# THE BEST OF BOTH WORLDS Six different types of corporate-start-up collaboration

Alexander Nicolai, Heike M. Hölzner und Martin Wrobel

Issue 1/ 2023 Sirius Minds "Cases and Insights"



#### Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Schriftenreihe in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über http://dnb.d-nb.de abrufbar.

© 2023 Sirius Minds GmbH, Oldenburg Lektorat und Korrektorat: Sirius Minds GmbH

Die Schriftenreihe, einschließlich der Beiträge, ist urheberrechtlich geschützt. Jede Verwertung außerhalb der engen Grenzen des Urheberrechtsgesetzes ist ohne Zustimmung des Verlages und der Autoren unzulässig. Dies gilt insbesondere für die elektronische oder sonstige Vervielfältigung, Übersetzung, Verbreitung und öffentliche Zugänglichmachung.

Die Wiedergabe von Gebrauchsnamen, Handelsnamen, Warenbezeichnungen usw. in den Beiträgen dieser Schriftenreihe berechtigt auch ohne besondere Kennzeichnung nicht zur Annahme, dass solche Namen im Sinne der Warenzeichen- und Markenschutz-Gesetzgebung als frei zu betrachten wären und daher von jedermann benutzt werden dürften.

Eine frühere Version dieses Papers wurde auf dem G-Forum 2022 präsentiert.

Sirius Minds "Cases and Insights" Discussion Paper ISSN (Online) 2625-7300

#### Impressum:

Sirius Minds GmbH An-Institut der Carl-von-Ossietzky Universität Oldenburg Haarenufer 14, 26122 Oldenburg Weitere Standorte: Ammerländer Heerstraße 138, 26129 Oldenburg Französische Strasse 12, 10117 Berlin

Telefon: +49 (0) 441 – 559 701 102 Fax: +49 (0) 441 – 559 701 109 E-Mail: info@sirius-minds.com

HRB 202144 Oldenburg (Oldenburg)

Wissenschaftliche Leitung: Prof. Dr. Alexander Nicolai, Prof. Dr. Heike Hölzner Geschäftsführung: Tom Becker www.sirius-minds.com

# The best of both worlds: six different types of corporate-startup collaboration

Alexander Nicolai, Heike M. Hölzner und Martin Wrobel

#### Abstract

Established organizations are increasingly cooperating with start-ups. The goal is to combine the experience and the resources of an established organization with the innovative spirit of the newcomers. The hope is to get the best of both worlds. In this paper, we argue that the success of such collaborations depends on images of start-ups underpinning them. Our thinking about organizations is driven by metaphors, both implicitly and explicitly. The type of collaboration depends on what an established organization sees in a start-up. Our research shows that a company-start-up-collaboration is often guided by one of the following images: Muse, financial investment, second foothold, development partner, organ donor, and game changer. Each image has it's own pros and cons.

**Keywords**: Start-up, established organization, corporate-start-up collaboration, corporate innovation, mindset

#### 1. Introduction

Across the world, established companies are engaging in start-up collaborations. The number of digital labs, incubators and accelerators set up for this purpose has been growing for about ten years. This development is closely related to the challenges of digitalization facing companies in a range of industries. Start-ups are often viewed as drivers of the digital transformation; therefore, it seems obvious to seek cooperation with these newcomers rather than confrontation. With this in mind, smaller companies and owner-managed businesses are now also looking closely at start-ups and experimenting with various cooperation models.

However, no recognized model for success has yet emerged. In fact, the euphoria surrounding start-up initiatives is slowly subsiding. On one hand, the high expectations companies initially usually have, especially regarding innovation output, are often not met. On the other hand, founders also occasionally report sobering collaboration experiences. In the debate about start-up collaborations, it is often overlooked that the success of the collaborations also depends on the images companies have in mind when they talk about start-ups.

In this paper, we conducted interviews with U.S. and German companies and analyzed the business press (for details see Appendix I) to develop a typology of start-up images that are prevalent among established companies. In doing so, we want to direct attention to the different levels at which companies and start-ups are now cooperating and discuss what comes into focus and what might be easily overlooked in each perspective.

## 2. A blurry image of start-ups: "Start-ups are cool!"

Even when the managers we talked to used similar terms to describe their experiences with start-ups, they often meant very different things by them. Indeed, they often pointed out that their company had very vague expectations and entered into start-up collaborations because they are "hip." Some of the managers admitted quite openly, "it's just fancy to have an incubator" or "start-ups are very sexy". Hence, when a company decides to cooperate with a start-up, there is not always a clearly formulated strategy. This was true even for one globally active auditing company:

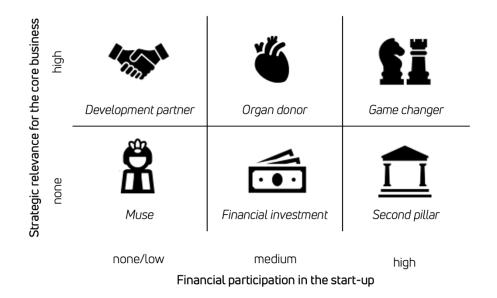
"I think for us in the U.S., the reason we engage with [a start-up-accelerator], to begin with, is not because we had this really well thought out strategy that says this is what we want to get out of it and we think this is the best way to achieve that objective. Somebody was like 'Start-ups are cool!' We should totally work with start-ups. Hey, who could we work with?"

It is hence not surprising that start-ups encounter often ill-defined expectations when they want to cooperate with established companies. "We have already come across some medium-sized companies that really say "'I don't know, it's a colorful field, show us something'" said a start-up manager. According to the manager of a medium-sized bank, this also applied to his larger competitor. "And then there are a lot of people who just put these buzzwords front and center but don't actually know what they want to achieve with them". When a company holds events with start-ups, it's not always clear for what purpose. So, one start-up had to ask the company partner first: "Why do you want a hackathon? Do you want to meet start-ups? Do you want ideas? Do you want ready-made logarithms?" Likewise, a prosthetics company that entered a collaboration with a start-up did not initially have clear expectations but at least explicitly addressed this in a collaboration agreement with the start-up. The goal was to find a goal.

Often, the understandings of what established companies hoped to gain from collaborating with start-ups remain implicit. Yet, these implicit assumptions can be translated into images by analyzing the statements made by managers talking about start-ups and joint projects with them. By applying the above-described empirical method, we identified six such images.

Figure 1 shows how the different perspectives on start-ups can be categorized. The metaphors are sorted according to two dimensions. One central dimension concerns the extent of financial participation that established companies envisioned. This could range from no involvement at all to a complete acquisition of all the start-up's shares. The other dimension is the strategic relevance that a start-up may have for the established company's core business. The relevant issue here is the potential of a start-up collaboration to fundamentally transform the core business.

#### Figure 1: Images of start-ups from a corporate perspective



What is particularly interesting is that, within a company, managers from different departments often have widely divergent images of start-ups, which leads to conflicts. In addition, perspectives typically change over time. This is especially true when a company begins to gain its own experience with start-up collaborations. In the following, we discuss the six different images of start-ups.

## 3. Images of Start-ups

## 3.1 Muse: " ... understand the way the wind is blowing"

If an established company regards a new start-up as its "muse," it seeks collaboration for two reasons. On the one hand, it wants to use the start-up as a kind of adornment, and on the other hand, it hopes to gain inspiration from it.

Some of our interviewees stated that their company was cooperating with start-ups to improve its image. It is a "brand perception chance" as a manager of an auditing company put. To be able to present itself in the media as a modern and attractive employer is another motive. A bank manager told us, that this was initially an important goal: "this will get me into the press, we need a start-up cooperation, we need a fintech cooperation".

However, many companies don't just want to use start-ups as a form of adornment; they also want to keep their finger on the pulse of the start-up scene. They hope this will provide them with inspiration for new products and services. As a manager at a consumer goods company reported, "Each time we meet it can spark different ideas, and the breadth of innovation we come across as a global team is amazing." A manager and start-up-competition organizer reported: "The winners that emerged from the weekend presented great ideas that will help us stay on the cutting-edge of client services". Start-ups, it was thought, would also inspire people

to work more "agilely" or to organize offices more creatively ("transform our workspaces") "including the surprising benefits of ping-pong" as a manager of a telecommunications company pointed out.

When a company is guided by the image of the start-up as a muse, it does not enter a closer business relationship. It aims to establish lower-threshold collaboration formats, such as founder awards, start-up weekends or pitch nights. Even organizing a learning trip to Silicon Valley or Tel Aviv may be enough. The manager of an auditing company focused on this type of collaboration: "Networking, meetups, all that kind of stuff, with the objective to getting to the intelligence piece of looking on what's happening so we can help our clients understand the way the wind is blowing".

But even if a company engages in more elaborate collaboration strategies, it may not recognize a start-up as much more than a muse. Off the record, some companies admitted that their venture capital initiative would not necessarily translate into investment. What is relevant, however, are the pitch decks and business plans start-ups regularly submit. The continuous stream of new business ideas is a valuable source of inspiration that helps overcome tunnel vision and enables established companies to view their own business from a completely new perspective. Companies justified their involvement in start-up financing in a similar way. For some companies that had invested in Europe's largest seed capital fund, High-Tech-Gründerfonds (HTGF), the direct insights into the start-up scene were more important than the expectations of returns. One of them stated ."What is very, very important for us is deal flow. We look very closely at the deal flow. We do that very intensively."

The start-up as a muse comes with little risk for a company. However, collaboration models that are guided by this image also have little chance of decisively driving corporate change—they often remain superficial. This is all the more true since the growing number of start-up initiatives is making it more difficult to get to the really interesting start-ups. After all, as a muse, the value of the start-up is limited. What's more, there is a risk of losing speed through such collaborations. The short time-to-market with which start-ups bring their developments and new business models to market compared to established companies is one of their greatest strengths. Attending countless pitch events and board presentations that do not lead to a concrete result drains valuable resources that could otherwise be used for implementation. Excellent start-ups know this, and therefore generally do not get sucked into "innovation theater."

## 3.2 Financial investment: "Just make money."

For other companies, start-ups are a "financial investment." Start-ups represent an alternative investment option. A company or its owners acquire shares in a start-up with the intention of reselling them later. The primary goal is to generate an above-average return.

This perspective is typical for medium-sized companies that invest in start-ups via a family office. The investment is then an asset management concern. Large corporations also look at start-ups from this perspective. One manager of a networking equipment company said to us very clearly: "So the reason to make an investment, is just to make money ". Overall, we found few indications that start-ups played a role as financial investments in our analysis of press releases. Yet, in our personal talks this motive was mentioned. This suggests that the goal of earning returns was apparently unofficially acknowledged but not publicly announced in the press. But there is another interesting effect behind this observation. Companies willing to enter collaborations rarely view start-ups purely as financial investments from the outset. It is only when the original strategic expectations are not fulfilled, and the internal corporate pressure increases that managers begin to look at start-ups through a return-on-investment lens. Some corporate venture capital units we examined moved in this direction and came to focus more and more on the idea of the start-up as a financial investment.

Whether established companies can conduct the difficult business of venture capital more successfully than companies specializing might be questionable. In the start-up scene, corporate venture capital is considered slow. This is a disadvantage in further financing rounds and quickly deters other professional venture capitalists. Start-ups that bring in a strategic investor should take this into account when weighing their financing decisions. If the strategic added value is not clear, they may quickly be suspected of not having found a better investor.

#### 3.3 Second foothold: "Pulling money out to invest elsewhere."

A company that is looking for a second (or third, or fourth) foothold is seeking to complement or substitute for its core business and not transform it. In particular, companies that view themselves as threatened by digital technologies look at start-ups in this way. As their existing business approaches the end of its lifecycle, they expect the newly acquired digital business to grow to a similar extent. In such cases, companies therefore aim to fully take over the start-up in the long term or at least acquire a majority stake in it. For example, an automotive company is aiming to earn a "significant double-digit" share of its revenue from digital products and services, and with this in mind, a manager says, it "is possible we will invest in start-ups."

The managers of an OEM in a mature industry asked himself: "Do I let this company just decline and then just pull my investment out and invest some place else? Or do I want this company to change?" If a company opts for the former strategy, it may become interested in start-ups as a second foothold.

The logic and often also the metaphor of this perspective centers on risk diversification and the modernization of the company's own portfolio, as already recommended by the strategy matrices of the 1960s and '70s. The "cash cow" of the existing business is in its maturity phase and will not represent a viable future revenue stream. Today, however, it is generating enough cash-flow to finance a new start-up "star."

Strategic interdependencies between the start-up and established company are secondary in such cases. Indeed, it is much more important to ensure that the technological and social forces eroding the existing business fuel the start-up's growth. Over the past two decades, for example, many media companies have invested in start-ups with the intention of digitally modernizing their corporate portfolios. What has emerged in this process is that while most larger media companies operate their own investment funds, the instances in which they interweave their core business models with those of the acquired start-ups are surprisingly rare.

Exploiting existing capabilities while exploring new opportunities is considered one of the toughest managerial challenges. With the start-up as a revenue stream, these tasks are split into two separate parts of the company. Exploration takes place primarily outside the existing business, and no fundamental change is expected from the core organization. According to the manager of a networking company this is a realistic perspective: "Very few companies change, it's almost impossible.

For the transition phase, this harbors the risk of conflicts between the different parts of the company. After all, the existing business still must generate the revenues for the risky start-up. There is also the risk of a self-fulfilling prophecy. The existing business may be regarded as a discontinued model, with all innovation efforts being concentrated on the new "star." Any innovative idea that may still exist in the existing business may thus be quickly stifled. However, a start-up acquired as a second foothold also has a major advantage: It typically enjoys a relatively large amount of entrepreneurial freedom because there is no need to integrate it firmly into the parent organization.

## 3.4 Development partner: "Just work together."

Very often, managers also see start-ups as a "development partner" in the industrial value chain. A classic example is the start-up as a supplier of digital technologies, be they software or hardware. As one interviewee from a start-up reported, "We met one [prosthesis manufacturer] representative totally by chance [... And then we decided to have this customer-supplier relationship". From this point of view, it's about combining the strengths of incumbents and start-ups, creating a "win-win situation for the duo" as one bank manager put it.

Yet, start-ups do not always deliver clearly defined products. It is often necessary to transfer expertise. So for one of the managers, we talked to, learning was the main goal:

"I believe that for a large number of projects, at least for an initial phase when you want to validate certain hypotheses, there are enough start-ups that you can collaborate with to learn quickly. And that's what it is all about for a lot of mid-sized companies: Learning fast."

Technological knowledge is also at the forefront of a partnership in the automotive industry. The manager of this partnership told us: "Our work with start-ups helps us stay at the forefront of emerging technologies and potentially validate them for automotive applications".

Knowledge gaps particularly arise when digital technologies dissolve traditional industry boundaries. Established companies must therefore acquire competencies that lie beyond their traditional focus. Development partnerships with start-ups are intended to ensure this. As the innovation manager at an international cosmetics group reported:

"It's not just a lipstick, it's lipstick with smart packaging. Or not just a cleansing device connected to WiFi that informs you on a new beauty routine. There's a merging of all these different things and it's not just one field anymore. You know there's a hardware component, a software component, it's so many different things bonding together – and that's where start-ups actually excel at, operating at these intersections, as opposed to the narrow focus". One major consulting firm turned to start-ups for a similar reason. The classic consultancy realized that it's service offering was incomplete and that needed to offer its clients software tools:

"We needed tools.... So we went looking for tool companies. And then we found them. Developed those relationships, and in some cases we acquired them, they became part of us. In other cases, we just worked together".

As a collaboration partner or supplier an inexperienced start-up is subject to a risk of failure. Yet, a founding team is typically highly motivated, especially because a reference customer is important for the start-up's reputation:

"They are almost like consultants to the project. But then they get to list our company as a client. So it kind of helps them as well. And of course they get paid nicely for that..... And we found that to be very effective."

Established companies appreciate that start-ups are experimenting with the latest technologies and want to benefit from their digital expertise. At the same time, having an established company as a client is a top priority for the start-up. Founders are nimble and usually respond very quickly to their individual clients' requirements. The manager of a machine building company had very good experiences with a start-ups as a development partner: "This cooperation with start-ups went very, very positively, all in all, because we had a very fast exchange of communication there, they reacted much faster to our needs".

# 3.5 Organ donors: "Buying a piece of technology."

If an established company regards a start-up as an "organ donor," it is only interested in certain key resources possessed by the start-up but not in the company as a whole. The following scenario is typical: A company acquires a start-up and only decides to integrate its technological core into its own products or production processes. For example, the manager of a software company explained to us: "Almost all the technologies are built by start-ups which we work closely with as we bring these inventions to life inside large companies".

This effectively amounts to a technology donation; the team and the organizational shell of the start-up are not relevant and are dissolved. For example, the manager of a consumer goods company we interviewed sees start-ups as a source of technology:

"There could be an innovative start-up, so somebody developing a new type of substrate that exceeds paper, spider silk or something, something very cool like that. That's not something our company would ever do in-house. It's not something they have the capability to do."

However, an acquisition can only be made if a specific division within the consumer goods company wishes to adopt the technology. "So a technology kind of needs a home before the company will make an investment in the technology." Likewise, in the agricultural technology sector, service providers primarily look at the intellectual property of start-up according to a manager of an industrial services company. In service sector areas such as management or IT consulting, technological "organ donations" are less relevant, as a financial services manage noted: "I think there are other industries or other companies in the U.S. where that is actually more of a focus, because they can buy a piece of technology that is complementary to their existing portfolio." We found the opposite pattern among service companies but also among manufacturers. Here, start-ups are seen as a source of skilled personnel that a company can recruit in the traditional way or acquire by buying a start-up ("acquihiring"). For instance, a manager at an automotive manufacturer formulated his expectations for collaborations as follows: "A fresh influx of top talent will open up new ways of creating the future of mobility". In a broader context, a recruitment company is pursuing a similar goal; it "seeks to utilize the ecosystem of start-ups, universities, and other partners wherever possible. Our location allows us to capture world-class talent and leverage the Silicon Valley community".

Whether an established company wants to acquire the technology or the team, in either case it must first carefully consider whether one can work without the other.

## 3.6 Game changers: "Stepping into a new world."

A company will have particularly high expectations of a start-up if it believes it is a "game changer." The aim is typically to integrate such game-changer start-ups fully into the company and help to revolutionize or digitally transform the existing business. The ideal game changer is a takeover candidate from the existing company's industry with an innovative business model that is perceived as "disruptive" for the company's existing business.

The financial industry is, for example, facing disruptive changes from fintech start-ups. In this vein, one bank we looked at wanted to demonstrate its "ability to accelerate its digital transformation through efficient open innovation and start-up cooperation initiatives". Likewise, an insurance company intended "to invest in unique and innovative start-ups that look to disrupt the future of insurance". The human resources industry is also undergoing a fundamental change. We talked to one company in this sector which has invested in human resource start-ups through its investment fund. The ambitious goal of these investments is "to guide" the company's "digital transformation".

Digital companies such as Alphabet/Google have demonstrated how start-up acquisitions can advance their own business models. For instance, Google acquired "Where 2 Technologies" to add the "Google Maps" function to its search engine. This strategic move later enabled the company to enter completely new markets. Some of our interview partners stated that they could also imagine buying a start-up to revolutionize their own business models. For the manager of an auditing company, for example, a start-up "that was automating the tax process" would be a game changer.

But in general, our interviewees from the traditional industries were skeptical: "I don't think [...] that you can somehow, possibly, by buying a start-up, step into the new world" said the manager of a production company. Even if they could find a game changer and it was for sale, the problem of integration would remain: "I think there's a bit of a cultural clash" added the manager of the afore mentioned auditing company. This particularly applied to companies that had little

experience with digital innovations: "professional services firm clashes a little bit more than, say, a company that already has a lot of technology in place".

Thus, many of the entrepreneurs and managers we interviewed believed that start-ups can be game changers but only in rare cases.

# 4. Conclusion

The initial euphoria around start-up collaborations is gradually fading. This seems to be related to the fact that many companies have jumped on a trend without knowing exactly what they can expect from collaborating with the newly founded companies. Our study has highlighted how diffuse the expectations of many managers and entrepreneurs are when they start wanting to cooperate with start-ups. The typology proposed here helps us to understand the expectations quickly and intuitively. Comparing the images of start-ups in this way is an important prerequisite for a successful collaboration between an established company and a start-up.

The same applies internally within the organization. Start-up initiatives quickly come under pressure to justify themselves within established companies. Managers should therefore find out what start-up images are prevalent in other parts of the organization at an early stage so that they can address the associated expectations directly.

No single start-up image identified in our research is right or wrong in and of itself. But every metaphor has its blind spots. When a company looks at a start-up through the lens of a particular metaphor, this determines which potential benefits and collaboration models it discovers and which it does not. Table 1 lists some examples of what can be easily seen or overlooked from each perspective. The images presented here allow for a quick shift in perspective and thus open up people's viewpoints to the diversity of opportunities and risks inherent in working with start-ups.

The six start-up types we found in our data all have positive connotations. This is a limitation in the data used in our study, which consists of pre-selected interview partners and public communication in press releases. The start-up image painted by the media is often colored with optimism. Heroic founder personalities, ingenious technologies, or the phenomenal growth rates of Uber, Slack, or ChatGPT dominate the coverage. These images are powerful, but it is all too easy to forget that the few successes are offset by countless failures. By their very nature, highly innovative start-ups often fail. So, despite all the preconceived notions about start-ups in general, it is important to focus on the individual cases. Established companies need to filter out the few start-ups that solve a real customer problem with a strong management team from the mass of hip also-rans. Only with such start-ups can cooperation lead to success.

# Table I. Metaphor foci and blind spots

|                         | What comes into focus                                                                                                                                                               | What is easily overlooked                                                                                                                                                                  |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Muse                    | <ul> <li>Start-up contact easily available</li> <li>Own perceptual blinders</li> <li>Chance of improving image</li> </ul>                                                           | <ul> <li>Innovation impetus remains superficial</li> <li>Inflationary number of startup initiatives</li> <li>Short-term effect</li> </ul>                                                  |
| Financial<br>investment | <ul> <li>Entrepreneurial investment option</li> <li>Passing on entrepreneurial experi-<br/>ence</li> <li>Easy exit from the cooperation</li> </ul>                                  | <ul> <li>Effort of screening &amp; professional investment management</li> <li>Necessary investment expertise</li> <li>Risky investment</li> <li>Need for follow-on financing</li> </ul>   |
| Second foot-<br>hold    | <ul> <li>Outsourcing the "disruptive"<br/>change</li> <li>Financial resources balancing in<br/>the portfolio</li> <li>Acquired startup has entrepre-<br/>neurial freedom</li> </ul> | <ul> <li>Synergies with existing business</li> <li>Possible loss of the "startup spirit"</li> <li>Innovation brake for the existing<br/>business</li> </ul>                                |
| Development<br>partner  | <ul> <li>Complementary startup competencies</li> <li>Potential for learning on both sides</li> <li>Low financial risk</li> </ul>                                                    | <ul> <li>Startup partner has little experience</li> <li>Expertise drain</li> <li>Partnership may only be short term</li> </ul>                                                             |
| Organ donor             | <ul> <li>Growth of existing business</li> <li>New technologies</li> <li>Founders as a talent pool</li> </ul>                                                                        | <ul> <li>Interdependencies in team &amp; tech-<br/>nology</li> <li>Continuous further development of<br/>technologies</li> <li>"Immune response" by the parent<br/>organization</li> </ul> |
| Game changer            | <ul> <li>Opportunities for profound change</li> <li>Synergies and scaling</li> </ul>                                                                                                | <ul> <li>Game changers are few and far be-<br/>tween</li> <li>Integration is difficult</li> </ul>                                                                                          |

#### 5. Literature

- A. Steiber, and S. Alänge, "Corporate-startup collaboration: effects on large firms' business transformation," European Journal of Innovation Management, ahead-of-print, https://doi.org/10.1108/EJIM-10-2019-0312 2021;
- F. Heinemann, "Corporate accelerators: A study on prevalence, sponsorship, and strategy" Boston USA: Diss. Massachusetts Institute of Technology, 2015;
- T. Weiblen, and H.W. Chesbrough, "Engaging with startups to enhance corporate innovation", California Management Review, 57/2 (February 2015): 66–90.
- C.A. O'Reilly III and M. L. Tushmann, "The Ambedextrous Organization." Harvard Business Review, 82/4, (April 2004): 75.
- C.M. Christensen, M. Raynor, and R. McDonald, "What is disruptive Innovation?", Harvard Business Review, 93/12 (December 2015): 44–53.
- F. H. Gerpott and A. Kieser, "It's not charisma that makes extraordinarily successful entrepreneurs, but extraordinary success that makes entrepreneurs Charismatic." Managementforschung, 27/1 (September 2017): 147–166;
- G. Morgan, Images of organization. California, USA: SAGE Publications, 1986.
- Geyer, A. & Heimer, T. (2010). Evaluierung des High-Tech Gründerfonds Studie im Auftrag des Bundesministeriums für Wirtschaft und Technologie, Technopolis (translated).
- H. Hölzner, "Auf Augenhöhe Kooperation zwischen Startups und mittelständischen Unternehmen" Impulse für Digitale Lösungen, Berlin, Germany: BWV Berliner Wissenschafts-Verlag, 2018, 25–34
- Hölzner (2018), op. cit.; Wrobel et al. (2017), op. cit.; M. Wrobel and A. Nicolai, "Digitale Innovationen im Mittelstand – Fallbeispiele erfolgreicher Digitalisierungsprojekte," Berlin, Germany: Alexander von Humboldt Institut für Internet und Gesellschaft, 2019.
- M. Wrobel, T. Schildhauer and K. Preiß, "Kooperationen zwischen Startups und Mittelstand. Learn. Match. Partner." Berlin, Germany: Alexander von Humboldt Instituts für Internet und Gesellschaft, 2017.
- M.B. Miles and A. M. Huberman, "Qualitative Data Analysis. An Expanded Sourcebook." USA: SAGE Publications, 1994.

#### 6. Appendix I: How we found the six images

To address this paper's exploratory research question, we chose qualitative text analysis as the empirical approach. In a first step, we conducted semi-structured pilot interviews, mostly onsite, with ten managers of U.S. and German companies who had experience with start-up collaborations. The interviews were transcribed. We marked passages in the transcripts that contained direct or indirect references to specific images of start-ups. The transcripts were supplemented with interview material from existing preliminary studies. In an iterative process of category building, we identified typical patterns of start-up collaboration in the material.

In a second step, we derived keywords from the categories, searched the Meltwater media database for citations on the topic, and extracted excerpts. We created an English- and a Germanlanguage search pattern, which searched U.S. and German online media sources. Using Boolean operators, we created a search pattern that specifically related certain word combinations to each other in order to achieve the highest possible quality search hits. In addition, in both countries, we only searched the media sources with the widest reach. This resulted in a total of 1,303 search hits in the period from January 1, 2017, to December 31, 2017, which we subsequently reviewed manually. In line with the exploratory research question, we did not aim for a representative sample but tried to capture as wide a range of start-up perspectives as possible.

After removing irrelevant entries, two independent coders finally assigned the excerpts to the previously developed categories. In the process, the coders kept two levels in mind. First, there is the level of explicit expectations: What are the perceived benefits of the start-up collaboration for respondents? On the other hand, there is the metaphorical level: What linguistic indicators indirectly provide information about what interviewees think a start-up essentially is? Occasionally, coders found different aspects of a start-up collaboration that could fall into two different categories. In such cases, the excerpt was divided into two passages. The goal of the second step was not to quantitatively analyze the material but rather to identify the typical perspectives and patterns of argumentation associated with the respective start-up perspective.

#### Contact:

Sirius Minds GmbH

Ammerländer Heerstraße 138, 26129 Oldenburg Telefon: +49 (0) 441 – 559 701 102 Fax: +49 (0) 441 – 559 701 109

Französische Strasse 12, 10117 Berlin Tel. +49 30 28 42 91 48

E-Mail: info@sirius-minds.com

www.sirius-minds.com