

WORKING PAPER

Corporate Venturing Navigator
Evaluation along case studies

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Research Summary: In this paper, I evaluate the self-developed *Corporate Venturing Navigator* (CVN) and its two artefacts, the CVN-Framework and the CVN-Cockpit, by putting the CVN under the microscope in practice. I assess the CVN with practice partners to validate the identified current problem with CV programs, the CVN phases and element characteristics and dynamics that were developed and the CVN's usability, as well as to consider additional input. The goal is to gain further scientific insight into the creation and operation of corporate venturing with a focus on capturing and measuring value. The results reflect additional expertise in optimizing CV investments, further justifying their existence and usefulness.

Managerial Summary: What is the best way to implement and operate a CVN program in practice, while justifying the investment for the parent company? I evaluate the self-developed CVN in practice by assessing the application of the CVN-Framework and CVN value measurement throughout the process. The goal of this CVN evaluation is to confirm the relevance and applicability of the created artefacts in practice with a focus on better illustrating the benefits of implementing a CV program for the parent firm. I also intend to deepen and broaden the CVN with additional practical insights by leveraging academic research to improve its practical application.

Keywords: corporate venturing; design science research; behavioural theory of the firm; problemistic search; Corporate Venturing Navigator (CVN) Framework; CVN return-on-innovation

Introduction

To synthesize Paper II, the Corporate Venturing Navigator (CVN) concept is translated into practice and validated through an evaluation study. The theoretical CVN concept was designed to be applicable to future CV investment optimization of all kinds, especially the strategically oriented ones. The CVN aims to provide an easy-to-use tool that can be used to achieve expected CV investment performance and growth, thus making a positive contribution to a company's innovation strategy to become competitive and to secure its existence in the long term. The CVN, which was designed in *Paper II*, consists of two artefacts: the CVN-Framework and the CVN-Cockpit. The former artefact, the framework concept, aims to establish a comprehensive and coherent tool to best set-up, manage and close a CV activity while demonstrating the underlying mechanisms and dynamics of the overall CV investment lifecycle. The latter, the cockpit concept, aims to extract and evaluate the value of either the overall CV investments or an individual start-up investment or collaboration at any given time. The decoding of CV returns on innovation has been called for by various scholars and practitioners in the past (Napp and Minshall, 2011; Chiang, 2018). CV investments up to and including today have low performance rates (Hill & Birkinshaw, 2014) that have put CV programs at risks as low survival rates are present. Difficulties in seizing strategic returns on innovation, besides the financial ones, have been highlighted (Chiang, 2018). Corporations have invested great amounts of money in CV activities, but as emphasized by Allen and Helvert (2007) and their fellows, there is doubt about the creation of economic value for the investing corporation overall (Allen and Helvert, 2007; Huang and Madhavan, 2020). This reality can be attributed to corporations' missing capability and means to properly set-up and run CV investments as a proper framework with guidelines is missing.

Furthermore, corporations are currently unable to properly understand or state where value through CV investment is created or how it can be properly measured. Up to now, the majority of CV investments have been measured with financial KPIs, such as the internal rate of return or multiples, regardless of whether an investment is strategic or financial in nature (Chiang, 2018; Röhm et al., 2018). Therefore, many corporations are not knowledgeable about the development of their CV investments and thus are unable to

detect pitfalls and deficiencies that require future improvements (Napp and Minshall, 2011). Corporations struggle to deal with internal and external changes and disruption, which is a common phenomenon and required competence of the 21st century.

This evaluation study aims to validate, deepen, and optimize the impact of CV investments through the CVN as well as through decoding CV returns on innovation. The question of “*What (additional) value-adds can be achieved for a CV program by applying the Corporate Venturing Navigator?*” will be picked up and further elaborated, and the effectiveness of the CVN artefacts evaluated. Best-in-class concept application and feedback was provided in the form of semi-structured interviews. Profound, exceptional insights from science, which are to be further developed and enriched by insights and validation that were identified through practical application, are to be anticipated. Corporations should fully understand their CV investment practices while being empowered to better intervene and manage their CV activities. Heightened self-assessment capabilities are to be expected, and the CVN can be used to enable a corporation to make the best use of its CV investments, which should result in enhanced CV practices and corporate performance. Corporations are finally able to capture and measure strategic value created through CV investments in addition to the purely financial value-adds, which is a promising development that can bring CV to the next level of application.

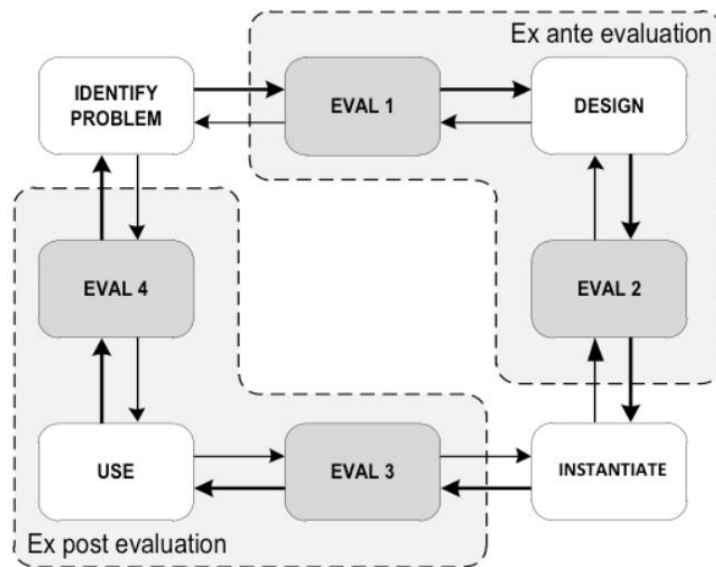
Research methodology

DSR revised

DSR has evolved in many ways over the years, and particular attention has been paid to assessment activities, which has facilitated the simultaneous and more fine-grained assessments of in-between steps in design development. As demonstrated in Paper II, the DSR process is based on Peffers *et al.*'s (2013) work. Evaluation occurs after the conceptualizing, developing and demonstrating activities but lacks the opportunity to iterate and inform the design early in the research process. Sonnenberg & vom Brocke (2012) identified this deficit by conceptualizing simultaneous evaluations along different aspects of the design (Sonnenberg & vom Brocke, 2012). They elaborated on previous

work that describes DSR activities within the overall DSR development by stating that each activity leads to intended artefacts in various ways and, therefore, holds potential for accompanying (or formative) assessments. The advantage is risk mitigation (Venable, Brocke & Winter, 2019) as early feedback loops on the smallest steps allow the incorporation of new insights into the design process. More specifics and a stronger focus on individual aspects are also made possible in this way.

Figure 1: DSR process evaluation



Source: Sonnenberg and vom Brocke (2012).

To illustrate, Sonnenberg & vom Brocke (2012) identified four evaluation steps (Eval 1 to Eval 4) that are part of the DSR process and cover the identification of the problem, the design, the concept and the application, which is illustrated in *Figure 1*. The four evaluation steps contain the following:

- **Evaluation 1:** Assessing the problem identification against the criteria of importance, novelty, and feasibility.
- **Evaluation 2:** Assessing the solution design against the criteria of simplicity, clarity and consistency.
- **Evaluation 3:** Assessing the solution implementation against the criteria of ease of use, consistency with real-world phenomena and robustness.

- **Evaluation 4:** Assessing the solution used; the criteria include effectiveness, efficiency and external consistency.

The timing of the evaluation, whether ex-ante or ex-post, is to be distinguished during the process. While ex-ante evaluations are performed before artefacts are instantiated, ex-post evaluations occur afterward (Venable, Brocke and Winter, 2019). Throughout the evaluation process, there are constant feedback loops that run in the opposite direction of the DSR cycle.

Application scope

The two artefacts developed in Paper II, the CVN-Framework and the Cockpit, are evaluated in this paper using four semi-structured expert interviews that were conducted via Zoom and lasted around 45 minutes each. *Table 1* in the appendix provides an overview of the companies in focus, which are Axa Ventures, PM Equity, Hitachi Ventures and Bertelsmann Investments. While selecting the interviewees and companies, I intended to cover global CV programs with different industry and regional backgrounds for generalization reasons. I also decided to revisit some of the previously approached companies to gain insights into the evaluation (e.g., Axa Ventures and Bertelsmann Investments) but also decided to approach new parties to gain a neutral, fresh perspective on the artefacts developed (PM Equity and Hitachi Ventures; see *Table 1*. For simplicity reasons and to gain more specific insights and a more in-depth evaluation, one corporation was interviewed about a specific CVN phase of the CVN-Framework. This means that each company addressed one of the four phases in more detail, while each company provided insights into the current problem identification, the requirements for a CVN and additional input. I used this approach to gain more specific insights per phase and to go deeper into the content accordingly.

Regarding the CVN-Cockpit, no division along the development phases of the CV program was deemed appropriate, and the entire process was evaluated with specific emphasis on Specs III and IV (the CV program operations).

Artefact evaluation

Artefact #1: CVN-Framework

To find answers to the research question, I evaluated the effectiveness of the CVN-Framework . The evaluation covered the assessment of the problem identification and underlying motivation of the CV program members who were interviewed, the objective definitions and requirements, the artefact design and development and potential future developments for the best practical implementation. When designing and developing the artefact, I addressed each element of the CVN-Framework to obtain feedback and suggestions for improvements.

Problem, motivation, and objective definition

As a general result, I can confirm the high relevance and necessity of the *Corporate Venturing Navigator* Framework as all the interviewees affirmed its necessity. This need was distinguished through two perspectives: new programs and established and running programs.

Looking at new programs, most, if not all, of the CV programs that were interviewed emphasized that the introduction and initial operation of a CV program is fraught with difficulties. The interviewees stated that it is difficult to gain and maintain management support and commitment from the beginning and that it is also difficult to convey the returns on investment of CV values and the added value to the parent company. Additionally, the interviewees noted that there is a lack of initial expertise and skills, positive communication, the right culture and reliable and informative benchmarking (platform/source) that could otherwise be used to gain insight into operational and performance data and easily validate the CV program process. The motivation for implementing the CVN-Framework was validated by the fact that both CV program teams and management are seeking a better understanding of CV elements, their interrelationships and dynamics and the improvement of transparency and the capturing of CV value that is generated. All CV program teams either have experienced or still experience difficulties in measuring strategic, innovative or cultural value. This value is threefold and reflected in the value of the CV program investment, the spillover effect on the corporate parent and the spillover effect on the ventures. Although the target CV

programs that had been running for some time had experienced a high learning curve and thus had less need for a framework, the teams often faced the challenge of re-justifying their CV programs when there was a change in leadership or key stakeholders or an external disruption such as the Covid-19 pandemic. The framework has also proven useful in providing a simple periodic review of the program assessment. consequently, the framework can be explained as a beneficial tool that can be used to create a better mutual understanding of the mandate and its underlying objectives to better manage expectations.

When examining the requirement catalogue (*see Table 2, Table 3 and Table 4* in the appendix), I found that PR1 through PR4 had been validated but that PR5 had been partly discarded and adjusted. PR1, which calls for a standardized CVN-Framework , was verified, especially as CV programs want to tap into new or additional CV programs or funds with a differentiated industry or regional background. PR2, which states that the CVN-Framework can be applied to new and already established CV programs, also held true, as described previously. However, the evaluation of a new CV program is outstanding and requires future research. PR3, which claims that the CVN-Framework is flexible enough to allow specifications across CV programs and to cope with dynamics and interdependencies, was underlined as very important as no CV program today is seen as a one-size-fits-all solution. PR4, which emphasizes that the CVN-Framework can be easy to use for all stakeholders involved with the artefact, was considered a “non-bureaucratic” tool guide. This rejects PR5, which calls for the CVN-Framework to be embedded throughout an organization to ensure its effectiveness as this would most likely have the opposite effect. Instead, the framework is seen as a simple and streamlined tool that is not time consuming and is independent of corporate bureaucracy and politics.

Design and development

First and foremost, I was surprised that all four profiles were rated as important during the profiling phase. Financial returns were highlighted as basic or hygiene factors. I came to the realization that financial returns need to be considered from three perspectives: the perspective of investment returns for the CV program in the form of IRR or multiples; the perspective of financial returns for the BU; and finally, financial returns for the ventures. Without financial returns, CV programs could not justify their

commitments to ventures because they would not prioritize their growth. Then there was the strategic orientation, which was highlighted as particularly important. The original idea of pursuing CV in addition to R&D and M&A activities was developed to promote and generate future business growth. This can be enabled by strategic CV investments that promote innovation, competitiveness and long-term survival. In contrast to a strategic focus, financial returns are a necessity as CV programs are not an appropriate tool for capital investment because returns are not relevant to shareholders in comparison to parent company returns. Other aspects can provide even greater added value, but this was not yet fully seen and realized. This is consistent with capturing the CV contribution to an innovation strategy or any cultural impact. The added value for the culture of entrepreneurship and, thus, for more risk-taking and the avoidance of the "not-invented-here syndrome" was hardly transparent and also not measurable. This underscores the necessity and urgency of the Cockpit artefact. Overall, one could say that the widespread "financial vs. strategic alignment" debate has become obsolete with these findings as a CV program always contains all four elements with financial returns as its baseline.

Promoters are seen as extremely important as CV is considered a people business. Several interviewees emphasized that a CV program is usually written down one way and operated another. Accordingly, stakeholder management is key, and top-down buy-in is especially necessary to ensure the success of a CV program.

The topic of funding was and still is very controversial. Most companies lack a clue as to what budget is appropriate for their intentions. I was told that funding depends on the size of a company, as well as the planned CV governance and structure. But again, there is the question of raising funds or raising money from the balance sheet (lump sum or recurring, etc.). There are many aspects to consider, and companies are often confused as to how best to proceed.

With regard to business advancements, a rewording was suggested: "business growth strategy", which stated the direction and destination that a corporation aims to achieve through its CV investments. Generally, most investments start close to core business activities but develop over the years toward more adjacent business fields, which reflects the initial CV goal of generating growth and competitive advantage.

The CV mandate was deemed appropriate, although, as noted previously, the interviewees stated that it should be considered with scepticism as CV programs are a people business and frequently develop their own routines.

Regarding the design phase, the interviewees commented on structure and management. First, they said that it is of utmost importance that both are in line with the CV mandate and that both must be set-up in such a way that the intended objectives and expectations can be met. The organizational and legal structures must also be in proportion to the available budget and the required operating costs. Otherwise (e.g., in the context of a CV program as a fund), high operating costs in comparison to the available budget would make a CV program unprofitable. Accordingly, the structure and governance often depend on the size of a company. If one considers the various organizational models provided, they will see that these models resemble the classic structure in a very simplified form but do not exist in this way in practice. Several hybrid models are available, so one is rather unlikely to encounter a similar CV program structure and governance twice. However, the decisive factor for all CV models is their independence from the corporate parent, which allows them to run successful CV investments with spillover effects.

Team-related aspects were confirmed through the interviews and highly emphasized as very crucial for venturing success. Other contributions concerned training and location. Regular training for both CV internal and corporate personnel was considered necessary to ensure qualified staff held a mutual understanding. One CV program member even had their CV staff spend a year going through various corporate units to understand the mechanics of the company's business and be prepared. Having a team on the ground where the investments are made was highlighted as very beneficial as trust and local knowledge about local characteristics and dynamics is of great importance for venture scouting and operating success.

In harmony with the team, communication is key. One of the most critical aspects of developing the entire CV program is a lack of mutual understanding, one-sided expertise and information streams and unclear goals, as well as undefined expectations. All stakeholders involved pursue a sliding, if not quite broad, agenda that includes different intentions that are based on different incentives. Therefore, communication is key. The CV program members who were interviewed emphasized the need for strong communication

tools that are streamlined, time-saving and easy to use. Communication with external stakeholders such as ventures, other investors or experts must also be regular.

The portfolio was highly discussed as this field is rather complex and specific depending on the industry, regional focus, mandate set, etc. It should, therefore, not be underestimated. I have been told that there is no "one-size-fits-all" solution for this area and that specific regulators must be activated. The two most common approaches are either small tickets that can cover a broader field, scope and limit risk or larger tickets that can gain greater expertise in a few areas while being able to exert or promote an impact on the business overall in that area. Besides, investments along the different stages must be chosen.

The ecosystem and especially the embedding of CV in the program were not mentioned or emphasized as much as the other aspects. However, some interviewees mentioned the ecosystem as a necessary area with a particular focus on the network. Being involved in the ecosystem, sharing the latest trends, developments and obstacles is of great benefit to the entire CVC community and should be fostered more. Overall, the CV program results bubble was found to be appropriate because it outlined the total concept of the CV initiative and explained the entire CV program approach.

The operating phase has been confirmed to be the longest phase of all because it holds the central elements of a CV program. The interviewees emphasized that sourcing and portfolio management are to be run as a VC depending on the structure chosen (e.g., fund or evergreen) and advised against corporate standards at no means. Portfolio management was even referred to as "venture-style portfolio management". In terms of sourcing, the interviewees highlighted soft facts as more relevant than others during DD. What surprised me was the time frame of the sourcing process (i.e., from the first contact with the venture to the signing of the contract). Some CV program members mentioned a period of up to 2–3 months as short and exemplary, while another program member spoke of 2 days to a week for the same process. The sticking point comprises the approval process and the regulatory requirements of the industry, as in the financial services sector or pharma/life science. Discussing the portfolio development and venture monitoring resulted in diverse outcomes as some CV programs had undermined their numerous follow-up investments and active venture care, while others had incorporated a rather lax approach.

Beyond that, however, I confirmed that collaboration is very important. Some of the interviewees noted that CV would not make sense without it as there would be no transfer of knowledge to the corporate parent. I found that this is a critical factor that starts with setting the mandate for the CV program and the investment sourcing while maintaining collaboration to add value to the corporate parent. In case this has not been established, CV operations are not strategic but simply financial. Another critical factor related to collaboration that was mentioned is the "not-invented-here" syndrome. This syndrome describes the tendency of certain business units and key stakeholders to avoid CV collaboration as certain innovations are not self-created. In general, the interviewees emphasized that collaboration should not only be viewed through the corporate lens but also from the company's perspective by asking, "How can start-ups benefit?" As in the VC industry, everyone is interested in the growth of the company, and expectation management is key.

When discussing shared resources and syndication, the interviewees questioned the wording because resource sharing was not always seen as useful in terms of corporate bureaucracy and politics as opposed to agility and speed and needs to be reconsidered. However, synergies are to be leveraged as much as possible along the CV program for both the corporation and the ventures.

As an overall result of the operational phase, the CV added value was confirmed as a desired outcome as it is a generated added value that is transferred to the company to promote growth. Further feedback can be found in Artefact #2: The Cockpit, which addresses this very issue.

The harvesting phase was reflected in the fields "termination" and "continuation". Here, too, the wording was questioned, as was its separation. Instead, the interviewees suggested splitting these fields into "Hold-Divest" and "Exit-Integrate". The natural exit in the event of an IPO of a venture should also be covered. In summary, the "performance" bubble summarizes and concludes the CV program very well. Only the division of perspective between the year and the total duration of the CV program was highlighted, with more detail provided in Artefact #2.

The overall feedback and evaluation of the CVN-Framework revealed that the framework covers very thorough research and a design that comprises all relevant CV

program elements and highlights key dynamics and mechanisms. The interviewees acknowledged that the framework is a valuable contribution to a better understanding of CVs and a guide for setting up, running and closing CV programs, as well as a reflection tool for periodically validating a CV program and achieving set objectives and expectations. Some said that the framework can be used to uncover various myths such as the “strategic vs. financial orientation” debate, while others stated that it helps to make a CV program more flexible and robust concerning internal and external changes. Crucial, however, is the belief in data and data-driven decision-making because they both beneficial and detrimental. The CVN-Framework as such is based on past-oriented decisions, although it was designed to be a future-oriented innovation tool. Moreover, another crucial drawback of the CVN-Framework is that the operation of CV programs is subjective. The interviews with the selected CV program members confirmed that there are often large differences between what is written down and what is actually acted upon. This is not necessarily a barrier to realizing the benefits of the framework but should be considered a critical disruptive factor.

Future development

The interviewees made several positive comments about the structure and the great graphical representation of the Framework, which can be used to illustrate the “big picture” of a CV program’s process. The in-depth modern approach was intended to incorporate in-depth information about certain characteristics and key elements and their interrelationships and interdependencies that are part of CV program development. A better mutual understanding of value generation was provided as the transparency and measurability of tangible and fewer tangible benefits were clarified (CVN-Cockpit). However, considerable untapped potential should also be examined, although it should be noted in this context that the interviewees stressed that it is not advisable to make the framework more complex.

Certain aspects were felt to be in need of optimization in terms of further expansion, both in depth and breadth, and were commented on by the interviewees. An important requirement for future development is to further test and apply the concept in practice. While this will be quite involved, it promises to further validate the CVN-Framework . So

far, the concept has been validated by more established CV programs that belong to large companies, new programs and CV programs that belong to smaller companies that have not yet recovered. Upon closer examination of the framework, some of the interviewees suggested that the wording of the first two phrases should be reconsidered and proposed "mandate" rather than "profiling" and "structure and processes" rather than "designing." Regarding the mandate field, the current "mandate bubble" should be changed to a bubble of tangible and intangible outcomes as this differentiation is to be made clear visually right from the beginning. Third, the yellow outcome bubbles in general should differ in size as the outcome increases throughout the process. Fourth, "incentives" were highlighted as key and therefore should have their own section instead of being a subcategory of the "team" section as it is now. Fifth, "training and development" should be highlighted in the framework in the future, as this area is very important to the dynamics of CV programs, as the people business requires mutual understanding and the continuous personal development of employees.

In summary, the CVN-Framework has been validated as a very useful tool that has a positive impact on CV practices.

Artefact #2: CVN-Cockpit

Analogous to Artefact #1, the effectiveness and usability of the CVN-Cockpit was evaluated to find answers on how companies can leverage CV investments to increase innovation and thus business performance. By translating the theoretical concept into practical application, I solicited feedback and suggestions for improvement. The assessment included an evaluation of the problem identification and underlying motivation of the CV programs, the goal definition and stated requirements, the design and development of the artefact and the potential future development of optimal practical implementation.

Problem, motivation, and objective definition

The current problem of the constant need to justify and demonstrate the value of a CV program was acknowledged by some of the interviewees. On the one hand, some emphasized that CV programs in general have problems justifying their value and impact, especially during the ramp-up phase or when a key stakeholder change, or an external disruption occurs. On the other hand, I was told that there are no such problems if management is appropriately committed and if the right attitude prevails regarding CV operations and value enhancement expectations. The motivation and benefits of the CV program are obvious, and as long as the CV program is discussed, it is in business. The key to supporting the management who work with CV programs is to enable them to tell CV investment success stories. To make that possible, even venture founders have been flown in to speak to the board about working together on CV investments by sharing their success stories. Another important aspect in this context is expectation management and positive communication between the corporation, the CV team, the ventures and other stakeholders because value generated is often delayed, especially when it is not financial value, and corporate stakeholders are often impatient. The interviewees advocated for active multi-lateral communication about what the CV program does, who is involved, what its objectives are and how it will progress towards them. Looking at the objectives of the CVN-Cockpit, all the interviewees agreed that capturing and measuring CV value that has been added is very important for both the financial and non-financial value that has been added as the latter has not reached its full potential yet due to limitations on value transfers.

Going a step further into the requirement assessment of the CVN-Cockpit, I found that the requirements were similar to those of the CVN-Framework. The artefact should be standardized but also hold the option for industrial and regional differences (PR1). Thus, I confirmed and formulated the requirement that the artefact must be flexible enough to allow specifications for different CV programs and to cope with dynamics and interdependencies as there is no “one-size-fits-all” solution (PR3). The artefact should, therefore, be applicable to both new and ongoing CV programs and thus provide a useful tool either to set up value capture and measurement along the continuum of CV programs from the beginning or to validate established programs and their effectiveness (PR2). A very crucial requirement that came up was the complexity of the artefact, which verified

PR4, which states that the artefact should be easy to use for all stakeholders and considered a “non-bureaucratic” tool guide. However, regarding PR5, the CV program representatives who were interviewed rejected the idea of embedding the artefact throughout the organization to ensure its effectiveness. They emphasized the opposite: the artefact (i.e., the CVN-Cockpit) should be kept as independent as possible with simple and lean processes and systems. Thus, PR5 was not verified.

Design and development

The general impression of the CVN-Cockpit design was very positive as it brings order to the structure and progress of a CV program. The approach was also praised for its uniqueness and reporting scope. In particular, the fact that the CVN-Cockpit incorporates both quantitative and qualitative perspectives was highlighted as a very valuable contribution to the CV ecosystem. The CVN-Cockpit consists of three main elements: the cockpit function along each CVN-Framework , the specs sheet for each phase and various supporting tools for specific phases. When looking at the Cockpit function within the CVN-Framework , I confirmed that it plays a crucial role in highlighting the framework’s importance in the overall process and in underlining the “added value” generated per phase, which is to be broken down and emphasized. The specs were found to be very beneficial "cheat sheets" that summarize all the compact CV program elements on which decisions must be made and outline various options to help teams get started. Finally, the supporting tools were highlighted as being particularly helpful for management meetings because their illustrations are very simple and easy to understand. To run more in-depth validations, I analysed the three Cockpit elements individually during each CV phase and also as a coherent construct.

During the profiling phase, the outcome that was created and captured as a CV mandate was confirmed through the interviews. A clearly articulated mandate is the cornerstone of a successful CV. However, I was told that there are two mandates that are of concern: the mandate for the CV program (e.g., a strategic mandate for more growth in certain regions) and the mandate for the ventures (e.g., being a good investor). Accordingly, two mandate bubbles were proposed for clear separation. The "Know Your Profile" and "The Onion" tools were evaluated as great approaches to developing the

corporate mandate as they both provide clarity on the profile direction and the strategic growth direction to be pursued. The calculation method of the first tool was, however, perceived as too complicated. A simple outlay of certain tendencies was reported as sufficient. The specs in this regard were perceived as very valuable as all aspects of the profiling phase were aggregated. Overall, I confirmed that the CV added value through refinancing investments and spillover effects, which became visible at later stages, while the CV mandate provides the basis to make this possible.

Building on the profiling phase, the overall result of the design phase was the CV program. Again, the CV value that was generated built on the foundation, the CV mandate, and became visible during the operating and harvesting phases as it was captured and measured. Interestingly, I was told that the structure and management of a CV program often limits value creation because the focus is on systematics. Similarly, I was told that bureaucratization of innovation is harmful because making innovation more efficient kills innovation. CVC is seen as better than R&D because it is more flexible and has more incentives and motivation, and it should stay that way. This goes against the idea of the CVN-Cockpit

standardization (PR1) but does align with PR3. Both a degree of standardization and flexibility are reflected in the specs, which were found to be well designed and beneficial. The designing phase included the "team" element, which covers recruitment, retention, incentives and compensation. As mentioned previously, CV is a people-based business in which most processes and developments, if not all, are heavily influenced by its stakeholders' perspectives instead of the written mandate manifesto. Therefore, I developed the RACI system to provide clarity on responsibilities. This tool has proven to be very useful, especially in ensuring and promoting mutual understanding and alignment concerning CV tasks. Simply having an overview of who is responsible for what and who is to act as an information source for certain tasks helps clarify the process. The tool "organizational structure" was somewhat dismantled, as previously mentioned, because the three models presented were perceived as valid; however, this was according to the theoretical view. In practice, they do not exist in this way but rather in a hybrid form. Some of the interviewees suggested developing sub- and cross-models as well as to come up with a benchmarking tool. Regarding the Cockpit specs, the feedback revealed that they are

comprehensive and outline all the different options. It might have been helpful to link the specs to the mandate or more generally to the profiling phase to better identify what impact this has on the decisions to be made in the designing phase (e.g., the available budget for a possible portfolio approach).

The operating phase received the most feedback out of all the phases because the interviewees highlighted it as the crucial phase where CV value is created and initially made transparent. To this end, I spoke with the CV program representatives I had interviewed about the CV value-add generator tool I had developed, which provides a three-tiered perspective. From the outset, the benchmarking perspective was found to be very valuable as there has been no single source of operational and performance data available before, which has caused CV stakeholders to struggle to find answers in the marketplace to justify their actions or to seek advice for their next actions. Moreover, there is not much mutual understanding within the CV program field beyond what CV actually is and how it works. However, the interviewees noted that a large, standardized benchmarking platform would need to be built for benchmarking, which may be difficult due to the individuality of each program as well as the privacy of CV programs. Next, the portfolio perspectives were evaluated as rather interesting but not feasible in practice. I was told that the approach does not work as it is impossible to put various investments with a diverse industry focus that has different lead times under one portfolio lens. Comparing apples with pears does not create any valuable insight. This might, however, not be the case for CV programs that are streamlined in their investments or for the ones that only seek financial returns without a strategic agenda in mind. Concerning the feedback in the individual investment evaluation, I received a very positive response as this approach was recognized as a modern strategy for capturing and measuring CV value. The interviewees said that most CV programs measure CV value by referring to the initial DD of the venture and covering aspects such as technology, market access, novelty, business plan, team and strategic fit. However, the average CV program still focuses on performance as the ultimate metric (e.g., IRR and multiples). There is a constant need to "pay the money back" and achieve spillover effects for the parent company. Basically, measuring CV value is about comparing how much money was invested and how much was gained in the end. However, measuring CV using purely financial metrics means that the impact of CV continues to be

misunderstood as if it were being used as an equity investment, and the impact on the parent company is not being made relevant to shareholders. This underscores the prevailing problem of shareholders being motivated by returns (multiples and IRR), as is the case with R&D. As a result, my approach of not only considering financial KPIs but also converting non-financial measurements into tangible values was seen as very unique and necessary. Some of the KPIs could be found as part of the CV programs that I asked the interviewees about, but mostly only in fractional or aggregated versions. These were, for example, measurements such as the number of markets covered, investments made, or meetings held with ventures, etc. Overall, non-financial KPIs were used more for storytelling, which, in turn, resulted in very positive feedback on the Cockpit as being valuable for making further contributions. Non-financial value in terms of aligning the CV as strategic, innovative or cultural can be distorted during its return, making the creation of transparency, capture and measurement through the Cockpit even more necessary. Therefore, quantitative and qualitative reporting through the Cockpit in general was highlighted as a current need, which is of utmost importance as it demonstrates the ongoing generation of impact. Nevertheless, the Cockpit was found to be quite complex and time-critical, so more simplicity and automation was desired. The Cockpit was proposed as a tool that could be of great use for the CV team and as a supporting visual tool (Cockpit dashboard) for senior management and other board members who are only interested in the overall results and not in the individual details per investment. The Cockpit specs, in this regard, provide a very comprehensive picture of what decisions are to be made regarding sourcing and portfolio management, collaboration, shared resources and the measurement of objectives and the mandate. The need to check for the status of each objective and its achievement over time was perceived as beneficial as this enabled transparency and awareness.

The harvesting phase was perceived to be similar to the operating phase as its final result builds on this phase and leads to CV value creation and performance. In this context, the term "performance", as the outcome is described in the CVN-Framework, was said to be less than ideal as it is only associated with financial returns. The Cockpit specs for this phase were determined to be comprehensive; the interviewees noted that the specs pay particular attention to enablers, which are often forgotten in the process, as a key to achieving the set objectives. This last part of the Cockpit has proven to be very helpful in

making decisions about the continuation of certain investments (follow-up investments) or their termination as not only the financial but also the non-financial perspective is presented and made transparent.

Future development

As mentioned previously, the Cockpit holds great potential for realizing full CV potential, both financial and non-financial, in the near future. This fits best with the growing understanding of how CV needs to be deployed to create the most value for the corporate parent and drive growth and sustainability. I was told that the Cockpit would be best qualified if it were more simplistic and easier to use and could ideally be automated as a digital tool to avoid any extra manual work. This will need further in-depth evaluation to drive the current “minimal viable product” to its next level of practical application. Several pilot rounds with diverse CV programs (e.g., different industry and regional backgrounds, different maturity stages, etc.) were suggested in order to be able to compete against existing method as stakeholders mostly stick to the status quo and their established systems and territory. However, it is quite promising that with the right management buy-in, that should be made possible. The most important aspect of implementing and operating such a tool is highlighting that the tool can enable mutual understanding among all stakeholders involved by outlining the decisions to be made as well as the progress made during the development of the CV program. Therefore, the tool should be promoted not only as a KPI tool but also as a collaboration tool.

Discussion of the artefacts

The overall objective of this paper was to evaluate the methodological approach used and to validate its practical implementation and application. Against the background of the evaluations, the benefits and the market need and positioning opportunities of the two artefacts, which were originally derived from the practical and theoretical requirements, were summarized and discussed.

Regarding the CVN-Framework , I discovered a great need and a wide range of potential applications as the artefact helps to optimally set up, run and terminate CV

programs while making data-driven decisions during the CV program's development. The evaluation of the artefact revealed a strong match between the general requirements for such a tool and the chosen design, conceptualization and specifications, which reflected the growing need to justify the usefulness of a CVN-Framework . Two distinct starting points for the market positioning of the CVN-Framework were identified: new CV programs and established CV programs. The mechanisms of the framework are still the same, but the perspective is different and so is the marketing of the tool. In both cases, the artefact can be considered a "best-in-class" provisional CV guideline and program evaluation solution. The latest version of the CVN-Framework is similar to what countless CV stakeholders in the industry have benefited tremendously from in the past as they all had to go through their own learning curves and missed opportunities due to their lack of knowledge and skills. Stakeholders require a simple framework that provides support and validation mechanisms so that decisions can be made throughout the program development process, which, in turn, minimizes risks and barriers and accelerates CV development. CV stakeholders have developed their own tools in part over the years because available solutions do not meet specific needs and requirements or are simply not accessible due to the existing "no-sharing ecosystem". Thus, the presented artefact is well positioned as it satisfies the prevailing problem and need in the market for CV programs. All the CV program representatives confirmed this and particularly emphasized its beneficial aspects for new programs. In this sense, the CVN-Framework provides a new way to create a mutual understanding about CV goals, dynamics and mechanisms, as well as expected outcomes, even before the CV program is launched. Notwithstanding, the benefits of the CVN-Framework were not viewed as a stand-alone tool but rather as a guide that will most likely require further explanation and application support, as well as adaptation to existing systems and prevailing dynamics to unfold its full potential. Future pilot applications were recommended for optimizing application and integration.

Regarding the CVN-Cockpit , I discovered even greater demand and a wide range of potential applications as the artefact helps capture and measure the value generated throughout a CV program, which can enable data-driven decisions that can then lead to the best possible CV impact on the corporate parent. The evaluation of this artefact also revealed a strong conformance between general requirements for such a tool and the chosen

concept, approach and specifications, which reflects the growing need to justify the effectiveness of the CVN-Cockpit . Some CV program teams have started their own initiatives to measure financial and non-financial value as they have perceived sole financial returns as not fully representative of the CV program's overall potential. However, as there is not yet a fully satisfactory solution available on the market and various stand-alone solutions are not shared with others, the CV Cockpit was considered a best-in-class value "transformer" and measurement tool as it enables a CV program not only to capture value through the transparency it creates but also to make non-financial value more tangible through new forms of measurement. As a consequence, the CVN-Cockpit enables CV programs to map and track the progress of their CV portfolios and their individual investments by deciphering both financial and strategic value. This makes the justification of CV investments very robust, especially in light of key stakeholder changes or other internal and external disruptions. Improved self-assessment capabilities and the value-add presentation of CV operations enable companies to make the most of their CV investments, which results in improved business performance over the long term. Therefore, I concluded that the CVN-Cockpit represents a valuable and significant step towards a practical and necessary solution, although it requires further development to achieve market readiness. The approach to measuring the value of CV appears to be applicable and necessary for several CV programs. As noted previously, new and established programs, as well as all types of CV programs, are eligible regardless of industry or regional focus. Simultaneously, the most important asset of the artefact is the growing database, which can enable the benchmarking perspective when a certain level is reached.

Overall, the *Corporate Venturing Navigator* contributes to the top three essential functions of a successful CV program as it creates awareness and conditions the program. These conclusions were made with the aid of the CV representatives whom I interviewed:

- 1) Management buy-in requires a clear mandate.
- 2) Financial and strategic alignment are needed as both are always present to satisfy shareholders and ventures and to provide strategic spillover effects for corporate growth; both financial and non-financial value must be made transparent and measurable throughout the process to ensure that the set objectives pay off and to ensure a solid CV program.

- 3) To fulfil the mandate and the objectives set, a corresponding culture must be enabled that includes appropriate incentives with a VC work mode. This is the only way to attract and retain qualified personnel and the only way to enable fast and lean processes. Communication and mutual understanding are key in this context.

Conclusion

This paper aims to validate the theoretical concept of the *Corporate Venturing Navigator* (CVN) and its two artefacts, the CVN-Framework and the CVN-Cockpit, through an initial pilot test in practice with four selected CV program representatives (Axa Ventures, Bertelsmann Investments, PM Equity Partners and Hitachi Ventures), while critically assessing the applied methodology of concept development, as well as its usability and effectiveness. First, I investigated the identified problem and demand for a CVN for both the Framework and the Cockpit – as well as to what extent the set objectives can be met and made tangible. I validated the CVN's existing and potentially missing aspects to further improve, extend and deepen the CVN. A very critical aspect was the usefulness and value generation that were determined through the CVN application. I also asked the interviewees for any additional input.

The results reveal that both artefacts reflect the need for such a tool according to the problems identified CV programs are currently facing. Through the evaluation, I was able to validate the CVN concept that was developed in practice and enhance it; I was also able to gain further scientific insight into the creation and operation of corporate venturing, with a particular focus on capturing and measuring value to justify the advantages of a CV investment for a corporation.

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Appendix

Table 1: CVN interview list

Corporate parent	CV arm	Contact person
Philipp Morris	PM Equity	Managing Director
Hitachi	Hitachi Ventures	Managing Director
Bertelsmann	Bertelsmann Investments	Managing Director
Axa	Axa Venture Partners	Head of

Table 2: Practical requirements of the CVN-Framework and CVN-Cockpit

PR, #	Requirement description
PR1	The artefact should be standardized for all different types of CV programs, different industries and regional backgrounds.
PR2	The artefact should be applicable to new and established CV programs.
PR3	The artefact should be flexible to grant specifications across CV programs and to handle dynamics and interdependencies.
PR4	The artefact should be easy to use for all stakeholders involved and should be considered a “non-bureaucratic” tool guide.
PR5	The artefact should be embedded throughout an organization to ensure its effectiveness.

Table 3: Theoretical requirements of the CVN-Framework

TR, #	Requirement description	Relevant source(s)
TR1	The artefact should describe and cover influencing factors of CV investments.	Kann (2000)
TR2	The artefact should indirectly relate to CV value creation and program success to better understand and avoid recurring CV failure and add value to corporate performance.	Dushnitsky & Lenox, (2006); Keil <i>et al.</i> , (2008) Hill & Birkinshaw (2008; 2012); Teppo & Wüstenhagen (2009); Fischer (2019)

Table 4: Theoretical requirements of the CVN-Cockpit

TR, #	Requirement description	Relevant source(s)
TR1	The artefact should be a reproducible approach to measuring the strategic value for widespread adoption of these methods.	Chiang (2018)
TR2	The artefact should represent a more complete picture of CV investment.	Napp & Minshall, (2011)
TR3	The artefact should be easy to apply with minimum effort (minimal manual involvement) to guarantee great application in practice.	Bassen <i>et al.</i> (2006)
TR4	The artefact should improve corporate decision-making to better leverage the benefits of synergistic CV investments.	Kann (2000)