This is the accepted version of a paper presented at 25th IPDMC Innovation and Product Development Management Conference, June 10-13 2018, Portugal.

Citation for the original published paper:

The role of ambassador in start-up collaborations
In:

N.B. When citing this work, cite the original published paper.

Permanent link to this version:
http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-250316
THE ROLE OF AMBASSADOR IN START-UP COLLABORATIONS

Lennart Buck
KTH Stockholm
Brinellvägen 83
114 28 Stockholm
lbuck@kth.se

Susanne Nilsson
KTH Stockholm
Brinellvägen 83
114 28 Stockholm
suni@kth.se

Sofia Ritzen
KTH Stockholm
Brinellvägen 83
114 28 Stockholm
ritzen@kth.se

ABSTRACT
The goal of this research is to see which challenges the individuals on the OEM’s side meet during asymmetrical collaborations and which approaches they use to overcome them.

Literature was focused very much on the managerial view of solving challenges in these collaborations. This study shows that individuals could play a major role in resolving challenges that occur in asymmetrical collaborations. The profound effect of individuals could resemble that of individuals in other fields, e.g. champions in innovation.

To gain insight, 34 interviews within an automotive OEM were performed with project leaders of collaborations that were done with start-ups. These interviews were investigated by coding. These codes were analyzed once via text mining to get an overarching view, and once with traditional coding to get more nuanced and detailed insights.

Four major challenges were found. Mismatches in processes, lack of time and capacity, potentially unknown stakeholders, and the assessment of the start-up.

These challenges were approached through a variety of measures by the interviewees. Coaching the start-up, designing a proof-of-project, using the personal network, effective communication, explaining and shielding of the start-up, and implementing new processes in the start-up. The role that is described by these tasks shall be called the ambassador role.

Implementing this role in a company enables individuals to facilitate asymmetrical collaborations. However, it is suggested that there should also be an institution established that is aware of the best-practices and therefore able to educate new ambassadors.

INTRODUCTION
Through a fast changing environment automotive OEMs are currently showing the need for more exploration, a trend that is also fostered by new competitors and new technologies (Sidhu, Volberda, & Commandeur, 2004). Since they are traditionally set up more for exploitation rather than exploration, e.g. through their size, structure, and culture (Burns & Wholey, 1993; Sørensen, 2002; Sørensen & Stuart, 2000), they have started to contact start-ups in order to address this need (Weiblen & Chesbrough, 2015)

For that reason, the automotive corporation that is studied here has introduced five modes of interaction between a start-up and the OEM. Joint product development, establish suppliers, CVC investment, problem solving, and spin-outs. These modes
have been installed to benefit from the start-up’s explorative capabilities. (Buck, Nilsson, & Ritzén, 2017)

However, these kinds of asymmetric collaborations are known to bear challenges on a managerial level, for which some approaches were found as a solution (Minshall, Mortara, Valli, & Probert, 2010). A previous study within the OEM identified that employees acting in a specific way were able to facilitate the collaboration and solve the challenges (Buck, Arekrans, Gordin, Nilsson, & Ritzén, 2017). The employees there showed behaviors that were known from other areas, such as champions (Burgelman, 1983) or change agents (Lunenburg, 2010). It is known from these areas that individuals can be major reasons for overcoming challenges, if they show the correct behavior.

To find out if individuals also could play a major role in facilitating asymmetrical innovations, this research will study the challenges that the individuals responsible in the departments face during the collaboration. Also, the approaches they use to overcome these challenges will be portrayed.

THEORY

Asymmetric collaboration

Asymmetric collaborations are defined as collaborations in which the partners differ significantly in their size, available resources, or the overall commercial experience (Minshall et al., 2010). Multiple challenges are known to be part of these collaborations. Scholars discussed challenges that come up with the sensitivity of intellectual property agreements in similar open innovation collaborations (Alexy, Criscuolo, & Salter, 2009) and asymmetric collaborations (Minshall, Mortara, Elia, & Probert, 2008). The importance of making a fair deal was found and other managerial recommendations are given by Slowinski and Sagal (2010). Another important part that proved to be essential was the trust building on both sides (Hancké, 1998).

Hogenhuis, van den Hende, and Hultink (2016) portrayed that asymmetrical innovation might not be feasible at all stages in the innovation process. They suggest that the most benefit for working with start-ups is found in the early stages of the development process where large corporations are looking for capabilities like creativity, technology know-how, and problem-solving skills. Those are skills that young ventures are able to deliver, however others like large scale manufacturing might be lacking (Hogenhuis et al., 2016).

In a further attempt to fully collect all the challenges that big companies face on a managerial level when collaborating with small companies, Minshall et al. (2010) found the most common challenges from four perspectives. The start-up perspective, the large-firm perspective, the investor perspective, and the legal perspective. For this paper the focus will be on the start-up’s and the large firm’s perspective.

Start-ups usually are challenged by two questions. First, how to get into a large firm, with even the large company’s staff being over-whelmed by the complexity of its operation. Second, who to talk to within the corporation. This is especially important since a start-up usually needs to find someone who can decide. It is however often not obvious to the small firm, who that someone could be. (Minshall et al., 2010)
What is mentioned as a challenge by start-ups afterwards is the transfer of responsibility within the OEM, e.g. from a development department to the purchasing department. This transfer is known to disrupt ongoing negotiations.

Another challenge reported from the start-up’s point of view by Minshall et al. (2010) are the slow decision cycles within large organizations. They often can’t keep up with the start-ups due to their size, hierarchy or complexity.

Two more challenges are reported from the start-up’s perspective. First, the large company can easily abuse its position of more power by elongating negotiations or restricting the start-up’s ability to collaborate with others. Second, a lack of understanding from the large firm towards the start-up’s way of working and its abilities.

Large firms report challenges from their point of view (Minshall et al., 2010). A different culture between the start-up and the large firm is reported. A special emphasis here is on the leading individuals in the start-up who are unwilling to adapt to the OEM’s practices. It is also reported that there is a paranoia of the start-ups towards their IP and special NDAs. They are not willing to share their products freely, which makes it hard for the large company to find out at what stage the start-up really is. Which is why it was criticized that the gap between a technology demonstrator and a fully usable product is sometimes immense. Often with the start-up unaware of the costs needed to develop the demonstrator into a product.

This could once again be an issue, since the OEM reports that often the financial stability of start-ups is not given and that resource constraints on their side are immense. The OEM also reports of troubles with different internal functions. For example, excitement in the development department does not necessarily mean that the purchasing department will agree to a deal.

Lastly, OEMs mention that there could be the possibility of brand abuse by the start-up, where it only collaborates with the OEM to be able to promote itself with the name of the larger, more prominent firm. (Minshall et al., 2010)

Besides the challenges that were found, different approaches were suggested to manage these challenges (Minshall et al., 2010). For this study it is interesting to see approaches of established firms that are represented in research.

Minshall et al. (2010) portrayed these approaches on five levels from the strategy and business model to the deal-ongoing-management.

Within the strategy and business model the focus is on a very high-level. Including start-ups into the innovation strategy via a portfolio map that shows area of interest is one, and having an overview of possibilities to acquire different technologies the other. On the latter, the emphasis is on knowing all the difficulties that could be involved and the importance of having early access to a technology. (Minshall et al., 2010)

Challenges associated with the technology should be overcome, by openly communicating a need within the corporation and sharing all these needs with the smaller firms. Besides that, the assessment of the technology readiness, as well as the start-up’s maturity is vital.

To deal with organizational problems three different approaches are chosen. Explaining, which is meant for the needs, processes and the culture of the large firm, to give the start-up a chance of understanding what is going on (Phaal, Farrukh, & Probert, 2004). Second, a team or individual as first point of contact (Mortara & Minshall, 2011) and to shield the start-up from unnecessary bureaucracy within an OEM (Nambisan & Sawhney, 2007). And third, the use of intermediaries, which stands for potential access
to consultants or universities that could be beneficial to the start-up (Minshall et al., 2010). Oughton, Mortara, and Minshall (2013) add that successful large company open innovators back small partners up with a specialist team of appropriate skills, culture, processes, and motivation.

The deal set-up is characterized through setting the right tone, cash flow, and widely consulting and preparing the ground. It is important to find over-arching principles and being transparent towards the start-up. There needs to be an awareness of the start-up’s cash and cash-flow situation, with potential short-term revenue deals, where that might be feasible. Lastly, the view of internal stakeholders needs to be included as early as possible. (Minshall et al., 2010)

As the last stage the deal-ongoing management is mainly focused on transitioning, communicating, monitoring, and reviewing. Where the transition needs to be managed, especially if responsible persons change. The start-up needs to be up-to-date via free communication (Moore, 1996). Clear milestones to monitor the start-ups progress and potential measures for under-performance need to be established. Finally, the collaboration needs to be fed into an internal review process. (Minshall et al., 2010)

Champions and change agents

However, all these literature reports on the importance of the interface between large and small companies and that they should be managed. The concept here is therefore that an individual could be the key facilitator in such a scenario, similar to champions in innovation (Burgelman, 1983) or change agents (Lunenburg, 2010).

Champions were introduced with the task of product championing where the individuals found ways to gather resources necessary to prove they were on the right track, even though everyone else had a different perception. Besides the resource allocation they also managed to create a market interest for the product they are championing. Organizational champions were able to convince management that their projects are consistent with the ideas of top management. (Burgelman, 1983)

Howell and Higgins (1990) showed which characteristics champions exhibit. A need for achievement, risk taking, persuasiveness, persistence and innovativeness. Which they apply via transformational leadership, i.e. with charisma, inspiration, intellectual stimulation and individualized consideration.

Based on those insights Shane (1994) established six different roles within the innovation process that he saw associated with championing behavior. Providing autonomy from the rules, procedures and systems to enable innovators establishing innovative solutions. Gathering organizational support for an innovation, if necessary in different functional areas of the organization. Creating loose monitoring mechanism allowing innovators to creatively use resources. Establishing mechanisms that enable consensus decisions on innovations. Using informal methods to persuade other members of the organization from the innovation. And finally, to protect the teams from the organizational hierarchy.

Change agents are known to be individuals that have the skill and power to facilitate, coordinate, and stimulate the change effort (Lunenburg, 2010). Different roles were accumulated by Lunenburg (2010) to show in which way change agents act. The consultant is able to generate data within the organization and use that data to support employees in finding solutions for their problems. The training role is a dual-purpose role. First, to help organization members derive implications for action from the present data. Second, to provide organization members with a new set of skills—the ability to
retrieve, translate, and use new data to solve future problems. And the third role is known as the research role, which trains employees on establishing a valid evaluation for the effectiveness of a measure.

**Summary and research questions**

As it can be seen there are many challenges known for the collaboration of large and small firms. Approaches presented to overcome then are on a managerial level. The individual is neglected even though it is often mentioned that one contact person could be essential for asymmetric collaborations. The goal of this research is to see which challenges are given on an individual level for the contact person of the OEM, and which approaches they use to overcome them.

RQ1: What challenges are individuals that represent the OEM facing that take on a role of a facilitator?

RQ2: What approaches should be used by the individuals to facilitate these collaborations and overcome the challenges?

**METHOD**

**Empirical Setting**

The automotive OEM studied here has introduced five different modes of interaction with start-ups. Joint – product development, establish suppliers, CVC-investment, problem solving, and spin-outs (Buck, Nilsson, et al., 2017). For this research projects from the mode joint-product development were researched. In that mode the start-up fully develops it’s product with the OEM. The OEM’s goal is of course to use the product.

**Data collection and analysis**

The goal of this research was to see which part individuals on the large corporation’s side play in the portrayed asymmetrical scenario. For this reason, the interviewees were chosen due to their connection with one or multiple start-up projects that were either done by themselves or with the support of the venture client unit of the OEM. Some interviewees were so interesting that two interviews were performed. Overall, this led to 34 semi-structured interviews with project leaders of different start-up collaborations (Saunders et al., 2009). The 34 interviews were performed with 31 interviewees. Some of which were interviewed twice, since one interview did not cover the experience they had with start-ups.

Questions ranged from the overall experience with start-ups, to particular barriers that existed in the OEM, to solutions they found to overcome them. It was also asked if partners were involved and at which point in the collaboration they joined in.

All interviewees were responsible on the OEMs side for the start-up collaboration, i.e. the responsible person in the department. All the researched projects were studied during the first project with a start-up. Nine different projects were reported to be supported by the venture client unit. Twelve of the projects were done without the support by the venture client unit, where four of the projects were covered with two interviews, since two employees were responsible. There were also seven interviews with interviewees that had experience in multiple start-up projects. Two of which with and without the venture client unit and five only without.
The interviews were then coded and analyzed in two different ways. In discussion, the authors decided that the first coding should consist simply of the different phases of the start-up collaboration. The starting phase, the collaboration phase, and the ending phase. The coding was performed using R (Team, 2015). The package used is RQDA (Huang, 2012).

After the coding two different approaches were chosen to handle the coded data. A text mining approach (Inzalkar & Sharma, 2015) brought up different over-arching topics that were used to describe the clusters into which the results could be organized. Via an analysis of the correlations of different words the author determined a first set of over-arching themes that occurred.

For a more nuanced view on this topics it was then chosen that all of the authors individually start to code the different phases that were found according to Gioia, Corley, and Hamilton (2013). This second approach brought up many details and insights that could then be used to enrich the overarching topics.

**Reflection on the method**

This was the first time that the author used a text mining approach to analyze qualitative data generated with interviews. It was observed that text mining gave a good overview of the over-arching themes that occur within the data. However, without the detailed analysis via a follow-up coding by hand it would not have been possible to create the rich results section. So, it is recommended to give text mining a try, especially to give some structure to the data and a structure to the results section. But, without the detailed analysis by hand, the results section could not bring up the details needed for a profound analysis.

**RESULTS**

This study makes it possible to capture the characteristics of the multifaceted collaboration between an OEM and a start-up and what actions that emerge as important to take to ensure a successful outcome. Results are portrayed according to a time-line of the start-up collaboration, divided into three phases; the initiation, the collaboration and the transition or ending phase. The action issues are described in a chronological order during the collaboration, as some actions are more critical in the beginning, others are needed throughout the whole collaboration while some actions are crucial when the collaboration is ending.

Based on the result, the analysis focus on understanding what actions that are critical to take by the contact person of the start-up, i.e. the employees, to support the collaboration from start to end and why and how these actions differs from or relate to what is already known regarding the support of exploration and innovation in established organizations.

Start-up collaboration here is understood as the first project a start-up is doing with an OEM.

**The starting phase**

The study shows that the initiation between the OEM and the start-up begins at multiple first introduction points. The venture client unit of the corporation is however a very common one. This unit is responsible for scouting and finding new, interesting
start-ups which it matches with the internal departments that could be suitable for such a technology. Another common start of the collaboration is driven by searching for a solution and finding a start-up that promises it. The start-up in this case is found within the department of the interviewee but not necessarily by the interviewee. Besides these more structured approaches it is also reported that the information about the start-up simply came in an informal way. For example, through himself or through colleagues reading about the start-up in a newspaper article or seeing the start-up at a conference.

The respondents reported nearly uniformly that their interest for the start-up collaboration was sparked by either unique elements of a technology that solved an existing challenge or by the potential of the start-up to deliver a new value to the ongoing development project the employee was working on.

Designing the assessment

The technology maturity of the start-up was in different stages during the beginning of the collaboration projects. Whereas some start-ups had a product at a very early stage, others already had a very sophisticated first version. Therefore, a first unstructured assessment of the technology was always performed by the respondent during the first contact with the start-up. Designing a structured assessment after the initial positive impression is highlighted by the respondents as a key task, connected to a number of challenges.

The assessment is usually performed by designing a specific testing scenario for the start-up, in which the technology needs to prove itself as well as identifying the KPIs (Key Performance Indicators) that the technology needs to fulfill. The scenario and the KPIs selected depend on whether the start-ups technology is completely new, should substitute or enhance an existing technology. New technologies might ask for the creation of a similar technology to compare it to. Testing scenarios might be developed building on different ideas. Either there is an overview of competitors or there might be an internal technology that does the same job, or simply an idea that the OEM’s employee has. While creating the testing scenarios it is important to give input to the start-up on what exactly the OEM needs, since the start-up might have a different position on quality, different requirements and no idea about co-dependencies in a complex product. The testing scenario is meant to be as specific as possible. For example, using products of the automotive OEM, not only some sort of car. The goal of using testing scenarios is to enable an evaluation and quantification of as many of the promises the start-up makes as possible in an iterative fashion.

Three common challenges and ways the interviewees went about solving them will be highlighted.

Firstly, the testing scenarios do seldom fulfill the automotive final requirements, since they are tailored towards getting to know more about the start-up but not to really evaluate them. Usually a proof-of-concept within an automotive OEM has a different, much larger, scale than those that are performed with start-ups. Claims were done that start-ups will never be able to deliver a product that qualifies for series development. With that in mind the interviewees of course also set up testing scenarios that did not
evaluate the ability to do that. In some cases the proof-of-concept performed is therefore not useful as an evaluation. However, it is worth noting here that interviewees were not completely unaware of this dilemma. They tried to include as much realism as possible in their testing, yet they were afraid of asking too much of the start-ups and making it impossible to reach the goals that were set. Something most respondents neglected during the initial testing was the amount of co-dependencies and boundary conditions that would be affected by the start-up. The start-up of course was completely unaware of these problems. It was the task of the contact person to explain this complexity to the start-up and test them on their ability to cope with it.

Secondly, testing scenarios and the KPIs only tested the technology. Many respondents point out that this is not enough as an important part that needs to be assessed, is the ability of the start-up to becoming a partner of the OEM. That means that its business model needs to make sense in this partnership, i.e. a possibility for the OEM to earn money should be given. It also involves seeing if the start-up has planned to work at the scale necessary by for instance testing the production capability.

An interviewee also mentioned the term proof-of-project, which the first interaction with a start-up should be rather than the proof-of-concept, which simply refers to the technology. The start-up needs to proof in this first small project that it can be a partner for the OEM. “Although – And now I am forwarding to the end of this project phase there was such a proof of project, that the project was really feasible enough to go to series production. From a technological and a cost point of view (translated from german)”.

Thirdly, the difference in speed of the start-up and the company has a negative effect on testing. Since the testing scenarios could sometimes be done very fast by the start-up, it was the OEM’s job to come up with an evaluation for these scenarios. The OEM could however not deliver as fast as it was necessary. A scenario was shown where the comparison algorithm, developed inside of the OEM, was taking too long to be finished. Also, if start-ups deliver the results too quickly there could be the misconception that they did not spend too much effort on it. To fulfil automotive requirements, usually the tests take more time. Six months are easily used for a simple proof-of-concept. The timeline is also affected by the topic of the start-ups technology. Software or algorithms need data for validation, a hardware solution needs physical prototypes.

**Involving stakeholders**

Getting an overview of and involving all the stakeholders is reported to be a critical task of the contact person. In the beginning this refers mainly to internal partners. It facilitates the collaboration if all stakeholders are known and involved from the beginning. This includes the managers of the involved department, the venture client unit, the purchasing department, and others that could also be interested in the start-up, e.g. the corporate venture capital unit or the M&A - department. Finding partners to evaluate the topic internally was also mentioned regularly. The personal network of the interviewees proved to be facilitating if established well enough. Good knowledge of the purchasing department is essential for getting the purchasing process done as quickly as possible.
Of special importance is including the management at the start of the collaboration. Different issues during the collaboration might be facilitated by them, e.g. solving capacity issues.

Another part to be highlighted is the involvement of other internal employees that are working on a similar topic. Three reasons were mentioned. First, to have someone that challenges the idea and helps in creating a realistic testing scenario. Second, to identify the best internal use case, and third, to avoid that the start-up project might be seen as competing to internal projects. Employees that proved to be valuable during the project were involved as much as possible, which again required their management to be involved to facilitate taking time off for the employee.

Besides these internal partners it might be important, depending on the testing scenario and the technology, to involve other, external stakeholders in the collaboration. If the start-up’s product will be involved in a product that is directly experienced by the customer, then involving customers could be the way to go. If other suppliers might be needed to set up a production for the start-up, those suppliers should be included from the beginning. Including external partners might also be necessary for creating a realistic testing scenario for the start-up, or if the technology calls for a comparison with another technology.

Finding Funding
Two main struggles came associated with funding. First, the OEM was not set up to work with start-ups. This includes purchasing processes and existing contracts. Both are mainly designed to work with established suppliers. This difference was an issue when start-ups either had no ability to check the contracts properly, e.g. due to a lack of legal support, or if these contracts were designed too much with the OEM’s benefit in mind, e.g. all the IP from the collaboration will belong to the OEM. With no working contracts in place the project could not be funded.

Second, start-ups often seem to underestimate the amount of money it costs to successfully do a project with an OEM. This can lead to trouble with the funding of the start-up if it is funded too thinly in the beginning, so that it can’t pay through the whole collaboration, before it finally earns money with the OEM.

To work around funding issues creative solutions were found. However, this asks for experience within the corporation and a knowledge about the processes.

Both scenarios are also massively facilitated by the venture client unit of the OEM.

The collaboration phase

Communication as a key task
Mostly induced by the inexperience of start-ups for working with OEMs and vice versa, communication becomes one of the key tasks of the contact persons. Communication is the key to keep all stakeholders that were found at the beginning of the collaboration up-to-date. Various examples were told by the interviewees where it was essential to their collaboration to include everyone as soon as there was a change or if they needed more time, e.g. talking to the management.
Communication is also part of the expectation management. For the contact person this means, telling the start-ups the expectations of the OEM. Additionally, listening to the start-ups expectations and look for feasibility of these expectations while working with the OEM.

One approach for a sustainable solution proved to be valuable is to discuss it with colleagues in related fields. This could be happening at different points during the collaboration. Either in the beginning to give a first assessment of possibilities for the technology or during the collaboration to discuss first results or at the end to back up the final decision. Partners for discussion are not necessarily stakeholders of the project but employees with valuable know-how in the respective field.

Some obstacles were hindering communication. Geographical distance was mentioned in two ways. One of them was that the distance didn’t matter at all and another one that distance was a barrier. What was mentioned is that there can be a language or cultural barrier.

It was also reported that the start-up’s tended to be secretive in what they did show. This was perceived negatively by the interviewees.

What proved to be facilitating and enhancing the communication was a common decision making of all stakeholders with a commonly agreed upon timeline. Another thing that was mentioned positively were physical prototypes. They helped the communication by being an easy thing to getting it started.

Lacking time and capacity

One issue to be managed was the time interviewees could spend on the project. There are two different perceptions of this topic. One perception is that there is a finite amount of energy and that the start-up collaboration could not only drain that but exceed that amount of energy available by one employee, of course in addition to the daily business. The other perspective on time limitations is the capacity perspective. The capacity perspective is driven more by how the time of the employee is assigned by his management. Therefore, we see two options leading to the time-restraint. Intrinsically, i.e. finite amount of energy, as portrayed by the following quote (translated from german):

“On the one hand there are of course the budgets that you have. On the other hand of course the time that you are able to invest, where you might say, okay, I have chosen to do this. I want work with this company, even if it is risky, but it has great potential. To get that time freed up and saying there I am working on this topic.”

and extrinsically, i.e. capacity as discussed with hierarchy, as explained by the following statement (translated from german):

“You have to differentiate, what one could do, if he has the ability to do so, and for what does he get paid? And the SOP developer gets paid to develop for the series and he might occupy himself with start-ups in his free time, but not in his job. Like a train driver that, while driving the train is doing different things.”

A third opinion is that the underlying problem is the lack of prioritization of the project. This could either be due to personal prioritization of the employee, but also from a prioritization of the hierarchy.
Managing mismatches in knowledge and processes

Understanding for different mind-sets and a different way of working is another key factor. Since the start-up usually has never worked with a corporate before it has no understanding of the complexity of processes, decisions and hierarchy. Therefore, there needs to be a lot of teaching for the start-up. Particularly it is important to manage the differences in relation to the decision making speed to the development process, to the production system, and requirements for quality and safety.

The start-ups need to understand that certain things take longer than they are used to. It was often mentioned that the start-ups iterated their ideas very quickly. In fact, in some cases too quick for the corporation. This leads to scenarios where the respondents found themselves to need to either get quicker with a response or an evaluation or he needs to teach the start-up where the delay came from.

In addition to this, long decision cycles within the OEM are slowing down the collaboration on the OEM’s side. Whereas the start-up can usually decide within a few days, or even one day, it takes much longer at the corporation with different stages in the hierarchy and different persons that all need to sign off on. The purchasing process is the prime example for lengthy decision cycles in the automotive OEM. Most interviewees who had to go through the process without the support of the venture client unit report of its length and about how tedious it is.

To solve these issues interviewees chose either to coach the start-ups or they were very persistent about getting the collaboration going. Interviewees report that to get a decision for being able to collaborate with a start-up, they were trying to get that decision ten times, i.e. did not get the decision 9 times, and did that over the time frame of six months.

The development process is set up with a timeframe of 5 to 7 years in the automotive industry. In this time frame a start-up is usually getting founded, scaling up, and making its exit. This leads to trouble as some interviewees report since the start-up is simply not set up to do that lengthy development. This also is basis for some of the decisions that the contact persons had to take. They were sometimes declining technologies, simply because they came at the wrong time in the development cycle, i.e. would have improved only the presently developed projects and not the future ones. Interviewees also reported that this was a fact not known by start-ups, which thought that they could sell their product immediately. Interviewees often were the first to realistically explain the automotive industry to them. This conflict often leads to differentiating goals between what the start-up wants and what the OEM wants. Start-ups want to grow quickly, OEMs want to build a robust product.

Interviewees described two different ways of coping with these challenges.

First, rather than trying to intervene with this process they decided to coach the start-up through the whole process. They used their knowledge about the OEM’s processes to give security to the start-up and make it possible that they stick with them.

Second, jumping some steps of the decision making process, where it is feasible, also proved to be an effective to speed up the processes. As this quote shows:

“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!"

Interviewees reported that they managed to adapt processes a lot to fit the needs of the start-up collaboration. This was done by a lot of discussion with the different departments that were bound to these processes.

A particularly special environment is the production line of an automotive OEM. It is nearly impossible to implement something in there as long as it is not 100% safe. Costs that are created when the production line shuts down are immense. Start-ups often do not have any perception of how high those costs can be and why access to the production line of an OEM is so tricky. The lack of knowledge is mostly due to a lack of experience of the start-ups and its employees with corporations.

Building on the product line scenario however another issue that is reported regularly is the difference in the need for quality. OEMs have very high requirements concerning quality and safety, which is represented through the processes that were created following learning experiences. Especially safety is something that most start-ups are not touching upon in the first place. Quality also is not as highly rated as getting the job done. This difference in approaching a project is not so bad in the beginning but gets worse once scaling of production becomes an issue.

A lot of support given to the start-up was to implement processes inside of the start-up that enabled the OEM to use the start-up’s product. This was not simply done by telling them to do that, but rather by explaining why it was necessary to do that.

**End of Collaboration - the transition phase towards a supplier / buyer relationship**

The end of the collaboration defines the transition phase when the technology or product of the start-up becomes part of the OEM or when a decision to not proceed with the collaboration is taken. Depending on what type of technology, this phase involves either scaling it up or implementing it in the development process. This calls for different actions from the contact persons.

During the transition phase one task is the search for continued funding. Depending on what the collaboration with the start-up has shown until then. Possible investments could include the corporate venture capital or M&A department of the OEM. A continued in-house development will lead to applying for internal funding and involvement in the internal development process, facilitated through the existing supplier number.

In case of a convincing technology but a non-convincing use case in the contact persons department it can also be valuable that the contact person shares the information about the start-up to see if another department has a valuable use case.

After the evaluation of the start-up has led to the realization that the technology of the start-up is valuable, but the start-up does not have the ability to scale the technology a partner for the production was searched for the start-up. The same was true when the start-up’s technology was not meant to be integrated into the OEM’s product directly but was meant to improve another product that was supplied to the OEM. Then it was necessary to connect the start-up to that supplier. However, tier one suppliers were
mentioned as being challenging to work with in these scenarios. The challenges reported upon can be due to the fact that tier one suppliers may have a technology that tries to solve the same problem the start-up’s technology is solving. Motivating them to partnering with the start-up can be therefore be challenging. In some cases the conflicts that arise can even end the collaboration.

ANALYSIS AND DISCUSSION
As shown in the results there are different stages in an asymmetric collaboration that an individual must take care of. In this section, the most critical challenges identified in the study as well as the approaches the individuals facilitating the collaboration have used to manage these are discussed in relation to extant literature. In the end, design criteria for the role of the collaboration facilitator to become a decisive improvement for asymmetric collaborations is discussed.

Mismatch in processes
Challenges related to mismatches in knowledge and processes between the different companies is a topic that was highlighted multiple times in the interviews. It is a common theme also in the literature (e.g. Mortara & Minshall, 2011). Our study is able to shed light on some aspects that is currently not receiving enough attention in the extant literature.

Three main challenges related to the differences in processes became obvious in the analysis of the results; the length of the processes, processes that are missing to support start-up collaborations, and a lack of knowledge about each other’s processes.

The challenges related to large companies complex and slow decision making processes are described in the literature, e.g. (Minshall et al., 2010). However, there is a lack of studies reporting about the challenges related to managing the differences in length of processes. Development processes, and particularly the purchasing processes in the large company were found to be not only filled with slow decision cycles, but were also composed of many steps and activities that made the processes lengthy. Besides the length of the processes, they were found to not being designed to work with small companies. Whereas Minshall et al. (2010) mainly describe financial issues on the start-up’s side, the interviewees reported of problems of acquiring funding internally. This was not due to a lack of financial resources, but rather to the processes that are specifically designed to prevent risk and uncertainty in partnerships. This is however one of the key features of start-ups. Therefore, the purchasing process could become a major obstacle for funding the collaboration.

Additionally, start-ups often had no idea about the complexity of processes inside a large firm. This became especially obvious later in the collaboration when the start-ups were in need to provide a large-scale and high-quality production. They often were unaware of the immense quantity of requirements that need to be fulfilled.

To cope with these challenges different approaches are found. Shielding and explaining are mentioned regularly here as well as in the literature (Nambisan & Sawhney, 2007; Phaal et al., 2004). Whereas shielding was mostly done as perceived in theory, i.e. protecting the start-up from corporate processes to shield them from bureaucracy, explaining was perceived differently. Through asking the responsible persons it was found that they did a fair amount of explaining on these processes, but found coaching
the start-up through them as more valuable. This included showing the start-up what to do to get the next step in a process done. Besides simply coaching the start-ups through the corporate processes, the responsible corporate employees also helped the start-up to implement new processes in their company. This is a new understanding of a facilitating role. Usually these roles are focused on manipulating the mother-company of the employee and not a partnering one to improve the partnership.

Creating processes in another company is also an example for a creative solution of the situation. Creativity was often reported in regard to the funding situation where good knowledge of the corporate processes and structures was used to find funding in different areas of the collaboration, as it is also described by Shane (1994).

Another point that reminds of champion behavior is the persistence (Howell & Higgins, 1990) that was shown by some of the interviewees with reports of one that tried 10 times to get the decision to start a project with a start-up which was neglected up until the 10th time due to the restrictive processes described above.

What was also described as very facilitating was the venture client unit of the OEM, that was set up to facilitate all the processes for start-ups and to give funding for a first proof-of-concept. This was perceived as a big amount of internal support by the OEM and could be interpreted as a champion – like (Burgelman, 1983; Shane, 1994).

**Lack of time or prioritization**

Interestingly, the literature presented here fails to mention the lack of time and capacity on the OEM’s side for these kinds of collaborations. Therefore, we see different challenges arising mainly due to the inability of the contact person to properly work on the collaboration. Two different explanations were found for this challenge. The intrinsic perspective mainly refers to a view where the employees do not have enough energy to take care of all the tasks in a given day, which leads to neglect of the start-up. This view shows that these employees see their time as their own and that they freely and autonomously dispose over their own time. The extrinsic perspective is the view that the time is limited by the management of the contact person. Therefore, these employees do not see themselves in charge of their own time. These two views are fundamentally different and call for different approaches.

The intrinsic perspective reminds of champions, but rather than giving autonomy to the innovation team (Shane, 1994), they grant autonomy to themselves, to be able to deal with the start-up. So rather than championing a project they need to enable themselves. The external perspective calls for a communicative effort by the contact person, or a third party, towards the management. The challenge is in all cases due to a lack of prioritization of the start-up collaboration. So intrinsically the contact person itself needs to value the collaboration higher, which is harder to influence from an external point of view. The extrinsically oriented individuals might be more easily altered, when the management simply decides to give a different meaning to the collaboration.

The lack of this challenge in theory is suspected to originate, since it had a view on projects that were researched once they were established within the corporation. Therefore, time was assigned to said collaboration and the lack of time of responsible employees was not given. Here, we looked at the first projects done with start-ups, that were mainly done besides the usual workload of the interviewees. This challenge might
also be lacking in theory since there was, no focus on the individuals that were creating a value through collaborating with the start-up, but rather on the management perspective.

**Potentially unknown stakeholders**

Certain topics that came up during the collaboration could not be solved by the contact persons and the start-up on their own. For example, if there was a decision needed from higher management to spend money. Therefore, it proved to be important to include all necessary stakeholders as soon as possible. However, some of the stakeholders were not known from the beginning. A question is therefore who could potentially be a stakeholder and should be included by the contact person.

Inside the OEM the stakeholders could reach from other interested employees, to the decision-making management. This is portrayed in literature as the “Consult widely and prepare ground”-approach (Oughton et al., 2013). However, whereas the literature is fixated only on internal stakeholders, the results have shown that contact persons in a large company also need to draw in external stakeholders, potentially from their personal network.

This is due to different challenges might occur during the collaboration. One challenge that made it often necessary to include external stakeholders is the inability of some start-ups to produce at a large scale. The contact persons here chose to step in and connect the start-ups with established suppliers that might take over this task, since they have the competence at producing high-quality products at scale. This also shows the importance of two factors that the contact person can possess. First, technological know-how to decide upon the start-up’s ability and second, a well-established personal network in the respective field.

Transparency and an ongoing communication is also an approach to get in contact with the right stakeholders inside and outside of the corporation.

This finding once again shows that the role that is researched here is often applying championing behavior (e.g. Shane, 1994) not only internally, but also towards external entities, if it seems appropriate to deliver more value to the OEM.

**Assessment of the Start-up**

Since working with established suppliers that already know how the corporation works is completely different, a lot of the challenges shown above result from the newness of the start-up to the OEM. Established Suppliers already have proven their ability to collaborate with the OEM and are simply given requirements for a new product. However, for start-ups this ability first needs to be assessed. This ability needs to be tested first with the start-up, which was not clear to all the contact persons and should therefore be fixated in the role of one that manages the collaboration with the start-up. In theory, there was a mentioning of the need for assessment of the technology readiness and market maturity (Minshall et al., 2010). However, in practice contact persons usually tempt to focus on the technology and neglecting the start-up’s overall ability of being a partner to the OEM. The challenge that was found is therefore how to design a holistic testing scenario.
An approach to make this holistic view available to all is the proof-of-project concept. Also in theory the assessment is limited towards the technology and the overall maturity, not necessarily to find important weak spots of the start-up as a partner of the OEM. These areas could be important to focus on with specific support through the contact person or other stakeholders. A well-crafted assessment design covering not only the technological proof-of-concept but rather the whole collaboration ability of the start-up will therefore be essential. This should also include production capacities and the start-up’s ability to adapt its product or the funding situation. This well-crafted assessment also introduces the start-up to the corporate world much easier, since all tasks are clearly portrayed and future challenges are already given and can be discussed early to find solutions in a timely manner. Therefore, what is necessary in this stage is not so much a proof-of-concept, which is the current status quo, but rather the contact person needs to set up a proof-of-project.

Timing is another key part of the assessment not yet explicitly discussed in literature. The assessment should be designed in a way that the start-up and the OEM take the same amount of time for their specific tasks. It was reported of instances where the start-up finished its task very quickly and the OEM’s contact person took a long time to set up a validating scenario.

Besides the highly structured proof-of-project approach discussion with involved and non-involved colleagues are a good way of assessing a start-up or for finding a way of doing so. This enhances theory that mainly sees the communication as a measure to keep the start-up up-to-date (Moore, 1996), which of course was done, but neglects the fact that communication will be needed to also include employees internally at the OEM, as well as potential other stakeholders. Which makes a good communication essential for the contact person designing the assessment.

A fourth insight towards the assessment is that a common decision making is key in these scenarios. The start-up needs to be included at all stages of the design of the assessment to give input as early as possible and also to show where weak-spots might be or an unrealistic time-line from the beginning.

Lastly, what was high-lighted as a facilitator for the assessment was a physical prototype as a start for the assessment and the discussion. Theory here merely goes back towards clearly defining the needs. However, the results have shown that a physical prototype was able to more transparently discuss what is needed and expected of the start-up. It also quickly reveals issues that might come up, e.g. in regards to quality.

**Who should do it? What should a role look like?**

Different challenges on an individual level and approaches towards solving them were shown in this study. One additional question is if it would be possible to solve these challenge by creating a role that is specifically designed to provide assistance in start-up collaborations.

It was clearly shown that individuals manage to find good approaches towards facilitating start-up collaborations that are not feasible from a management position. For example, the ability to not only trying to influence internal processes and projects, but rather to also see difficulties in external firms and trying to solve them, as it was
shown with implementing processes in the start-ups or including third parties to increase the production capability.

There are therefore several reasons shown to work towards including such a role in a company. It is however questionable if one individual could come up with all the findings shown above on its own, e.g. knowing the demands of the assessment. It is suggested to have an institution that collects all that knowledge and makes it easily accessible for employees that are the contact person of an asymmetric collaboration. Besides the knowledge an institution could also help employees that are stuck in an extrinsic perspective on time and capacity by facilitating the communication with the management, as well as providing a network of external companies that could be valuable to talk to during a start-up collaboration.

So, while Oughton et al. (2013) mentioned that a specialist team or an individual is needed for the collaborations, what comes out of this analysis is that a mix of a specific team and a contact person is suggested to be the best solution.

CONCLUSION AND MANAGERIAL IMPLICATIONS

Conclusion
Individuals in OEMs that are responsible for the collaboration with start-ups face similar challenges as were reported on a managerial level. The most critical challenges that were found in this study are mismatches in processes, a lack of time or capacity, potentially unknown stakeholders and the assessment of the start-up.

It was however also found that individuals are very well capable of overcoming these challenges by actively taking on a role in coaching a start-up through critical steps, providing a design for the assessment of a proof-of-project, and using the personal network to involve all stakeholders, internally and externally. Besides that, they used effective in many circumstances, and provided explanation and shielding to the start-up. Within this role employees also helped the start-up to implement new processes. The role shall be called the ambassador role.

Besides that, the need for an additional institution that collects all the facilitation mechanisms within an OEM was found. This institution should support the individual that takes on the ambassador role to enable this ambassador for an effective collaboration with start-ups.

Managerial Implications
The managerial implications shall be presented here in the form of a list with suggestions towards what facilitates these collaborations for the individuals involved.

1. Start-up collaborations should be facilitated by enabling one individual, the ambassador, and supporting him/her with an institution.

2. The first project with a start-up should always be seen as a proof-of-project. That includes targets that are given to test the start-up’s technology, as well as its ability to becoming a partner for the OEM.
3. The proof-of-project concept can be also used for internal communication. It would be helpful to add to the tasks of the start-up that it needs to prepare all the findings in the form of a pitch-deck to facilitate the involvement of all stakeholders.

4. Provide a schedule of suggested meetings, e.g. a meeting every two week, where the start-up is asked about its development. The ambassador then needs to transfer that knowledge to potential issues that might come up internally. Make a list of partners that are involved from the beginning (internal and potentially external) to know who to involve.

5. Start to create a process that allows to manage not only the start-up or the established supplier, but also the transition phase of start-up towards the established suppliers. Knowing their struggles could facilitate the scale-up phase massively.

6. The mentioned institution needs to interpret its task as sort of a knowledge tank that educates the start-up and internal employees. The employee is then someone who is performing the operative tasks of the collaboration and brings back his learnings to the institution. The institution should further be responsible of building and maintaining a network surrounding start-up collaborations. This network should involve all potential internal and external stakeholders.

7. Besides that, the institution should have some power within the company to enable it to discuss with the management of the ambassadors, e.g. to resolve capacity issues.

8. The ambassador does not take on the roll as a scout for an investment of the company. His task is to evaluate the start-up for use in the OEM’s development or product. And if necessary to support the start-up in becoming a supplier.

9. To overcome problems with the processes it might be feasible to include the purchasing department in the network, e.g. by organizing some “meet your purchaser” – events.

**Future research**

Future research should look deeper into the characteristics of the ambassadors, and if it is necessary to identify individuals with specific characteristics, even if an institution is in place. Besides the reported champion and change agent behaviors, it would also be interesting to have a look at entrepreneurial characteristics. It would also be interesting to see if this scenario is limited to the automotive industry, which is known to being particularly complex.

**REFERENCES**