

# DIGITALES ARCHIV

ZBW – Leibniz-Informationszentrum Wirtschaft  
ZBW – Leibniz Information Centre for Economics

Niever, Manuel; Scholz, Ilona Martina; Hahn, Carsten

## Article

# Innovation driven by cooperation of startups and SME

Athens journal of business & economics

## Provided in Cooperation with:

Athens Institute for Education and Research (ATINER)

*Reference:* Niever, Manuel/Scholz, Ilona Martina et. al. (2022). Innovation driven by cooperation of startups and SME. In: Athens journal of business & economics 8 (4), S. 345 - 362.  
<http://www.athensjournals.gr/business/2022-8-4-3-Niever.pdf>.  
doi:10.30958/ajbe.8-4-3.

This Version is available at:

<http://hdl.handle.net/11159/631126>

## Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

## Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte.



<https://zbw.eu/econis-archiv/termsfuse>

## Terms of use:

*This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence.*

## Innovation Driven by Cooperation of Startups and SME

By Manuel Niever\*, Ilona Martina Scholz<sup>±</sup> & Carsten Hahn<sup>+</sup>

*With rising need for innovation within a complex and dynamic world, cooperation between complementary partners offers potential to create competitive advantage. Early-stage start-ups and small and medium-sized enterprises (SMEs) can exploit opportunities by cooperating early and jointly developing new innovation. Despite research into cooperation between established start-ups and SMEs existing, there is no specific concept or support options for cooperation in an early stage. Intermediaries are named as a helpful support option; however specific tasks are not analysed. This research provides insight into various support options in the context of cooperation between early phase start-ups and the German “Mittelstand”. Within the framework of the Design Research Methodology (DRM) the results of a literature research and qualitative interviews are presented in a Reference and Impact Model, which show the need for support in the cooperation of start-ups and SMEs. Based on the findings, a four-phased cooperation process is proposed, which includes support possibilities in each individual phase. A comprehensive evaluation plan in the context of practical application completes this work.*

**Keywords:** innovation management, cooperation support, cooperation process, early-stage start-ups, open innovation

### Introduction

Cooperation between start-ups and SMEs have great potential to drive innovations (Engels and Röhl 2019). Two worlds collide: start-ups work in agile and in flat hierarchies, while medium-sized companies may be more flexible than large corporations, but are still structured by rigid processes (Wrobel et al. 2017). These differences can be seen as potential when it comes to cooperation, as both parties can benefit from each other.

Whilst promising potential exists, challenges must be overcome in order to use these opportunities. Studies differ to some extent on the success of such cooperations. According to a study by the German Productivity and Innovation Centre (RKW) in almost 70% of the cases cooperation goals are achieved (Wallisch and Hemeda 2018). However, according to a study by Becker et al. (2018), 38% of start-ups say they are rather dissatisfied and a further 8% are very dissatisfied with their cooperation with SMEs (Becker et al. 2018).

In this context, intermediaries are seen as an important possibility for support, especially in initiating contacts (Wrobel et al. 2017). In previous studies on

---

\*Research Assistant, Karlsruhe University of Applied Sciences, Germany.

<sup>±</sup>Research Assistant, Karlsruhe University of Applied Sciences, Germany.

<sup>+</sup>Professor, Karlsruhe University of Applied Sciences, Germany.

cooperation, recommendations for action are formulated for start-ups and SMEs, but intermediaries themselves are not the focus of surveys or analyses (Becker et al. 2018, Wrobel et al. 2017). Accordingly, the focus so far has been on possibilities for improvement within the two parties themselves. Here, the research focuses on support options for this particular type of cooperation in order to exploit the full innovation potential.

Focusing on start-up founding teams which already cooperate with SMEs in the early phase instead of on already established start-ups, this research opens up a new perspective of collaboration in the context of open innovation. Through this early cooperation, SMEs have early access to new innovations that can be implemented in start-ups with the required degrees of freedom and agility. The founding teams could thus benefit very early on from the support of an experienced and well-equipped partner who can provide the necessary resources that the founders lack. There is currently little literature on this type of cooperation, which is why this research investigates with the aim to provide more insights and create impulses for further research.

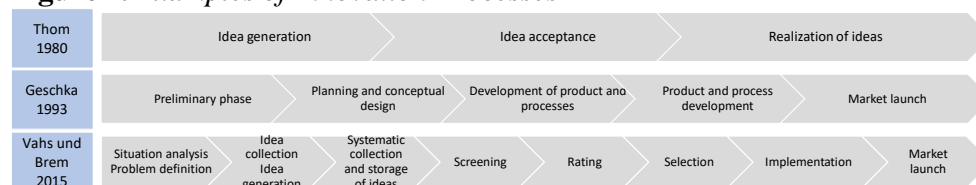
## Literature Review

The State of the Art describes innovation processes within SMEs, as well as founding processes and existing cooperations between start-ups and SMEs.

### *Innovation Processes of SME*

There are numerous approaches to outline and describe innovation processes. More “traditional” approaches as described in Geschka (1993), Thom (1980) and Vahs and Brem (2015) (see Figure 1) as well as more agile approaches and open innovation. Generally, an innovation process starts with a situational analysis of the demand and ends in entering the market with a new product, service or business model. Following the definition of innovation by Schumpeter (1926), such a process is successful, when an invention becomes an innovation by the diffusion into the market.

**Figure 1.** *Examples of Innovation Processes*



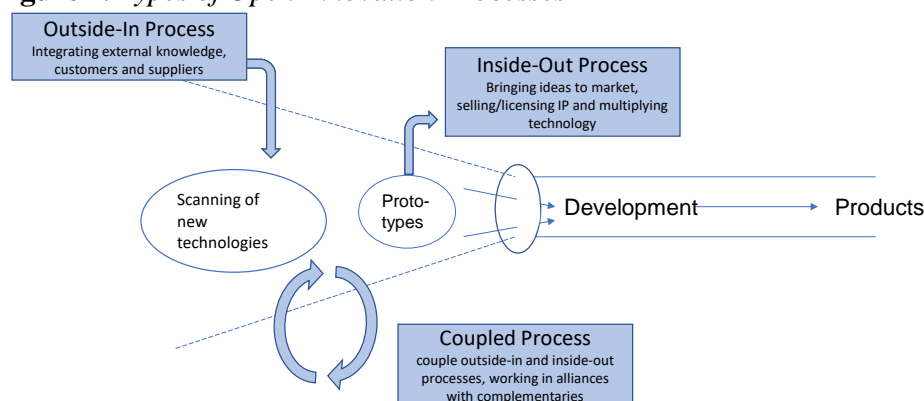
Source: Vahs and Brehm 2015, Thom 1980, Geschka 1993.

With the different forms of representation of innovation processes, it becomes clear that it is difficult to develop a process that is both generally valid and detailed enough to represent its complexity (Vahs and Brem 2015). As explained by Tsifidaridis (1994) and Vahs and Brem (2015), the representation of an innovation process as a

phase model is problematic. This is due to the fact that in a real innovation process, individual phases cannot be clearly separated from each other, which leads to “iterative feedback” between individual phases (Tsifidaris 1994). Accordingly, the representation as a phase model is to be seen as an aid, which represents innovation processes as “multi-stage problem-solving processes” (Tsifidaris 1994). Thus, they are to be understood as a model to support the planning and execution of development activities instead of a true description of real decision-making processes.

A further development of “traditional” innovation process models is the concept of Open Innovation. The Open Innovation approach originates from Chesbrough (2003) and describes the opening of the innovation process to the outside (Vahs and Brem 2015). While closed innovation principles involve developing resources within the company and retaining control over them, open innovation relies on sharing knowledge and resources between parties (Chesbrough 2003).

**Figure 2.** *Types of Open Innovation Processes*



Source: Gassmann and Enkel 2004.

Figure 2 describes the three types of processes in open innovation: Outside-In, Inside-Out and Coupled Process (Gassmann and Enkel 2004). In the outside-in approach, external knowledge is used to improve one's own innovation processes. This can be implemented through the integration of customers and suppliers as well as external technology sourcing (Gassmann and Enkel 2004). In the inside-out approach, innovation processes are initiated from within the company to the outside. The aim is to bring the company's own ideas to the market. This can take the form of intrapreneurship programs and business incubators (Wrobel et al. 2017). There is also a coupled approach in which both approaches are linked. For this purpose, companies cooperate in strategic networks. Here, the exchange of knowledge between the different parties is seen as critical to success. In this context Gassmann and Enkel (2004) define cooperation as the joint development of knowledge with competitor companies, customers and suppliers, joint ventures and alliances or universities and research centers (Gassmann and Enkel 2004). The cooperation between start-ups and SMEs can be classified as such a coupled process, as knowledge between both parties is shared.

### *Founding Processes of Startups*

A start-up is understood as “a human institution designed to create a new product or service under conditions of extreme uncertainty” (Ries 2011). This “temporary organization [is] in search of a scalable, repeatable, profitable business model” (Blank and Dorf 2012). From the emergence of an initial idea to the founding and possible exit of a start-up, numerous steps are taken. Freiling and Harima (2019) emphasize that the entrepreneurship process is not straightforward, but true to Hayek's motto of “trial and error”, testing and learning from experience. They divide the entrepreneurship process into three stages: pre-founding phase, founding phase and growth phase. The aim of the pre-founding phase is finding a promising idea (Jung 2004). Another classification divides start-ups into different life-cycle stages: seed, start-up, growth, later and steady stage (Kollmann et al. 2020).

In this paper, the early phase of a start-up is understood as the seed stage. Here, the iterative further development of a business idea plays a role and there are no sales or users yet (Kollmann et al. 2020). In addition, the early-stage is characterized by the fact that there is a financing gap, as there are no investors yet (Freiling and Harima 2019). In this work, there is the premise that there is already at least an initial concept that founders can present to interested companies. Otherwise, every idea could be classified as the beginning of the pre-founding phase.

In the context of this research the following definition of founding teams was used (Lechler and Gemünden 2002): *Start-up founding teams consist of at least 2 natural persons who intend to jointly found a start-up and thereby assume a significant share of equity capital and active management functions as well as bear the business risks.*

### *Cooperation of Startups and SME*

The primary goal in cooperation between companies is the increase in performance and improvement of the competitiveness of both parties (Benisch 1973). Cooperation goals are closely linked to cooperation motives and both are often not distinguished from each other in the literature (Becker et al. 2018, Wrobel et al. 2017). Access to resources and competences, which in turn serve the goal of generating competitive advantages, are also main motives (Gerybadze 2005). For such an exchange of resources, a complementary relationship between the partners is important. If cooperation partners can close each other's resource gaps, this is referred to as a closing-gap alliance (Porter and Fuller 1989).

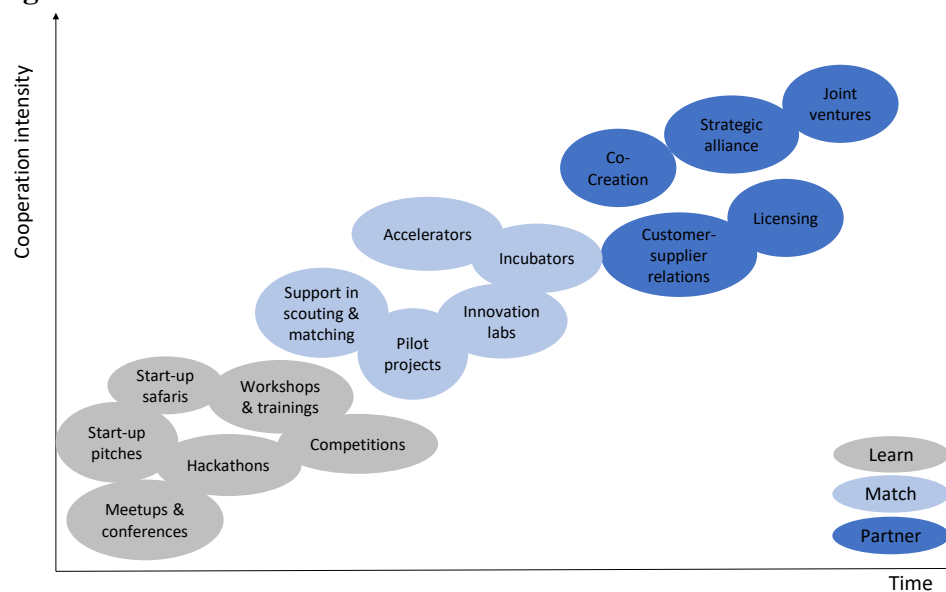
In the context of cooperation between start-ups and companies, numerous different goals can be distinguished on both sides. The cooperation aims to create advantages in that start-ups bring innovativeness and agility to the company, while the latter provides resources (Kuckertz 2017). It can be stated that cooperation on the part of the start-up is often seen as crucial for survival, while on the part of the company it is often merely carried out as a defense strategy (Becker et al. 2018, Kuckertz 2017).

A study by the Alexander Humboldt Institute for Internet and Society presents a systemization of collaboration models between start-ups and SMEs according to

the phases Learn, Match and Partner (Figure 3). The classification is based on the duration of the collaboration and the intensity of the cooperation.

In the Learn phase, the two parties get to know each other, and first contacts and short-term activities take place. In this phase, intermediaries are also active, connecting the two worlds. The aim is to develop understanding between the parties involved, recognizing differences in processes and mindsets. The Match phase includes aims to determine whether the two partners fit together. This takes place in the context of medium-term activities such as accelerators or incubator programs, innovation labs and pilot projects. In a best-case scenario, such a cooperation then moves on to the next phase, the Partner phase. This phase is characterized by medium- to long-term activities such as co-creation, joint ventures and strategic alliances (Wrobel et al. 2017).

**Figure 3.** *Learn-Match-Partner*



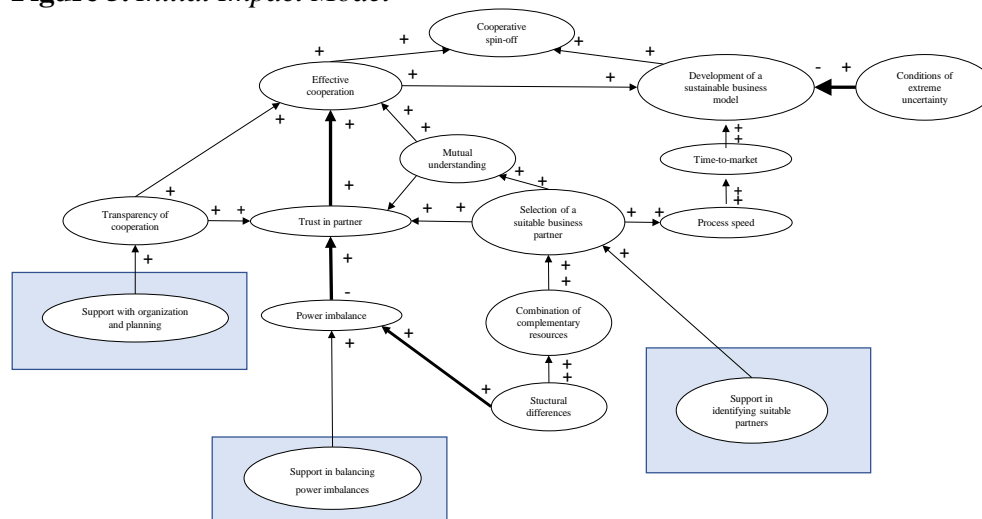
Source: Wrobel et al. 2017.

## Methodology

Current research shows various possibilities for Start-ups and SMEs to cooperate in order to maximize innovation potential (Wrobel et al. 2017, Becker et al. 2018). However, specific approaches for cooperation with early-stage start-ups are lacking, as well as support options for both parties through entities such as intermediaries. Given recommendation for improvement on cooperation are focused on an internal view of both parties, although external support options are seen as valuable. Questions remain on what areas need support and how a cooperation process looks like in this specific scenario.

Given the state-of-the-art insights on cooperation between established start-ups and SMEs, the initial situation is resembled in an initial reference model as seen in Figure 4. It explains how different factors have an influence on each other



**Figure 5. Initial Impact Model**

Source: Own illustration based on literature review.

Based on this model the following research questions were derived and hypotheses on the effects of the support are formulated.

**Research Question 1:** To what extent is there a need for support for cooperation in start-up teams and companies?

H1: Support in identifying suitable partners has a positive effect on the speed of the process.

H2: Support in identifying suitable partners has a positive effect on trust in the cooperation partner.

H3: Support in planning and organisation improves the transparency of the cooperation between the founding team and the SME.

H4: A mediator balances out power imbalances between the founding team and the SME.

**Research Question 2:** How can a cooperation process between start-up teams and SMEs with support possibilities in the individual phases be structured?

H5: Essential phases of the cooperation process are the selection of a suitable cooperation partner, the validation of the business model in the market and the subsequent evaluation regarding continuation.

This research is based on the Design Research Method (DRM) according to Lucienne Blessing and Amaresh Chakrabarti (Blessing and Chakrabarti 2009). A qualitative content analysis of interviews with start-up teams and SMEs was used to gain an understanding of the point of views of the cooperation partners with regard to cooperation, possible cooperation process and support needs, and to further develop the impact model. Eight start-up teams and three SMEs in diverse industries were included in this study. The evaluation was carried out by a

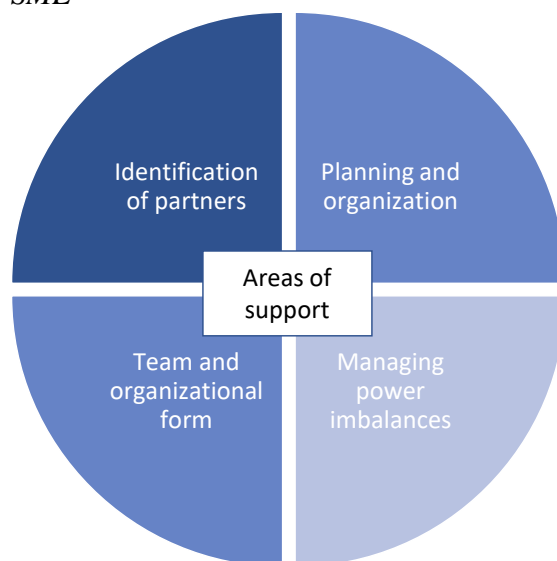


qualitative content analysis based on Mayring (2015). Based on the results a cooperation process with support possibilities was developed.

## Results

Four areas requiring support were identified: Support in identifying appropriate partners, planning and organisation of the cooperation, finding team and organisational form and balancing power imbalances (see Figure 6).

**Figure 6.** *Areas of Support in Cooperations between Early-Stage Start-Ups and SME*



Source: Own research.

### *Support in Identifying Appropriate Partners*

When identifying suitable partners, it becomes apparent that a distinction must be made between selecting suitable business and finding the appropriate contact within the chosen organization. Both are considered as challenging by the participating companies. Besides restrictions in time, companies also struggle due to reserved attitudes towards innovation and high-risk investments. Founders struggle finding appropriate contacts due to missing networks and cooperative formats, little interest from companies and niche positioning of their products. The speed of the start-up is reduced due to the necessary time investment in finding partners, which is why this form of cooperation appears unsuitable for some participating founders of this study.

Specific demand for support was expressed in shape of offering loose and open formats, access to networks, direct mediation and critical pre-screening of the idea by other parties. In addition, templates already exist within some departments to check fits with potential start-ups. Those could be used to increase results in other companies.

Based on these results neither H1 nor H2 can be falsified, however given the focus on time constraints it seems that H1 is a more important factor.

#### *Support in Planning and Organisation of the Cooperation*

On the founders' side, interest in support regarding a structured procedure was expressed in terms of ready-made contracts for this specific form of cooperation. In addition, a clear definition of the objective in advance was considered important, which could reduce concerns about the loss of the idea and degrees of freedom. Thus, support in this area also has an influence on trust in the cooperation partner. In addition, prefabricated processes were desired, which can give an outlook on a possible course. In this way, founders as well as companies are aware of the resource requirements and rough process in advance and can decide to what extent they are prepared to do so.

On the company side, ready-made contracts are often used, and entire departments are responsible for cooperation management. Here, too, the size of the companies under consideration must be taken into account: Based on these results, it cannot be concluded that this is the case in all companies and industries. Nevertheless, support from third parties, such as higher education institutions, was perceived as helpful. Based on these results H3 cannot be falsified.

#### *Support in Finding Team and Organisational Form*

In the early stages, the team itself is still developing. On the founders' side, one team with collaboration experience mentioned that finding the optimal team members and form of the founding team took a long time. Therefore, it was stated as important to find the common motivators of a team in advance, as well as support in team building and team sourcing. The aspect of team sourcing, in terms of adding another member to the team, was identified by another founder as an aspect that early support could improve. Consultation in terms of necessary managerial and technical knowledge to lead a start-up would have been helpful in order to determine missing skillsets of the founding team early on and therefore speeding up the process. The support of the founding team also seems to be viewed as positive by the companies, as it reduces the fear of lacking commitment from new founders.

#### *Support in Balancing-Out Power Imbalances*

There is interest in mediators; in the context of power imbalances, support from experienced founders seems to be preferred to reduce uncertainties.

However, when considering the mediator role, it becomes clear that mediators can provide support at numerous points and should not be reduced to their role in the power balance. A stronger differentiation of the individual tasks of a mediator role is necessary here. Based on the results, different tasks have been identified. A mediator could use them in the context of cooperation in the early phase:

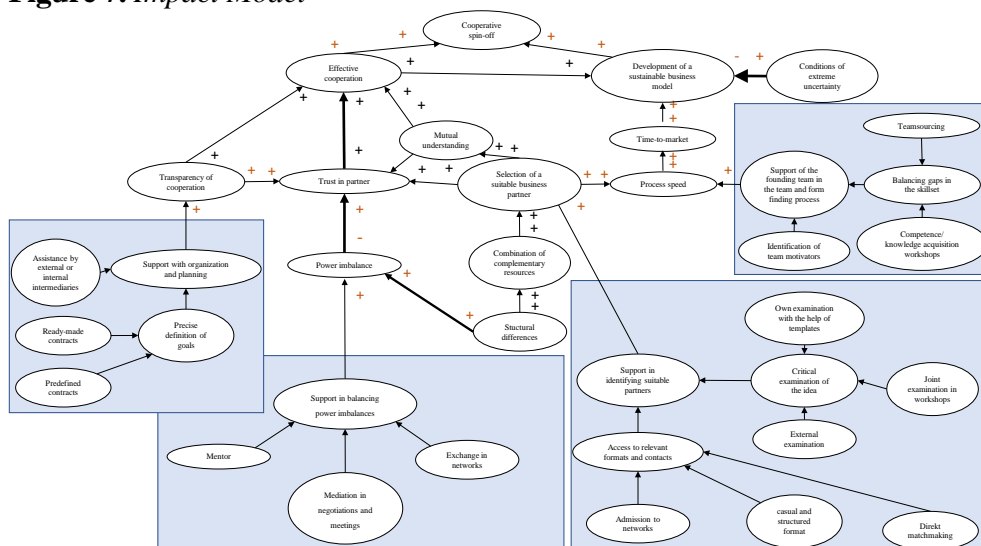
- Identification of suitable partners
- Challenging of the idea before contact initiation
- Initiation and maintenance of contacts: both for initial cooperation and for inclusion in the network
- Mediation in negotiations and meetings
- Conducting joint workshops
- Provision of material (term sheets, prefabricated processes)
- Consulting services: provide contacts for different areas of expertise such as law, taxes

The individual aspects listed so far cannot be conducted by a single person; a network of different actors is needed. If an institution can provide this network, it is also able to accompany the cooperation. However, this depends on the competencies and resources of the institution. Otherwise, it is possible to work with external partners to lead a cooperation. Therefore, a new hypothesis is as follows:

H6: A network of different individuals is necessary to support both founders and SMEs.

Based on these findings the impact model was expanded, including the different suggested support options, which are highlighted in blue in Figure 7.

**Figure 7. Impact Model**



Source: Own research.

### Phases of a Cooperation Process

The reported processes on the company side are arranged differently and proceed according to different milestones. Nevertheless, they follow the same pattern: search for and selection of cooperation partners, development of the form of cooperation, a pilot and finally the decision on the continuation of the

cooperation. Therefore, a further subdivision would be possible, hence the hypothesis is extended to include the development of the type of cooperation as an additional important phase:

H5: Essential phases of the cooperation process are the selection of a suitable cooperation partner, elaboration of the type of cooperation, validation of the business model in the market and the subsequent evaluation with regard to continuation.

Additionally to the results regarding the research questions, the following insights were gained:

*The main motives for cooperation on the company side in the early phase are access to talent and knowledge.*

Companies that work with start-up teams at an early stage are not primarily pursuing the goal of finding or developing a new business model. Thus, gaining competence in agile mindset and methods is one goal for participating in incubator programs. In addition, access to talent is just as important, on the one hand for acquiring talent, and on the other hand for networking for later collaborations. The further development of ideas to the point of participation is seen as a “bonus”.

*The need for support on the founder's side depends on character and experience.*

The experience with and interest in support options and intermediaries on the part of start-ups varies greatly. For example, some founders have had good experiences with mentors, others have not. Some founders prefer direct contact with the company, others prefer support from experienced founders. The choice of tools seems to depend on the character type and experience of the founder. There is no “one-fits-all” solution. Accordingly, when considering the individual support options as part of constructing a process, it is significant to offer a selection from which individual founding teams can choose the support they need.

*Experienced founders prefer building their own networks.*

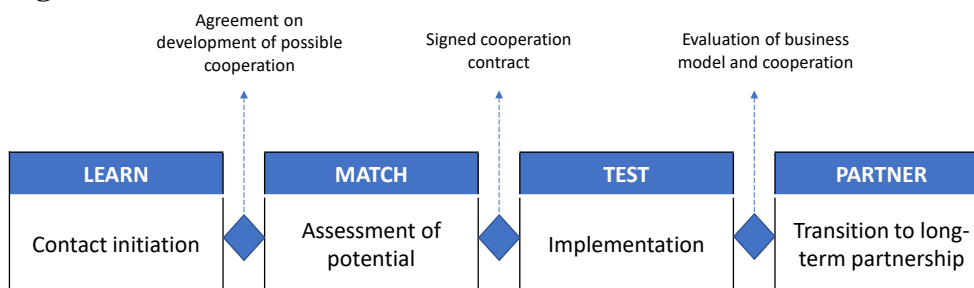
In this study, founders with experience gained from other start-ups or from working for accelerators and venture capitalists tended toward direct exchange with cooperation partners and building a network, and less toward an intermediary who establishes contacts. The role of an intermediary in the form of a person, is given less attention. Instead, in one case the establishment of advisory boards is preferred, which allows regular exchange with experts.

*People are at the centre of cooperation.*

Personal relationships and their impact on the success of a collaboration were discussed for both companies and founders. This refers not only to the collaboration between the start-up and the SME itself, but also to the relationship with a possible intermediary, with specialist departments within the company and with external consultants. The exchange in different networks between experienced founders, people interested in founding, companies and experts is accordingly seen as an important aspect. This both balances out uncertainties and forms new potentials through synergies. The early integration of departments into the process is also seen as a way of generating enthusiasm on both sides. This could be achieved, for example, through joint workshops in which specific aspects are developed together.

Based on the results, the following process model was developed, which is based on the Learn-Match-Partner Model as described in the literature review. Despite the sequential representation as a process model, this needs to be seen as an agile approach with iterative and incremental activities within the individual phases.

**Figure 8.** *Learn-Match-Test-Partner*



Source: Own research.

The developed process model as seen in Figure 8 is divided into four different phases:

1. Learn: In this phase, SMEs and founders get to know each other and learn about the respective problems and approaches to solving them. The aim is to establish contacts and get to know potential cooperation partners.
2. Match: This phase focuses on evaluating ideas and finding a suitable fit between the partners. In this phase it is determined whether the problem of the SME fits the solution of the founders. The focus here is on examining both the content and the cultural compatibility between parties.
3. Test: If there is compatibility between the SME and the start-up, a pilot project is launched. Prototypes are jointly developed and tested in the market. The phase ends with a joint evaluation of the business model and teamwork.
4. Partner: After evaluation of the first pilot, the two parties have numerous options for long-term cooperation.

At the end of each phase there are milestones which decide whether the joint work will be continued.

1<sup>st</sup> milestone: Consent to develop the form of cooperation

2<sup>nd</sup> milestone: Signed cooperation agreement

3<sup>rd</sup> milestone: Evaluation of the business model and the cooperation

The first phase of the cooperation is about establishing contact and getting to know the partners, the Learn phase. The aim of this phase is to find out whether there is serious interest in cooperation and a possible joint spin-off. In this phase, the problem or initial situation is analysed on the company side and the idea is developed on the start-up side and then both are brought together. The goal of the phase is to determine whether the idea and the solution are compatible and to decide whether there is serious interest in cooperation.

At the process level, both parties should therefore come together. Two different scenarios are possible in this regard: Either problems and solutions are developed separately and brought together (e.g., idea competitions, matching events) or the idea is already developed in cooperation (e.g., university projects).

For ideas that have been developed without the company, support is needed to find suitable cooperation partners. Loose formats for exchange can be offered, as well as structured formats in which a cooperation is accompanied by an intermediary role. In some cases, the idea itself already emerged in joint cooperation. In both cases, a pre-formulated process for the course of a cooperation with clear indications on duration and exchange of resources can bring transparency.

On the content level, problem and solution are considered, and a fit between the two is found (problem-solution fit). A critical preliminary examination of the idea before contact is established can help both founders and companies. To identify the problem-solution fit, templates and workshops are good tools. Such joint workshops could build trust between the parties early on. In addition, both parties get to know each other's way of thinking, from which benefits can be derived even if no fit is identified.

At the relationship level, there is a relaxed way of working together and getting to know each other. The focus is on building trust. This can be supported by facilitating intermediaries. The founding team itself can also be supported to identify common potentials, goals and knowledge gaps. If skills are lacking, workshops can be offered on the content level to compensate for the lack of knowledge. Contact persons for support at the content level (e.g., law, tax, marketing, sales) can also compensate for missing knowledge gaps.

During this phase, both parties should intensively discuss what their respective goals are in a cooperation and whether they derive mutual benefit from a cooperation. The goal of this phase is the decision to continue working together and the willingness to work out the concrete form. This can also take place in the context of agreeing to a process.

In the Match phase, the potentials of the cooperation are explored intensively in order to discover and use synergies together. In terms of content, the compatibility of the partners is examined on the one hand (partner fit) and the compatibility of the product on the other (product fit). However, the fit should not only be checked at a superior level, between the SME and the start-up, but also between the specialist department and the founding team. In this phase, the business model is also fine-tuned in order to test it in the later phase. To promote trust, the content-related aspects can be developed together in workshops to maintain interest and enthusiasm. Support that was already used in the Learn phase, such as the support of the founding team in the development of knowledge competence and team-building measures, can be further applied here. At the end of this phase, the decision is made to carry out a joint pilot project. Thus, the milestone is the signing of a cooperation agreement on the joint pilot. In particular, the objectives, rights and obligations of the parties and the duration are to be defined.

Within the Test phase, the product is tested in the market and the business model is validated accordingly (product-market fit). For this purpose, a prototype or MVP is first developed or the existing one is further developed. On the company side, the agreed resources are made available. The duration of this phase is defined in advance in the cooperation agreement so that a clear framework is created. At the end of this phase, the goals set in advance are used to evaluate the results and decide whether and how to continue. The pilot phase can be supported through exchange with the network. Mentors can also help to motivate and support the team on a regular basis (e.g., weekly).

The Partner phase is the goal of the process: a joint long-term cooperation. However, this can look different, which is why the concrete contents of the phase can differ greatly. Even if both partners agree at the beginning that they want a joint spin-off, this can change during the cooperation. The process ends at this point, as it transitions into a new type of collaboration. At the same time, all participants remain part of the network and can continue to exchange ideas at further events. Even if the cooperation ends, the network can still be used to continue the exchange in the future. At the content level, the market launch is now planned, and the concrete form of the cooperation is worked out.

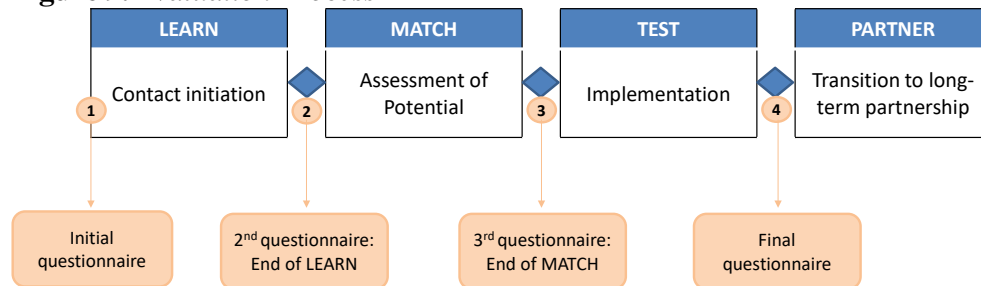
For evaluation purposes, it is suggested to use the process in the context of a cooperation initiation. By using the process model and the assistance mentioned above, participating SMEs and founders can provide further conclusions on the research topic. A purely theoretical evaluation within the framework of workshops would be another possibility, but deeper conclusions can be drawn through the actual use of the process, since the developed model and its support are actually used.

The aim of the evaluation is to find out whether the developed cooperation process supports cooperation between start-up teams and SMEs and to what extent the support options are seen as helpful. The Evaluation therefore focuses on the later. Furthermore, it evaluates to what extent the need for support is met by the provided assistance.

In order to be able to assess the development of the attitudes of the founding teams and SMEs over the course of the cooperation process, questionnaires will be made along the process. Figure 9 illustrates the process accordingly. Expectations and reflections can be mirrored through an initial and final questionnaire, as well as during the milestones.

A standardised questionnaire is recommended, which allows for partially open questions.

**Figure 9. Evaluation Process**



Source: Own illustration.

## Discussion and Limitations

The developed cooperation process can be used in the context of initiating contact between founding teams and SMEs to bring clarity into the process and thus accelerate it. The process was designed in such a way that it can be used both as part of institutional support and as an aid for unaccompanied cooperation.

In the survey of the companies, the different fits were mentioned as important points in the process and also as challenges. Here it could be investigated how strongly cooperation success is influenced by the different aspects. An evaluation of success factors in the selection of suitable partners has already been carried out in other fields.

The process can also be applied by adapting it to other departments and types of cooperation. The central point here is to define in advance what is to be achieved within the framework of the cooperation, from which the content-related aspects can be derived. In this way, the superordinate process according to Learn-Match-Test-Partner can be used to systematise the respective process and to identify own support possibilities in the process.

This type of cooperation is rarely encountered in practice. The majority of respondents had no experience of such cooperation. Therefore, no investigation could take place regarding specific success factors, as there was not enough information available. An explorative research approach was chosen, which by its nature is not suitable to falsify hypotheses that have been established, but rather to establish new hypotheses. In this respect, the reference and impact model can be seen as a collection of hypotheses that can and should be examined in greater depth in further research.

Reference and impact models are only able to represent the actual initial situation to a limited extent. It should be noted, for example, that there may be far



more interrelationships between the individual factors. The relationships in this model were raised to an abstract level and thus a focus was set.

## Conclusion

This research resulted in a cooperation process, which assigns the identified support possibilities to the individual phases. The process is divided into the four phases of Learn-Match-Test-Partner, during which the intensity of the cooperation increases.

Numerous support options for cooperation emerged from the analysis. For support in organization and planning, identification of suitable partners, aspects ranging from tools such as templates, access to networks to accompaniment of the process by external or internal facilitators were identified. To balance power imbalances, mentors, networks and moderation in meetings were added. In this context, the role of an intermediary can take on more tasks than mere mediation. The necessary qualities for this were also identified next to the need for support on the part of the founding teams in finding a team and form.

## References

- Becker W, Ulrich P, Botzkowski T, Fibitz A, Stradtman M (2018) *Kooperationen zwischen Mittelstand und Start-up-Unternehmen*. (Cooperation between medium-sized companies and start-ups). Management und Controlling im Mittelstand. Springer Gabler.
- Benisch W (1973) *Kooperationsfibel: Bundesrepublik und EWG*. (Cooperation guide: Federal Republic and EEC). 4th Edition. Heider.
- Blank SG, Dorf B (2012) *The startup owner's manual. The step-by-step guide for building a great company*. K & S Ranch.
- Blessing LTM, Chakrabarti A (2009) *Drm, a design research methodology*. Springer.
- Chesbrough HW (2003) The era of open innovation. *MIT Sloan Management Review* 44(3): 35–41.
- Engels B, Röhl K-H (2019) *Start-ups und Mittelstand. Potenziale und Herausforderungen von Kooperationen*. (Start-ups and medium-sized businesses. Potentials and challenges of cooperations). Forschungsberichte aus dem Institut der Deutschen Wirtschaft: Vol. 134. IW Medien.
- Freiling J, Harima J (2019) *Entrepreneurship. Gründung und Skalierung von Startups*. (Entrepreneurship. Creation and scaling of startups). Gabler Verlag.
- Gassmann O, Enkel E (2004) Towards a theory of open innovation: Three core process archetypes. In *R&D Management Conference (RADMA)*, Lissabon.
- Gerybadze A (2005) Management von Technologieallianzen und Kooperationen. (Management of technology alliances and cooperatives). In S Albers, O Gassmann (eds.), *Handbuch Technologie- und Innovationsmanagement. Strategie - Umsetzung – Controlling*, 155–174. Gabler Verlag.
- Geschka H (1993) *Wettbewerbsfaktor Zeit. Beschleunigung von Innovationsprozessen*. (Time as a competitive factor. Acceleration of innovation processes). Verl. Moderne Industrie.

- Gründerszene (2020) Deutsche Gründer- und Innovationsstudie 2020. Retrieved from: <https://bit.ly/3jRXX19>. [Accessed 22 August 2021]
- Jung V (2004) *Markteintrittsgestaltung neugegründeter Unternehmen. Situationsspezifische und erfolgsbezogene Analyse*. (Market entry design of start-up companies. Situation-specific and success-related analysis). University Dissertation. Zugl.: Karlsruhe. Informationstechnologie und Ökonomie: Vol. 26. Lang.
- Kollmann T, Jung PB, Kleine-Stegemann L, Atae J, Cruppe K de (2020) *Deutscher Startup Monitor 2020*. (German Startup Monitor 2020). Bundesverband Deutsche Startups e.V.
- Kuckertz A (2017) *Management: corporate entrepreneurship*. Lehrbuch. Springer Gabler.
- Lechler T, Gemünden HG (2002) *Gründerteams. Chancen und Risiken für den Unternehmenserfolg*. (Founder teams. Opportunities and risks for corporate success). DtA-Publikationen zu Gründung und Mittelstand. Physica-Verlag HD.
- Mayring P (2015) *Qualitative Inhaltsanalyse. Grundlagen und Techniken*. (Qualitative content analysis. Basics and techniques) (12., überarbeitete Auflage). Beltz Verlag.
- Porter ME, Fuller MB (1989) Koalitionen und globale Strategien. (Coalitions and global strategies). In ME Porter (ed.), *Globaler Wettbewerb. Strategien der neuen Internationalisierung*, 363–399. Gabler Verlag.
- Ries E (2011) *The lean startup. How today's entrepreneurs use continuous innovation to create radically successful businesses*. 1st Edition. Crown Business.
- Schumpeter JA (1926) *Theorie der wirtschaftlichen Entwicklung*. (Theory of economic development). 2. Aufl.. Duncker & Humblot.
- Thom N (1980) *Grundlagen des betrieblichen Innovationsmanagements*. (Basics of operational innovation management) (2., völlig neu bearbeitete Auflage). Hanstein.
- Tsifidaris M (1994) *Management der Innovation. Pragmatische Konzepte zur Zukunftssicherung des Unternehmens*. (Managing innovation. pragmatic concepts to secure the future of the company). Praxiswissen Wirtschaft: Vol. 17. Expert-Verl.
- Vahs D, Brem A (2015) *Innovationsmanagement. Von der Idee zur erfolgreichen Vermarktung*. (Innovation management. From the idea to successful marketing) (5., überarbeitete Auflage). Schäffer-Poeschel Verlag.
- Wallisch M, Hemeda A (2018) *Mittelstand meets Startups 2018. Potenziale der Zusammenarbeit*. (Medium-sized companies meet startups 2018. Potentials of cooperation). RKW Kompetenzzentrum.
- Wrobel M, Schildhauer T, Preiß K (2017) *Kooperationen zwischen Startups und Mittelstand. Learn.Match.Partner*. (Cooperations between startups and medium-sized businesses. Learn.Match.Partner.). Alexander von Humboldt Institut für Internet; Spielfeld Digital Hub.

