knowledge through the spinout projects. By letting employees engage in spinouts, does the organization take part of the knowledge created? Another area where knowledge management is interesting, is regarding the Ambassador behavior. Is the use of Ambassadors a better way to foster the knowledge of the startup collaborations and furthermore to spread it throughout the company, in comparison to having a Gatekeeper?

One additional area which can be further investigated is networking, both on an individual and organizational level. Several respondents mentioned networking as an important part, both for creating and spreading knowledge, but also for facilitating the collaboration between startups and the parent company. Expanding on this issue may reveal interesting results.

Further, a paradox that was discussed during the interviews regarded the implementing of radical- versus incremental innovation in the OEM. A majority of interviewees argued that it
might be easier to implement a radical innovation that is not in line with the core business of the organization, than to change something close to the production line. The core business is something that has been developed over a long period of time and it might therefore be more difficult to steer in a new direction. This paradox could be noteworthy for future research.

Lastly, we encourage further examining of the VCU and its continued development. Partly, questions that arose in discussion about this entity regarded the importance and effect of its size. Should the VCU remain small to act as a startup, or should it be expanded and get increased resources? This decision could also have important implications regarding the absorptive capacity of the VCU. For instance, critique by one employee was that the VCU needs to be expanded further to have a greater impact. In this case, we speculate that two outcomes may occur. On one hand, a bigger entity might bring with it structural inertia, as it would require more standardized processes. This could lead the VCU to ossify, and therefore resembling the OEM. On the other hand, an increased resource effort could be beneficial in terms of increasing the networking possibilities, both with employees in contact with startups and employees in contact with the OEM. Another area of development for the VCU is to create methods for identifying and recruiting specific employees with Ambassador behavior for the startup projects. By finding suitable individuals to engage in startup collaborations, the organization could minimize the risk of employees feeling that this task does not fit their personality, a feeling which could lower the motivation of the employee. In addition, a suitable person could increase the chance of a successful startup collaboration. Since the VCU is still in early development, questions like these are interesting areas for future research.

“No risk, no fun!”
7 REFERENCES


Ellen Enkel, S. H., Monika Hengstler, Henning Wirth. (2016). Exploratory and exploitative innovation: To what extent do the dimensions of individual level absorptive capacity contribute. Technovation, ARTICLE IN PRESS.


To start with; we are conducting this interview for our master thesis at KTH Royal Institute of Technology in Stockholm. Our research topic concerns how COMPANY collaborates and interacts with startups and entrepreneurs. You have been identified as a person of interest for this topic by NAME, a PhD student from KTH working here at COMPANY. We are interested in your experiences and opinions. The underlining theme regards how you have collaborated with startups, but also reflects your experiences of the internal environment at COMPANY. We have prepared some questions to guide the conversation and it will take about 45-60 minutes. You should know that we have both signed a non-disclosure agreement with COMPANY. Both you and COMPANY will be completely anonymous following this interview. Your name will not be seen in the material, every respondent will be treated anonymously in the analysis and compilation of results. With that in consideration, is it okay if we record this conversation?

1. What is your formal role at COMPANY today?
   a. What are your main tasks in your job?
   b. For how long have you worked at COMPANY? How often have you changed position?
   c. Could you tell us in what way you are involved with startups (and/or spinouts) on COMPANYS behalf? Have you had these types of collaborations before?
   d. Why do you engage in these types of collaborations?
      FACILITATOR specific: Who’s initiative? What were your intentions in facilitating this type of collaboration at COMPANY? Has the intention changed?
      SPINOUT specific: Why and how did you become a spinout? Why are you not completely under COMPANYs roof? Is your long-term ambition to be integrated back into COMPANY?
   e. What kind of structure do you find suitable to organize projects with start-ups and why?
      FACILITATOR specific: Where did you find the inspiration for this type of process and structure? Have you seen this approach used in other contexts or companies?
   f. Did you learn something during that project? If yes, what? (organizationally AND personally)
      Note: Project details not relevant. How did the collaboration take place, how did you find out about it, what were your intentions going in, results of previous collaborations, would you do it again, what would you do differently?

EXPLAIN TRANSITION TO PERSONAL QUESTIONS

1. Have you come across obstacles that obstructed your individual initiatives? What where those obstacles? Can you name an example?
   Note: High level of autonomy. Listen for conformism, need for achievement. Pay attention if interviewee only talks about start-up collaboration or not at all.
   a. Did you overcome them? How was management involved? What did you and they do about it? Did you follow through on your initiatives anyway?
      SPINOUT specific: Have your initiatives increased since you’ve been involved in a spinout?
2. Do you set yourself goals, e.g. for the next week, month, half a year, year? What does motivate you?
   
   **Note:** Entrepreneurial behavior to have a high need for achievement. Safe career-ladder VS creating your own path. Do they automatically tell us about their career?
   
   a. How does your current organization and management influence your plan?
   
   **SPINOUT specific:** Going in to a spinout project, how has your limitations and possibilities concerning your individual achievements changed, compared to working at COMPANY?

3. In your work, do you tend to focus on developing new things (discovery) or improving current ones (refinement)?
   
   **Note:** Listen for explorative or exploitative behavior, how is it linked to their current job and the overall organization? Do they see themselves as entrepreneurial?
   
   a. Would you like the focus to shift? If so, how would you see such a shift happening? (Is that your responsibility or management?)
   
   b. Where do you see start-ups in the balance between discovery and refinement?
   
   **SPINOUT specific:** Going in to a spinout project, how has your limitations and possibilities concerning your individual achievements changed, compared to working at COMPANY?

4. In what way do you feel that you have received organizational support in new, novel and risky projects? Could you give an example of what type of support you have received (organizational, cultural, personal)?
   
   **Note:** Listen for experiences with explorative behavior and organizational support, is he/she comfortable with explorative projects? What kind of support is he/she looking for?
   
   a. Is this support appreciated? Could it be improved?
   
   b. Have your startup collaborations been supported?
   
   **SPINOUT specific:** Has your spinout project received the support it needs? Do you feel a difference in the organizational support since your involvement in a spinout?

5. Compared to when you started working here, do you feel more confident in yourself and your actions? Do you feel that your job and organization has had an influence on that? If yes, what?
   
   **Note:** Listen for locus of control, motivation, link to management and structure (autocratic, individual regulation, organic).
   
   a. Did you feel confident going into the start-up collaboration?
   
   **SPINOUT specific:** What kind of organizational factors do you consider required to initiate spinout projects and why? (SCRAP)
   
   **FACILITATOR specific:** Do you feel that you facilitate the type of support that startups need? What needs improvement?

Before we finish, is there anything you would like to add on the subject? Could we contact you again in this matter if we see thing we need to clarify when we compile the interviews/do the analysis?

We are done, thank you for your time.
### APPENDIX B: MATERIAL FOR INTERVIEW GUIDELINE

The following appendix illustrates the material derived from the frame of reference used in the creation of the interview guideline.

<table>
<thead>
<tr>
<th>1.</th>
<th>Category</th>
<th>Original Brief Questions and Statements</th>
<th>Revised Brief Questions</th>
<th>Deepened Interview Questions</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1.1 | Risk-taking propensity | 1. Key executives of the firm are willing to take risks to seize and explore “chancy” growth opportunities (Wang)  
2. People are encouraged to take risks in this organization. (LODJ)  
3. I don't care if the profit is small so long as it is assured and constant [R] (Tecnonet)  
4. I take risks to convince decision makers of the adoption and utilization of external knowledge (Enkel).  
5. I would do almost anything for my external ideas to be taken up by the company (Enkel)  
6. We commercialize products and service that are new for our company (customer) (Enkel)  
7. I am not afraid to take technical risks (Miron)  
8. Does your emotional involvement with the goal reflect hope of success and fear of failure? (Handbook)  
9. I often risk doing things differently (Kirton)  
10. Treat failure in a good effort as a learning opportunity. Not as | 1. Key executives of the firm are willing to take risks to seize and explore growth opportunities.  
2. People are encouraged to take risks in this organization.  
3. In evaluating projects, my company values long-term growth over short-term profit.  
4. My organization takes chances by involving external parties in value creation.  
5. If I truly believe in my idea, I will stop at nothing for it to be seen by my superiors  
6. -  
7. My organization is not afraid to take technical risks  
8. I am more inclined to act upon hope of success rather than fear of failure  
9. I often risk doing things differently  
10. My organization treats failure in a good effort as a learning opportunity | 1. Have you worked with projects surrounded by uncertainty?  
2. Have you ever felt-, or explicitly been, hindered from pursuing a “chancy” opportunity in your company?  
Scrap: How has your working environment affected your risk-taking propensity? What kind of influence has management had? | How do they look at risks? DO you see risks but take them anyways or are you blinded?  
Work discretion allows employees to take risks, make decisions in the work process and tolerate failure to achieve radical innovations (Hornsby, Kuratko, and Zahra 2002; McDermott and O’Connor 2002) People take risks if they feel secure, so by creating a climate of psychological safety, leaders can increase learning from mistakes and failures and encourage members of the organization to suggest novel ideas (Yukl, 2012). |


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1. Are willing and able to take prudent risks (Birkenshaw & Gibson 2004)

1.2 Innovativeness

1. We are willing to try new ways of doing things and seek unusual, novel solutions (Wang)
2. When we see new ways of doing things, we are last at adopting them [R] (Wang)
3. You are talented in thinking or expressing differently about the same thing (Li)
4. You have high capability to use analogies or metaphors to articulate implicit ideas (Li)
5. The number of new products introduced by your company is increasing (Li)

About radical innovation (Gatignon et al. 2002)

a. Innovation is a minor improvement over the previous technology (1-2-3-4-5)
b. Innovation was based on a revolutionary change in technology (1-2-3-4-5)
c. Innovation was a breakthrough innovation (1-2-3-4-5)
d. Innovation led to products that were difficult to replace with substitute using older technology (1-2-3-4-5)
e. Innovation represents a major technological advance in subsystem (1-2-3-4-5)

1. Do you see yourself as an innovator?
2. In your work, do you tend to focus on discovery or refinement?
3. Do you feel that you can be creative at your job?

[Explore/exploit ratio, ambidexterity efforts, incremental vs radical]?

What incentives for innovation (aimed at managers vs. at innovators) are in place at COMPANY level and in your unit?

What are the conditions for innovators at your company?
<table>
<thead>
<tr>
<th>1.3</th>
<th>Need for achievement</th>
<th>(Entrepreneurial satisfaction, Li)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I don't like a job for the good pay I get but for the satisfaction and sense of accomplishment I derive from it. (Technonet)</td>
<td></td>
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<tr>
<td>2.</td>
<td>I imagine how frustrated I would feel if my project should fail (Technonet)</td>
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<td>3.</td>
<td>Do you tend to plan ahead for your job or career? (Ward)</td>
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<td>4.</td>
<td>Would you prefer to work with a congenial but incompetent partner rather than with a difficult but highly competent one? (Ward)</td>
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<td>5.</td>
<td>In business, I am more concerned with growth (being a success) rather than with profit (Technonet)</td>
<td></td>
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<thead>
<tr>
<th>1.4</th>
<th>Autonomy</th>
<th>All new businesses are subject to extensive review to determine their financial feasibility (Li)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>All new projects in my company are subject to extensive review to determine their feasibility and risk</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Project managers must formally report its financial progresses [1-never, 7-very often]</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Our projects in our company are firmly controlled by top management</td>
<td></td>
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<tr>
<td>4.</td>
<td>Workers are able to make decisions about performing their own work in the way that they believe most effective (Li)</td>
<td></td>
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<td>5.</td>
<td>Boundaries (real and imagined) that prevent people from handling tasks outside their own job description in the company does not exist (Li)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>1.5</th>
<th>Support</th>
<th>We get a lot of support from management if we want to try new ways of doing things (Wang)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I have gotten a lot of support from management if I want to try new ways of doing things</td>
<td></td>
</tr>
</tbody>
</table>

| 1.1 | How much risk assessment is involved in your plan to accomplish your professional achievements? Is it a clear-cut career ladder or creating your own path? |

Scrap: How much risk assessment is involved in your plan to accomplish your professional achievements? Is it a clear-cut career ladder or creating your own path?
<p>| | | | | | | |</p>
<table>
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<tr>
<td></td>
<td>2. In our company, we tolerate individuals who do things in a different way (Wang)</td>
<td>2. In the eyes of my company management, people who do things in a different way are … [1-despised, 7-loved].</td>
<td>2. Pros and cons with a supportive environment? What are your experiences with organizational support?</td>
<td>1. Are your projects often in unexplored territory?</td>
<td>1. Do you feel that you need to be involved in main company decisions</td>
<td>Entrepreneurs are driven by a strong need to control - Donald Kuratko</td>
</tr>
<tr>
<td></td>
<td>3. We encourage people to think and behave in new and novel ways (Wang)</td>
<td>3. To think and behave in new and novel ways is encouraged by coworkers in my company [1-7]</td>
<td>3. Has “hard/formal” organizational support tools and structures helped you more than “soft/informal” individual-level support such as feedback and communication?</td>
<td>2. Do you feel encouraged by your company to work in unexplored territory? Is this encouragement appreciated?</td>
<td></td>
<td>Scrap: To team managers: what level</td>
</tr>
<tr>
<td></td>
<td>4. People here receive support and encouragement when presenting new ideas (LODJ)</td>
<td>4. People here receive management support and encouragement when presenting new ideas</td>
<td></td>
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<td></td>
<td>5. You often seek people’s feedback about your ideas and your conditions (Lê)</td>
<td>5. Where I work, I am not afraid to ask for feedback on my ideas and conditions</td>
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<td></td>
<td>1.6 Ambiguity</td>
<td>As a person, I …</td>
<td>1. Need to control and direct – Dominance</td>
<td></td>
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<td></td>
<td></td>
<td>a) Am thorough when solving problems [R] (Miron)</td>
<td>1. I feel the need to be involved in main company decisions</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>b) Require all the small details needed to perform the task [R] (Miron)</td>
<td>2. In an open discussion, I tend to think about my own solutions and standpoints</td>
<td></td>
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<td></td>
<td></td>
<td>c) Am good in tasks that require dealing with details [R] (Miron)</td>
<td>3. I show speakers that they are being</td>
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<td></td>
<td></td>
<td>d) Prefer performing my tasks precisely over a long time [R] (Miron)</td>
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<td></td>
<td></td>
<td>1. You are willing to search for and think thoroughly about counterintuitive events (Lê)</td>
<td>1. I am willing to enter areas with counterintuitive events and conditions.</td>
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<td></td>
<td></td>
<td>2. People here often venture into unknown territory (LODJ)</td>
<td>2. People in my company often venture into unknown territory</td>
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<td></td>
<td></td>
<td>3. I prepare for troubles before they arise (Technonet)</td>
<td>3. I ensure that I have always a have a backup plan for potential problems</td>
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<td>4. I view uncertainty as opportunity, and not as a risk (Dobni)</td>
<td>4. I view uncertainty as opportunity, and not as a risk</td>
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<td></td>
<td>1.7 Need to control and direct – Dominance</td>
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<td></td>
<td>1. People feel involved in main company decisions (LODJ)</td>
<td>1. I feel the need to be involved in main company decisions</td>
<td>1. Do you feel that you need to be involved in questions that affect your work?</td>
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<td></td>
<td>2. Willingness to listen to others in a sincere and open manner (Lê)</td>
<td>2. In an open discussion, I tend to think about my own solutions and standpoints</td>
<td>2. (What would you do) Would you prefer an autocratic</td>
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<td></td>
<td>3. Willingness to show speakers that</td>
<td>3. I show speakers that they are being</td>
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<td>they are being heard and that their ideas are being valued and respected. (Li)</td>
<td>heard and that their ideas are being equally valued</td>
<td>structure or one that allows for individual regulation?</td>
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<td></td>
<td>4. You have difficulty in admitting mistakes to others (Li)</td>
<td>4. I have a difficulty in admitting mistakes to others</td>
<td>of control over your team does upper management expect that you have?</td>
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<td></td>
<td>5. Person-related values in your company can be best described as (1- Participatory or 7- Autocratic). (Li)</td>
<td>5. Person-related values in my company can be best described as (1- Participatory or 7- Autocratic).</td>
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<td></td>
<td>6. Are you satisfied to be no better than most other people at your job? (Ward)</td>
<td>6. I am satisfied with being no better than most people at my job [R]</td>
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<td>1.8</td>
<td>Self-confidence [SC] and self-esteem [SE]</td>
<td>1. I feel that if I want, I can identify other people’s blind spots and broaden their view [SC]</td>
<td>1. Do you believe your self-confidence and self-esteem has changed during your time at the company?</td>
<td></td>
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<tr>
<td></td>
<td>1. You feel that if you want, you can identify other people’s blind spots and broaden their view by asking them questions (Li)</td>
<td>2. I have difficulty in admitting mistakes to myself or I feel that I rarely make mistakes [SE/SC]</td>
<td>- (If so) How much is due to your individual performance outcome and the surrounding organization, respectively?</td>
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<td></td>
<td>2. You have difficulty in admitting mistakes to yourself or you feel you rarely make mistakes (Li)</td>
<td>3. I accomplish most when I’m alone, under no direct supervision of anyone (Technonet)</td>
<td>- How does your company ensure psychological well-being amongst its' employees?</td>
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<td>3. I accomplish most when I’m alone, under no direct supervision of anyone (Technonet)</td>
<td>4. I doubt my ability to cope under new, untested conditions [R] [SE]</td>
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<td>4. I doubt my ability to cope under new, untested conditions [R] (Technonet)</td>
<td>5. I tend to overestimate my capacities for succeeding in any venture [SC]</td>
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<td></td>
<td>5. I tend to overestimate my capacities for succeeding in any venture (Technonet)</td>
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<td>1.9</td>
<td>Locus of control</td>
<td>1. Do you believe your self-confidence and self-esteem has changed during your time at the company?</td>
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<td>Roter (1966), I believe…</td>
<td>- (If so) How much is due to your individual performance outcome and the surrounding organization, respectively?</td>
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<tr>
<td></td>
<td>1. a) Without the right breaks one cannot be an effective leader</td>
<td>- How does your company ensure psychological well-being amongst its' employees?</td>
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<td></td>
<td>b) Capable people who fail to become leaders have not taken advantage of their opportunities (Score 0.319)</td>
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<td>2. Unchanged.</td>
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<td>1. Have you been in situations at work, where you have felt that you are not in control over your own achievements?</td>
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<td>2. Do you consider luck an influencing factor for a successful professional career?</td>
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<td></td>
<td>A) Becoming a success is a matter of hard work, luck has little or nothing to do with it</td>
<td>B) Getting a good job depends mainly on being in the right place at the right time</td>
<td>Score 0.301</td>
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<tr>
<td>3.</td>
<td>A) Who get to be the boss often depends on who was lucky enough to be in the right place first</td>
<td>B) Getting people to do the right depends upon ability, luck has little or nothing to do with it</td>
<td>0.307</td>
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<td>4.</td>
<td>A) As far as world affairs are concerned most of us are victims of forces we can neither understand nor control</td>
<td>B) By taking an active part in political and social affairs the people can control world events</td>
<td>0.357</td>
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<tr>
<td>5.</td>
<td>A) Most people don't realize to which extent their lives are controlled by accidental happenings.</td>
<td>B) There really is no such thing as luck</td>
<td>0.310</td>
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<tr>
<td>6.</td>
<td>A) Many times, I feel I have little influence over the things that are happening to me</td>
<td>B) It is impossible for me to believe that chance or luck plays an important role in my life</td>
<td>0.480</td>
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3. In what way do you believe your organization nurtures the sense that individuals are in control of their own achievements?
| 1.10 Level of conformity | 1. Managers in this organization frequently involve employees in important decisions (LODJ)  
2. I try not to oppose team members (Miron)  
3. I adapt myself to the system (Miron)  
4. I adhere to accepted rules in my area of work (Miron)  
5. I find difficulty in asserting myself against the opinion of the majority (Teenhonet)  
6. I avoid cutting corners (Miron) | 1. I would rather focus on my work tasks than be involved important managerial decisions  
2. I try not to oppose team members  
3. I adapt myself to the system  
4. I acknowledge and follow the accepted rules in my area of work  
5. I find difficulty in asserting myself against the opinion of the majority  
6. If I find any segment of the established working process redundant, I could easily skip it | 1. Have you ever been in a dispute when you questioned a superior at work?  
2. How forgiving is the environment to deviation from strategic plans?  
Cluster: If you see an opportunity for improvement, how do you consider the trade of between amount of work put in and the perceived, suggested, improvement? |
| 2. ACAP | 1. The firm has a culture encouraging collaborations with external partners (Mo Ahn)  
2. In general, the firm trusts external partner (Mo Ahn)  
3. It is part of the work of all staff to collect, bring back, and report information about what is going on outside the company (LODJ)  
4. There are systems and procedures for receiving, collating and sharing information from outside the company. (LODJ)  
5. Your company’s adoption of technologies developed by other companies or industries is increasing (Li)  
6. In general, top managers at your firm favor imitating methods that other firms have used for solving their problems instead of experimentation and original approaches to problem solving (Li)  
7. [Add from Resource commitment (Li), if needed] | 1. The firm has a culture encouraging collaborations with external partners  
2. In general, the firm trusts external partner  
3. It is part of the work of all staff to collect, bring back, and report information about what is going on outside the company  
4. There are systems and procedures for receiving, collating and sharing information from outside the company.  
5. My company's adoption of technologies developed by other companies or industries is increasing  
6. In general, top managers at my firm favor imitating methods that other firms have used for solving their problems instead of experimentation and original approaches to problem solving in isolation  
Over the last three years, to what extent has the following information source been used importantly by you.  
A. Universities or higher education institutes  
B. Marketing channels, such as | 1. What challenges have you had working with external partners?  
1. To management: to what extent do allow employees to deviate from strategic plans?  
Cluster: If you see an opportunity for improvement, how do you consider the trade of between amount of work put in and the perceived, suggested, improvement? |
(Mo Ahn) Over the last three years, to what extent has the following information source been used importantly.

<table>
<thead>
<tr>
<th>Source</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Universities or higher education institutes</td>
<td>clients, customers and suppliers</td>
</tr>
<tr>
<td>B. Marketing channels, such as clients, customers and suppliers</td>
<td>C. Specialized channels, such as tech. Standards, regulations, etc.</td>
</tr>
<tr>
<td>C. Specialized channels, such as tech. Standards, regulations, etc.</td>
<td>D. Human networks, such as CEO/CTO informal meeting, human network, newly employed worker.</td>
</tr>
<tr>
<td>D. Human networks, such as CEO/CTO informal meeting, human network, newly employed worker.</td>
<td>E. Expert level information, such as patent or journal database</td>
</tr>
<tr>
<td>E. Expert level information, such as patent or journal database</td>
<td>F. General information media, such as trade fairs, conferences, the internet.</td>
</tr>
<tr>
<td>F. General information media, such as trade fairs, conferences, the internet.</td>
<td>G. Other institutional channels, such as other organizations, public/private research institutes.</td>
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<tr>
<td>G. Other institutional channels, such as other organizations, public/private research institutes.</td>
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[Gabriel Cepeda-Carrión, Analyzing an absorptive capacity, if needed]
APPENDIX C: INTERVIEW GUIDELINE EVALUATION

In this appendix, the evaluation sheet used to generate an interview guideline for the empirical data gathering is shown. The gathered and revised questions were ranked on a scale of 1-3-9 based on theoretical relevance to the entrepreneurial characteristics as well as our research question.

<table>
<thead>
<tr>
<th>Question</th>
<th>Risk-taking (RTP)</th>
<th>Innovativeness (INV)</th>
<th>Achievement (NAch)</th>
<th>Autonomy (AUT)</th>
<th>Support (SUP)</th>
<th>Ambiguity (AMB)</th>
<th>Self-esteem &amp; confidence (SC)</th>
<th>Locus of Control (LoC)</th>
<th>Conformity (CONF)</th>
<th>Dominance (DOM)</th>
<th>SUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUP1. In what way do you feel that you have organizational support in new, novel and risky projects?</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>27</td>
<td></td>
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<tr>
<td>DOM2. (What do you suggest for improvements) Would you prefer an autocratic structure or one that allows for individual regulation?</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>27</td>
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<tr>
<td>AMB2. Do you feel encouraged by your company to work in unexplored territory? Is this encouragement</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>25</td>
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<td>AUT2. Have you come across obstacles that obstructed your individual initiatives?</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>24</td>
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<td>CONF2. How forgiving is the environment to deviation from strategic plans?</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>22</td>
<td></td>
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<td>RTP2. Have you ever felt, or explicitly been, hindered from pursuing a “chancy” opportunity in your company?</td>
<td>0</td>
<td>3</td>
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<td>AMB1. Are your projects often in unexplored territory?</td>
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<td>AUT1. Do you feel that you can be independent in your work? How so?</td>
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<td>RTP1. Have you worked with projects surrounded by uncertainty?</td>
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<td>SCSE1. Do you believe your self-confidence and self-esteem has changed during your time at the company?</td>
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<td>LoC2. Do you consider luck an influencing factor for a successful professional career?</td>
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<td>NACH2. Do you consider it important to have a plan for your professional achievements?</td>
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<td>9</td>
<td>3</td>
<td>18</td>
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<td>(If so) How much is due to your individual performance outcome and the surrounding organization.</td>
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<td>NACH1. In what way do you feel like you can achieve your professional achievement goals in this organization?</td>
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<td>3</td>
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<td>INV1. Do you see yourself as an innovator?</td>
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<td>3</td>
<td>3</td>
<td>16</td>
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<td>INV3. Do you feel that you can be creative at your job?</td>
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<td>3</td>
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<td>DOM1. Do you feel that you need to be involved in questions that affect your work?</td>
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<td>9</td>
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<td>CONF1. Have you ever been in a dispute when you questioned a superior at work?</td>
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<td>SUP3. Has “hard/formal” organizational support tools and structures helped you more than “soft/informal” individual-level support such as feedback and communication?</td>
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<td>3</td>
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<td>LOC1. Have you been in situations at work, where you have felt that you are not in control over your own</td>
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<td>3</td>
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<td>LOC3. In what way do you believe your organization nurtures the sense that individuals are in control of their own achievements?</td>
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<td>INV2. In your work, do you tend to focus on discovery or refinement?</td>
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<td>SUP2. Pros and cons with a supportive environment? What are your experiences with organizational support?</td>
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<td>- How does your company ensure psychological well-being amongst its’ employees?</td>
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<td>ACAF1. What challenges have you had working with external partners?</td>
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