

Design principles for corporate venture transition processes in

established technology firms

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Elco van Burg (corresponding author)

Department of Management and Organization, Faculty of Economics and Business Administration VU University Amsterdam De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands E-mail: j.c.van.burg@vu.nl Phone: +31 20 59 82510

Sjoerd de Jager

Department of Industrial Engineering & Innovation Sciences Eindhoven University of Technology E-mail: srdejager@gmail.com Phone: +31 624103676

Isabelle M.M.J. Reymen

Department of Industrial Engineering & Innovation Sciences Eindhoven University of Technology P.O. Box 513, 5600 MB Eindhoven, The Netherlands E-mail: i.m.m.j.reymen@tue.nl Phone: +31 40 247 4283

Myriam Cloodt

Department of Industrial Engineering & Innovation Sciences Eindhoven University of Technology P.O. Box 513, 5600 MB Eindhoven, The Netherlands E-mail: m.m.a.h.cloodt@tue.nl Phone: +31 40 247 5242 Elco van Burg is an Assistant Professor of Entrepreneurship and Organization at the Faculty of Economics and Business Administration at VU University in Amsterdam. He holds an MSc degree in management and an MA degree in theology. He received his PhD from Eindhoven University of Technology in 2010. His research particularly concerns the cooperative behavior of (academic) entrepreneurs and the process of imagining entrepreneurial opportunities. He has published among others in *Organization Science, Production and Operations Management* and the *Journal of Product Innovation Management*.

Sjoerd de Jager conducted this research on corporate venture transition processes as part of his master thesis at the Faculty of Industrial Engineering and Innovation Sciences at Eindhoven University of Technology. He is currently employed as an intrapreneur and business developer at Waag Society, a research institute for Arts, Science and Technology in Amsterdam. He is involved in several social enterprise start-ups in media, high tech electronics and education.

Isabelle Reymen is an Assistant Professor Design Processes in the School of Industrial Engineering at the Eindhoven University of Technology. She obtained an MSc degree in Architecture from the Katholieke Universiteit Leuven in Belgium and completed a PhD degree in design sciences at the Eindhoven University of Technology. Her current research interests focus on decision making in creation processes, more specific processes of new business development, business model innovation, and technology commercialization. Her work has been published among others in the *Journal of Product Innovation Management, Design Studies, Research in Engineering Design,* and *Building Research and Innovation.*

Myriam Cloodt is an Assistant Professor of Entrepreneurship & Innovation in the School of Industrial Engineering at the Eindhoven University of Technology. She holds an MSc degree in business economics and a PhD degree in strategy, both obtained at Maastricht University. Her research interests mainly include corporate entrepreneurship, open innovation, strategic technology alliances, and merger and acquisitions. Her work has been published among others in *Research Policy*, *R&D Management*, *Business History*, *Business History Review*, and *International Studies of Management and Organization*.

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Abstract

Corporate venturing has become a well-known approach towards new business development and strategic renewal for established technology firms. However, without an effectively designed process for aligning and integrating a corporate venture in the established business, the firm increases the risk of venture failure. This paper provides a process perspective on corporate venture transition. Based on the results of an empirical study of six corporate venture transition processes we present suitable actions for each of the different phases of the venture transition process. In addition, we indicate the proper timing for venture transition, which is one of the long-standing difficulties in this area. Finally, we integrate the results of the empirical study with knowledge from extant literature in a set of design principles. These design principles provide practical guidelines to improve corporate venture transition processes.

1. Introduction

In a business environment characterized by rapid technological changes, large established technology firms are increasingly looking for ways to acquire new technological capabilities and to explore new business opportunities in order to survive in the long run (Govindarajan and Trimble, 2005; Vanhaverbeke and Peeters, 2005). However, commercializing these new technological capabilities in a corporate organization primarily designed to exploit existing products and technologies is difficult. Financial systems and bureaucratic procedures adopted to control established processes tend to be hostile towards innovative ideas and initiatives, especially when these ideas are radical and competency-destroying (Dess et al., 2003).

One of the solutions to this problem is to adopt a corporate venturing approach. A corporate venture is a self-contained division with resources to manage new product development projects from beginning to end (Jones, 2010). Corporate venturing is here defined as the exploration and commercialization of new technologies or products, structurally separated from the corporate organization's exploitation tasks in a corporate venturing 'incubation' structure that mediates organizational rigidities and supports organizational renewal (Ambos et al., 2008; Dess et al., 2003; O'Connor and DeMartino, 2006; Tushman and O'Reilly, 1996). This approach is especially relevant when the technology of the venture is still in an embryonic phase, laden with a lot of technical and market uncertainty. Once the uncertainties are reduced to an acceptable level, the corporation can utilize the full commercial potential inhibited in the new technology. If the venture appears not to fit the established business strategy, the venture can become a stand-alone spin-off and attract external funding, or be sold to another firm. But, ideally, the venture should be transferred to the established business to rejuvenate the corporation with new technological capabilities and new business opportunities

Yet, the chances of successful transition are quite low; some report chances lower than 10% (Campbell and Park, 2004). In particular the final transition phase of the corporate venture process, which consists of the integration of the venture into the parent organization after successful incubation, is very challenging (McGrath and Keil, 2007). Corporate ventures can be perceived as a threat to the established businesses of the corporate organization, or may lack legitimacy (Aldrich and Fiol, 1994; Chesbrough and Tucci, 2005; Levinthal and March, 1993). A nice illustration of these challenges is the way aluminum producer Alcoa dealt with its venture focusing on developing a new aircraft material called Glare (see Berends et al., 2011; Van Burg et al. 2008). This new material consisted of a combination of aluminum and glass fibers. Although the material was first considered as an opportunity for rejuvenating the aluminum product line, as soon as the aircraft industry started to show real interest, Alcoa's managers considered it more and more as a cannibalizing product. This prevented good cooperation with and integration in Alcoa's established business. Eventually, the venture was set on hold and parts were sold to other organizations.

Despite the difficulty of venture transition, the current literature is relatively silent about the design of the venture transition process and as a consequence leaves unexplained *how* to transfer corporate ventures to the established business environment (Ford et al., 2010) and *when* is the best time for this transition (e.g., O'Connor and DeMartino, 2006). Notwithstanding the important insights of existing studies on corporate venturing, we know little about the 'process attributes of successful venturing' (Miles and Covin, 2002). Although several scholars advocate the view of internal corporate venturing as a process (e.g., Burgelman, 1983; Dess et al., 2003; O'Connor and DeMartino, 2006), many variance models are present in the literature (e.g., Birkinshaw and Hill, 2003; Burgers et al., 2009; Raisch and Birkinshaw, 2008). These models provide a useful context when studying venture processes, but do not tell how events unfold over time and focus on the antecedents of the venturing

process rather than on the activities and behaviors that embody the process itself (Kang and Uhlenbruck, 2006; Van de Ven and Engleman, 2004). Those studies that develop a process model of internal corporate venturing do not provide clear general criteria for decision making that guide the transition of the venture into the established business. For example, the widely used model of Burgelman (1983) distinguishes between four different stages of internal venture development – a conceptual, a pre-venture, an entrepreneurial and an organizational stage – but ends before the actual transition of the venture to an existing business unit. Thus, a process perspective on the next step, the corporate venture *transition* process, which integrates the viewpoints of the corporate venture, the established business, and the corporate venturing unit, is lacking (Ford et al., 2010; Miles and Covin, 2002).

Therefore, this paper takes a process perspective on corporate venturing, and focuses on the corporate venture transition process. The research question of this study is: *How and when to transfer corporate ventures in established technology firms?* We aim to specify particular actions for each of the phases of the venture development and transfer process: pre-transition, transition, and post-transition. Based on an empirical study of six corporate venture transition processes, we describe how the corporate venture transition process can be approached. Subsequently, we integrate the results of the empirical study with knowledge from extant literature in a set of design principles. More specifically, this study makes two key contributions to the existing corporate venturing literature. First, the design principles summarize key insights regarding *how* to successfully transfer corporate ventures. Second, we identify the most appropriate timing for venture transition, indicating *when* to transfer a corporate venture from the venturing unit to the established business.

This paper is structured in the following way. The next section reviews briefly the relevant literature dealing with the transition process. Section 3 describes the empirical procedures and the design science methodology. Based on the empirical study, section 4

presents solutions for corporate venture transition process and transition timing. Subsequently, section 5 integrates the empirical results with existing literature in a set of design principles. The paper ends with a discussion of the main results.

2. Theoretical Background

More and more companies have become interested in corporate venturing as a way to organizational rejuvenation. Researchers have addressed this phenomenon by studying how environmental conditions, organizational architectures and individual-level cognitions influence corporate venturing and its outcomes (Ireland et al., 2009; Narayanan et al., 2009). Regarding the transition of corporate ventures to the established organization, the existing literature paid attention to the degree of strategic fit and potential tensions, while also some literature has provided insights in the transition process itself.

2.1 Established organizations and ventures: strategic fit and tensions

One of the central elements influencing the transition of the corporate ventures to the established organization is the degree of strategic fit (Thornhill and Amit, 2001). As these ventures are established with the aim of bringing important innovations inside the established company, eventually the ventures have to be absorbed in one way or another by this established organization. The chances of successfully integrating a corporate venture are higher if the venture has strategic fit with the established company, for instance by serving markets adjacent to those of the established business and requiring assets and supply channels that are provided by the existing operations (Gilsing et al., 2010; Hill and Birkinshaw, 2008; Thornhill and Amit, 2001). In addition, it is easier to incorporate ventures that are related to existing businesses, because there is a high amount of absorptive capacity that facilitates

combining corporate venture's capabilities with existing business processes (Ahuja and Katila, 2001).

Even in the presence of strategic fit, the transition process is challenging. The venture has matured, grown out of the protected status at the venturing unit and requires a renewed relationship with the corporate parent to further develop (Garvin and Levesque, 2006). After the transition, the venture team finds itself in a new environment often filled with organizational antibodies, which makes the post-transition period in venture development critical (Burgers et al., 2009). Due to fundamental differences in business dynamics, logic, and risk taking behavior, interactions between the new venture and established business create tensions (Gilsing and Nooteboom, 2006; Gilsing et al., 2010; Levinthal and March, 1993). Moreover, corporate ventures may be perceived as a threat to the established business of the corporate organization, because they can challenge current technologies, cannibalize products, and compete for scarce corporate resources (Chesbrough and Tucci, 2005). In addition, corporate ventures may lack legitimation of their technology, product and business model because it is new, disruptive and different (Aldrich and Fiol, 1994; Levinthal and March, 1993). To use Roberts and Berry's (1985) typology, the higher the newness and unfamiliarity, the harder it is to fit a venture into an existing business unit. The transition may eventually result in a "forced-fit", which will cause organizational resistance from the receiving business unit (Rice et al., 2002).

2.2 Existing insights in the transition process

A few studies have addressed some aspects of the venture transition process and paid attention to how the tensions could be mitigated. Related to the *pre-transition phase*, research found that preparation activities are increasing the chances of the actual successful transition of the venture to the established business (Kanter, 1989; Kanter et al., 1991; Rice et al.,

2002). It is proposed that such preparation activities could include forming a transition team and performing a transition readiness assessment with questions about technical, market, organizational, and resource aspects of the venture (Maine, 2008; Rice et al., 2002). The goal of such a readiness assessment is to achieve mutual agreement on the amount of progress that both parties need to achieve and to determine the right transition time. Rice et al. (2002) suggest that the transition team uses the transition readiness assessment to develop a transition plan, which could facilitate the transition process. The process of developing a shared transition plan may lead to awareness, commitment, and connection, which are related to venture success (Thornhill and Amit, 2001). Moreover, creating appropriate governance structures supports the transition process, for instance by having effective management at the board level (Zahra et al., 2009) and organizing formal cross-functional interfaces (Jansen et al., 2009). Multiple studies stress that corporate 'champions' with sufficient discretionary power can build bridges between the venture and the corporate environment and serve to smoothen the process by advocating the venture's needs (Day, 1994; Garvin and Levesque, 2006; Henderson and Leleux, 2002).

One particular challenging aspect of the venture transition process is to determine the timing of *transition*. When is the venture ready to be incorporated in the existing business? Premature venture transition is associated with transition failure and reduced post-transition performance (Ford et al., 2010; Leifer et al., 2001; O'Connor and DeMartino, 2006). When the corporate organization integrates the venture too late, the established business might miss its window of opportunity or its first mover advantage. When transferring too early, many market and technology uncertainties may not be resolved or corporate management may force corporate ventures into established business units, while they might have grown into a complete new business group. However, existing literature does not provide useful indicators to set the right moment for transition (see O'Connor and DeMartino, 2006).

Related to the *post-transition phase*, studies show that rewarding entrepreneurial behavior is important to sustain the entrepreneurial behavior and the entrepreneurial mindset (McGrath and MacMillan, 2000) of the former venturing team and key personnel and to keep them on board (Sykes, 1986; Van de Vrande et al., 2006). The established business is geared towards control, efficiency and exploitation, which often contrasts with the entrepreneurial behavior (Garvin and Levesque, 2006; Tushman and O'Reilly, 1996). A key aspect of the entrepreneurial behavior is the ability of the former venture team to deal with uncertainty (Sarasvathy, 2001), whereas the established business stimulates risk reducing behavior These differences ask for a tailored management approach (Kanter, 1985). Therefore, reward structures and performance measurement systems should be adapted to enable continuing the right entrepreneurial behavior of the corporate venture, while simultaneously aligning interests with the established business (Teece, 2007). This alignment is not only a matter of adapting management systems, but also involves a cognitive adaptation to the new environment to make sense of the new (Schildt, Maula, and Keil, 2005). In particular if the fit with the established business is low, in terms of product-market combinations and ways of operating, this adaptation would require time and dedicated effort (Keil, 2004).

In sum, existing literature points at crucial elements influencing the transitions process, such as strategic fit, potential tensions and continued autonomy. Moreover, suggestions are done about facilitating the transition process. Yet, we still lack more detailed guidelines about how and when to transfer corporate ventures. Therefore, practical design principles are needed to develop a transition process that integrates the perspectives of the corporate venture, the established business and the corporate venturing unit.

3. Methods

To answer the research question how and when to transfer corporate ventures, we combine an empirical study of six corporate venture transition processes at two established technology firms with a design science approach. The empirical study offers insight in the process of corporate venture transition. Employing a design science approach, we use these empirical results to develop a set of design principles guiding managers in actually managing the corporate venture transition process.

The main advantage of the design science approach is that it enables connecting empirical results describing what 'already is' with developing knowledge about creating something that does not exist yet (Simon, 1996). Design science methodology offers guidelines by connecting dispersed scientific knowledge to the pragmatic and creative work of practitioners. Design science research has been employed in fields such as information systems, accounting and education (see Van Aken and Romme, 2009), and has recently been introduced and further developed in the field of management studies (Jelinek et al., 2008; Romme, 2003; Van Aken, 2004), where it is, for instance, applied on the topic of university spin-offs (Gilsing et al., 2010; Van Burg et al., 2008). Design science research focuses on developing design principles that provide the main guidelines to develop targeted solutions for a problem in a specific context (Van Aken and Romme, 2009). Design principles "involve a coherent set of normative ideas and propositions, grounded in (e.g., entrepreneurship) research, which serve to design and construct detailed solutions" (Van Burg et al., 2008: 116). These principles form a 'boundary' object between the prescriptive and pragmatic nature of the design process of organizing corporate venturing and the descriptive nature of corporate venturing research (Romme and Endenburg, 2006). Often, design principles are developed by combining the results of a targeted empirical study with a review of the available literature (Denyer et al., 2008; Van Burg et al., 2008), as we will do in section 5 by combining our empirical results with existing literature on corporate venture transition,

leading to design principles grounded in theory and practice. Figure 1 illustrates the connection between research findings and design practice according to the design science approach.

Insert Figure 1 about here

3.1 Empirical setting

The empirical data are gathered in six corporate venture transition processes at two established technology firms. The selection of six cases embedded in two different corporate environments enables us to control to some extent for unobserved heterogeneity in the corporate environment (as we have three cases in each established firm) while there also is sufficient meaningful variety (as we can contrast both established firms). The two Netherlands-based multinationals, which we called ChemCo and PhysCo to disguise their real names, were selected because they are established, active in technology industries and use corporate venturing as a means for their corporate innovation and growth strategies.

ChemCo is a chemical company with businesses all over the world. ChemCo installed an Innovation Centre to manage the innovation efforts company-wide. Besides the development of radical innovation projects, this Innovation Centre supports other (more incremental) innovation projects, and heads corporate licensing, venturing and intellectual property rights (IPR) activities. The ventures included in this study were transferred or had to be transferred to different business units.

PhysCo is an electronics company that implemented a new innovation driven strategy by separating its most promising innovation activities from the established business organization. PhysCo chose to structure its new business development and growth strategy according to three pillars: R&D service, intellectual property creation and licensing, and

incubation in a corporate venturing organization. Ventures included in this study transferred from the corporate venturing organization to several business units.

At both ChemCo and PhysCo, three corporate ventures were identified that met the following criteria: the venture was developed while being separated from the established business and the venture was in the transition process or had already been integrated. To capture the complete transition process as accurate as possible, the ventures selected in this study were in different stages of the transition process (pre-transition, transition and post-transition). Table 1 shows the characteristics of the six ventures.

Insert Table 1 about here

3.2 Data collection

Data was collected by interviews with corporate venture founders and managers (corporate venture perspective), managers from the adopting business units (business unit and established business perspective) and corporate management (corporate organization and corporate venturing unit perspective). Interviews from these three perspectives on the success, tensions, problems and progress of the venture's transition process resulted in a variety of insights. In total 16 face-to-face interviews of 1 to 1,5 hour were performed, which were recorded, transcribed and coded (Miles and Huberman, 1994). The QSR NVivo software served to store and classify the data sources and to perform the coding systematically. A second round of six interviews with the corporate venture founders and managers was performed to check and complement the description and analysis of each corporate venture. In addition, archival data were collected, consisting of official corporate documents such as transition plans and periodical venture review reports.

3.3 Data analysis

Document analysis served to form an understanding of the context. Written documentation regarding the corporate venturing programs at PhysCo and ChemCo and the involved corporate ventures was reviewed. Moreover, written documentation in the form of official learning- and review documents regarding the Alpha, Gamma and Delta venture transition trajectories was analyzed. Next, the interview transcripts were analyzed by using open coding (Strauss and Corbin, 1998) to identify transition process phases, actions and key themes. Case descriptions for corporate venture were developed, which were validated with the interviewees. Case summaries for each corporate venture are displayed in Table 2.

Insert Table 2 about here

3.4 Design principles

The design principles are constructed by combining the empirical study with a literature review. From practice, design solutions can be observed, which can serve to codify the underlying design principles. A synthesis of current research findings can further inform the construction of the design principles. Three steps are taken in this study to identify, create and validate design principles, based on Van Burg et al. (2008).

First, by analyzing the data gathered in multiple corporate venture transition processes, a preliminary version of the design principles was derived. Interviewee expressions that were comparable to the heuristic form of design principles were coded as themes applicable in potential design principles and collected accordingly. Accounts of problems and corresponding solutions served to create design principles that were more implicitly expressed by the interviewees. Subsequently, corresponding themes were clustered, enabling the creation of more generic design principles.

Second, by conducting a literature review on relevant bodies of literature, we tried to further underpin the preliminary design principles and to analyze which aspects were already

covered in the literature and which aspects provided rather new insights. We searched entrepreneurship, strategic management and innovation management literatures with nine search strings, including 'corporate entrepreneurship', 'new business development' and 'established firms', and 'technology commercialization'. The complete list of sources was reviewed on quality and relevance criteria, including the journal's impact factor. As we focus on established profit-oriented technology firms, we excluded studies of non-profit or university based entrepreneurship.

Third, we refined the preliminary design principles, integrating them with additional insights from the literature (Van Aken, 2004; Van Burg et al., 2008), which resulted in the final set of design principles reported in section 5.

4. Empirical Results: Solutions for corporate venture transition processes

The empirical study describes the transition process' phases and actions, answering the research question of how and when to transfer corporate ventures. We distinguish three phases in the transition from a separated venture to a venture that is integrated in the corporate organization: the pre-transition, transition and post-transition phase. The pre-transition phase is characterized by connecting and learning activities between the venture and the established business. In the transition phase, the actual hand-over moment takes place, where the venture is transferred to the corporate organization. The post-transition phase describes the period in which the venture is integrating in the corporate organization. The remainder of this section describes the main actions in these phases. The main lessons from the cases are summarized per transition phase and illustrated with quotes in Table 3. For the details of each of the cases, and their fit with the established business in terms of product-market combinations, we refer to Table 1 and Table 2.

Insert Table 3 about here

4.1 Transition preparation

Managers involved in this study experienced that properly preparing the transition of the venture will avoid problems with the alignment of systems and procedures, and increase the legitimacy of the venture in post-transition. As stated by the new business development manager of ChemCo, involved in the development of Beta, it is essential to involve both the venture and the business unit in the transition preparation:

If you decide together what the differentiating factors of the product are, its competitors, its pricing strategy, the customer leads and so on, you get a mutual understanding of how to run its business.

Most managers recommended forming a dedicated transition team, consisting of people from the established business unit that have worked with a venture before, and people from the management team of the venture, complemented with transition management specialists. This team has the responsibility to prepare the venture transition. Therefore, they have to perform a readiness and capability gap assessment and to make a transition plan.

The readiness and capability gap assessment aims at determining the differences between the venture and the established business with regard to technology, business model and culture:

You have to assess what is similar and what is different to this venture regarding your own business. And you have to determine that the marketing, sales and channel capabilities are in place in order to make the transition successful. (Omicron founder)

This assessment helps to identify critical business functions that require extra attention from the venture or the established business to close the gap and facilitate the transition. The manager from the corporate venturing unit, responsible for the integration of Gamma in the established corporate organization, reported:

It is essential to have some dedicated resources on critical business functions. For example, in this transition we saw sales potential, which means that we needed to ramp up production

from 2 to 40 million in just three years. Then you need dedicated resources on manufacturing and R&D to accomplish that goal, you need to fully understand how the product works and how to produce it. Besides, R&D was involved because the product and its production process could use some improvements. (Integration manager Gamma)

A transition plan can be composed based upon this readiness and capability gap assessment, including milestones, actors, deliverables, and end-state definitions. This plan is essential for a good integration process. The Gamma venture illustrated that proper integration preparation may lead to successful venture integration. The corporate organization appointed a dedicated integration manager, who developed a plan, assembled a team and performed an analysis to mitigate transition problems.

4.2 Training and personnel exchange in pre-transition phase

To be able to understand the corporate ventures' value and to facilitate the transition process, the corporate organization should acquire knowledge of the venture's technology and business model. As our respondents indicated, involving established business' personnel in the early phases of the venture's development will increase the absorptive capacity at the established business. This increases the chance of making the right transition decisions (e.g., timing, which business unit) concerning the corporate venture. In this respect, the corporate business unit could make educational investments, as a manager of the business unit which adopted Alpha reported:

You need to develop a feeling for the business [of the corporate venture]: what does the pipeline look like. And that takes time, to understand the work that has been done by five or six people in a few years. An awful lot of experience and information is needed, before you understand how the market works, what the key issues are and what the value proposition looks like.

This is an ongoing effort during the transition process, as Omicron's founder pointed out:

What we did was putting our sales employees at the established business unit to learn from each other. They needed to educate me (on ways of operating and so on) but I needed to educate them [established business] as well.

By transferring some sales employees to the sales force of the established business the venture manager facilitated knowledge sharing between the venture and the future business host in a pre-transition phase. Providing dedicated training to key business unit employees increases absorptive capacity as well, as illustrated by a corporate business development manager of PhysCo.

So, you need training to develop a diagnostic, a common language that helps people from both new business development and established business to understand the development of the ventures.

4.3 Champions in all transition phases

We found that aligning business unit management and venture stakeholders at different moments in the transition process is important for successful transfer of a corporate venture to the established business. Due to different business dynamics, logic, and risk taking behavior, established business units are often reluctant to interact with high uncertainty endeavors like corporate ventures. The venture manager should try to get the established business' attention, as the founder of Omicron reported:

So you are continuously explaining what your business is and waiting for them [established business' management] to recognize the potential. And if you're not in for it to explain this to everyone in the organization year-in year-out, you shouldn't do it at all.

The venture also needs the support of the established business to get through these strategic questionings. Getting the right corporate 'champions' was important for their development:

Champions at senior levels can help to guard the venture from a risk-averse environment, and even take on some of the stakeholder management or make supporting statements to push the venture through a narrow hole. (Founder of Delta)

A manager from the corporate venturing unit of Physco added:

The characteristics of the Delta venture were rather controversial and faced a lot of resistance in corporate organization. Due to the involvement of the CEO as champion, this venture managed to get through some tough meetings.

The venture needs to find an owner in the business unit itself, someone who will step up for the venture in periodical review sessions, and is convinced of the value of the venture for its own business. In Alpha's transition process, the 'champion' within the business unit played a crucial role in the venture's transition, as the founder of Alpha reported:

In this transition the excellent sponsor in the established business was very important. He was very enthused about Alpha technology and was planning to develop an Alpha technology platform at the established business. More importantly, he was able to sell the idea to higher management and to defend the plans, as there were some serious doubts.

4.4 Transition timing

The timing of the transition appears to be essential for the further performance of the corporate venture. Venture managers that were unsuccessful in their transition pointed out that this was mainly due to a premature decision to transfer. However, assessing the timing appears to be a complex task, with substantial risks involved. The data indicated that three elements influence the right transition timing: the criteria for adoption by the established business, the criteria for venture transition by the venture and the pressure of the corporate venturing unit to exit the incubator. One of the key criteria for new venture transition timing from the perspective of the corporate organization is the moment that the venture has achieved the first sales. The strategy director of the business unit that adopted Delta reported:

You really need to make sure that when you are transferring [the venture] into the business,

you are at the point where you think it is going to make sales, so the market growth section. When the venture made its first sales and proved its position in the marketplace, then the established business gets interested in taking the risk of supporting the venture. At the side of the venture, this coincides with the moment when the support and assets of the established business are required for the venture's development. This points towards first sales as a suitable moment for venture transition. As Delta' founder indicated:

We had an incentive to transfer because we were more and more in need of collaboration with departments of the established organization, such as marketing and finance.

Similarly, the founder of Beta stated:

When you are a venture manager around here, you make sure that at a certain moment your venture has sufficient volume, market information and potential that the mainstream business gets interested and that you involve major [established business] hosts in this process. The fact that a corporate venturing unit has only limited time, money and human resources to

facilitate ventures puts pressure on venture development, as illustrated by Zeta's founder:

Well, for us it feels like there is also pressure from the incubator organization to find a host

unit. As new ventures enter the incubator, more matured ventures need to exit as well. In our cases, it was the responsibility of the corporate venturing unit to find the proper organizational entity adopting the venture, whether inside or outside the corporate organization. The venturing unit acted as the matchmaker between the ventures and the established business units. To give the established business the opportunity to review the venture's progress and the fit with its business, a continuous dialogue between corporate management, the established business unit and venture management was needed, mediated by personnel from the corporate venturing unit. Venturing unit personnel facilitated this dialogue by organizing seminars around the corporate ventures.

4.5 Post-transition venture autonomy

The transition process requires the corporate venture to adapt to the new environment of the established business. Interviewees indicated that this change is difficult for both the corporate venture managers and the established business's employees. Furthermore, the established business was uncomfortable with the corporate venture's uncertainty and flexibility, and was often unable to properly manage the kind of small, uncertain activities that the corporate venture was exploring. A solution, as adopted in the companies studied, was to continue a certain separation of the corporate venture and the established business, even after the venture was transferred. Instead of drowning the venture into its business lines, the business unit adopting Alpha managed the venture as a 'special project', and in all the cases quick decision making was facilitated by short reporting lines (often directly to the business unit director). The actual level of continued separation depended on the degree of fit between the venture and the business unit in terms of type of clients, supply chains and distribution channels, business processes and geographical focus. For example, a manager of the business unit which adopted Gamma told:

So, we deliberately chose to manage the venture rather stand-alone once it was adopted, because we realized that when all our different staffing departments would interfere, we would smother the development of the small start-up company.

This practice is also confirmed by entrepreneurs themselves:

In our specific case, this [transition] will work when we find a balanced working relationship with the business unit where the venture will become part of. This has to be somewhat autonomous, since we are used to work autonomously. (Zeta founder)

Several of our cases show that finding the balance between integration and autonomy was the main challenge of post-transition venture development. After all, the venture was transitioned to a place in the established business in order to grow and develop into a mature business and

thus needed to learn from established procedures, implement particular systems and adopt certain standards. An integration manager of Chemco's corporate venturing unit reported:

Integrating corporate ventures is a two-sided coin; the venture cannot remain stand-alone in the established business, because there are significant changes: the business unit is the new owner, and has certain plans to be implemented, that's why he bought it. So we need to find the right balance between not smothering the momentum in the venture's development, meanwhile realizing the goals we set with the acquisition.

4.6 Performance management and rewards in post-transition phase

Decision making in the established business units was driven by institutionalized norms. Since the governance structure in the established organization rewarded risk reducing behavior, adopting the high risk level of the transferred venture was usually not rewarded. As the new business development manager of PhysCo reported:

So at New Business Development there is punishment for inaction: the venture needs to make mistakes, in order to learn and that's where the biggest culture shock with the established business occurs. When the transition is preliminary, the venture finds itself in a culture where mistakes are not accepted.

Both the venture and the receiving business unit are affected by this difference in business culture and mindset. At PhysCo, this resulted in adjusted performance review criteria, indicated the new business development manager:

So, when we review the performance of a business unit manager that has adopted a venture, this review should have two sides: one review for his operational excellence performance and one review on his business creation performance. And targets should be adjusted accordingly.

The corporate organizations adapted the performance measurement systems of the corporate organization to those of the corporate venture. For instance, in the case of Delta, PhysCo changed the performance indicators, allowing unstable cash flows and focusing on product

development and time-to-market progress rather than absolute financial performance. This has two big advantages: management of the established business unit had less difficulties dealing with the uncertainty of the venture's activities and venture personnel had fewer problems with integrating in the established business organization. The founder of Omicron indicated:

You need to create a space were all sorts of business managers have the appropriate risk taking behavior to optimally run their business, meanwhile having a place where you can take some higher risk bets. They will start looking at their established business in a different way, because they know they can create a new business if they see the opportunity.

5. Literature findings and design principles

Based upon the empirical results discussed above, preliminary design principles were derived, using the procedures as described in the methods section. To further underpin these design principles, we conducted a literature review of relevant bodies of literature. The final set of design principles synthesizes the empirical findings and the literature. In this section, insights from the literature, as introduced in section 2, are related to the empirical findings and design principles are presented.

5.1 Transition preparation

A number of studies stress the importance of forming a pre-transition preparation (Kanter, 1989; Kanter et al., 1991), consisting of composing a transition team (Maine, 2008; Rice et al., 2002), performing a transition readiness assessment from both the venture's as well as the established corporation's perspective (Kanter, 1989; Rice et al., 2002), and developing a transition plan (Rice et al., 2002). The empirical findings demonstrate the value of these recommendations, resulting in the following design principle:

Design principle 1. Prepare venture transition by composing a dedicated transition team, conducting a readiness and capability assessment, and developing a transition plan, serving to enhance the integration process and avoid integration problems afterwards.

5.2 Training and personnel exchange in pre-transition phase

Scholars have demonstrated the crucial role of absorptive capacity to mitigate cognitive barriers to enable combining existing capabilities with the corporate venture's competences, resulting in recombination benefits (Ahuja and Katila, 2001; Zahra et al., 2009; Zahra and Hayton, 2009). The necessity to develop absorptive capacity is highlighted in several studies, but description of practical interventions is mostly lacking. Here, our empirical findings provide more practical guidance, resulting in the following design principle:

Design principle 2. The corporate organization should develop absorptive capacity by providing training and establishing personnel transfer between the venture and the business unit in the pre-transition phase.

5.3 Champions in all transition phases

Existing studies found that corporate 'champions' serve to advocate the corporate venture in the established business environment (Day, 1994; Garvin and Levesque, 2006; Henderson and Leleux, 2002). The empirical findings highlight that these corporate champions are very important in all the transition phases, from the very beginning to long after venture transition. A synthesis of the literature and empirical findings results in the following design principle:

Design principle 3. The corporate organization and the corporate venture should identify and entitle strong champions (i.e., managers with discretionary power) in the established organization, who should be active in all phases of the venture transition process.

5.4 Transition timing

Determining the correct timing of venture transition is difficult (Leifer et al., 2001), but existing literature is not providing guidance to decide on the right transition moment. Yet, the empirical findings give practical criteria, which are summarized in the following design principle:

Design principle 4. The corporate venturing unit and the receiving business. The corporate venturing unit and the receiving business unit should jointly assess the transition timing. The best moment for transition is after the corporate venture has achieved the first sales and when support and assets of the established business become necessary to enable further growth.

5.5 Post-transition venture autonomy

The separation of established operations and corporate venturing has received much attention (Ambos et al., 2008; Dess et al., 2003; Maine, 2008; Tushman and O'Reilly, 1996), as well as the establishment of a bridge between corporate ventures and the established business (Leifer et al., 2001). This bridge should involve senior team integration (Maine, 2008; Tushman and O'Reilly, 1996) and formal cross-functional interfaces (Jansen et al., 2009) to strategically legitimate the corporate ventures and to prepare the transition process (Garvin and Levesque, 2006). However, existing literature does not address the questions whether the separation between the corporate venture and the established business should be maintained after the venture is transferred to an established business unit. The empirical findings indicate that maintaining post-transition autonomy is an important factor influencing post-transition success. This results in the following design principle:

Design principle 5. The receiving business unit should maintain a degree of autonomy and flexibility of the venture in the post-transition phase by using direct reporting lines

that enable quick decision making (e.g., direct contact with the business unit director). The degree of autonomy depends on the fit between the venture and the business unit (i.e., clients, channels, processes and geography) and can be gradually reduced over time.

5.6 Performance management and rewards in post-transition phase

Existing literature confirms that an important aspect of post-transition management is to properly reward entrepreneurial behavior, which was the driver for the emergence of the venture (Sykes, 1986; Van de Vrande et al., 2006). Yet, this creates a tension between stimulating entrepreneurial behavior within the corporate venture and the interests of the established business with its focus on efficiency and control. Existing studies observe this problem, but scarcely propose practical solutions to the problem. Building upon the main insights from literature and the practical solutions from the empirical analysis, we propose the following design principle.

Design principle 6. To enhance post transition performance of the corporate venture, the established business should align performance measurement systems to both the venture and the established business' requirements (e.g., by performance indicators that accept unstable cash flows and focus on product development progress).

Insert Figure 2 about here

5.7 Designing and implementing the process of corporate venture transition

We were able to specify for each of the design principles the phase in which they should be implemented. This results in specific process-oriented design recommendations for transferring corporate ventures into the established business. Certain principles are in particular relevant in specific phases of the corporate venture transition and integration. Figure 2 displays the process view on implementing the design principles.

6. Discussion and conclusions

In this study, we assessed how and when to transfer corporate ventures to the established business. Venture transition may rejuvenate the established business and is therefore sometimes favored over spinning off or selling the ventures. We provide a process perspective on corporate venture transition, which enables differentiating between actions in the different phases of the venture development and transfer process, and determining the venture transition timing. Extant literature does not integrate findings in a process framework (e.g., O'Connor and DeMartino, 2006) that specifies the particular actions in different phases of the corporate venturing transition process (Ford et al., 2010; O'Connor and DeMartino, 2006). Although scholars have described the corporate venturing process from many viewpoints, such as the corporate parent (Burgelman and Sayles, 1984), the venturing unit (Hill and Birkinshaw, 2008), and the corporate venture (Maine, 2008), they are not integrated in a process model that describes potential interventions for the transition of the corporate venture to the established business environment. In addition, although recognizing that transition timing is in particular challenging, existing studies do not specify when the transition should occur (e.g., O'Connor and DeMartino, 2006). Our study contributes to this literature on corporate venturing in two ways. First, we provide a process perspective that offers design principles specifying how to successfully transfer corporate ventures. Second, we indicate when to transfer a corporate venture from the venturing unit to the established business.

Based on an empirical study of six corporate venture transition processes, we described *how* the corporate venture transition process in each of its phases (pre-transition, transition, and post-transition) could be approached. Thus, we provide insights in the process of successful venturing and we respond to the call for viewing internal corporate venturing as a

process (e.g., Burgelman, 1983; Dess et al., 2003; Miles and Covin, 2002; O'Connor and DeMartino, 2006). In particular, we extend the widely accepted four-phase process model of Burgelman (1983). This corporate venturing model's final phase describes the process of fitting the venture in the strategic context. Our process model describes one possibility for the next step, by focusing on transferring the venture to an existing business unit. Using a design science approach, we integrated the results of our empirical study with existing literature in a set of design principles. The design principles guide actions to successfully transfer corporate ventures from the corporate venturing unit to the established corporate organization. In particular, our study specifies which principles should be applied before, during or after transition of the corporate venture to the established business. Some of the activities described in these design principles for the pre-transition phase correspond with specific strategic and contextual actions described by Burgelman (1983), such as building links with existing businesses and appointing corporate champions. Yet, by focusing on the transition moment, we provide new insights in preparing the venture transition management.

Furthermore, we identified the moment for venture transition, indicating *when* to transfer a venture to the established company. The empirical study shows that the timing of venture transition is a crucial aspect, and our study provides more insight in the right moment of venture transition. Some studies have recognized the importance of timing as well, but they did not examine the precise moment of venture transition (Ford et al., 2010; Leifer et al., 2001; O'Connor and DeMartino, 2006). Here, our study makes a significant contribution to the literature by providing more detailed insights. The data showed that three perspectives play a role in transition timing: the perspective of the receiving business unit, the perspective of the venture and the perspective of the corporate venturing unit. In addition, the ultimate criterion for transition timing appears to be whether the corporate venture is making first

sales or not. This 'sales-criterion' reflects the final element that is needed for the corporate venture to become a 'real' emergent organization according to the exchange criterion of Katz and Gartner (1988) and Thornhill and Amit (2001). Only when having first sales, the ventures leave the 'gestation' phase (Reynolds and Miller, 1992). In this respect, the expert knowledge of the practitioners indicated that a venture should first become somewhat mature (i.e., have its first sales), before it can be successfully transferred to an established business. If a venture has achieved its first sales market uncertainty is reduced, meanwhile increasing the venture's need for corporate assets to fuel further growth. Thus, corporate venture and transition managers can use this sales criterion as one of their main decision rules for setting the moment of venture transition.

The design principles developed in this study have much practical value. They can be used by corporate venture transition managers, but may also inform venture teams and established business' management. In each phase of venture transition, managers can consult the prescribed design principles to craft targeted design solutions for their specific context. Alternatively, the complete set of design principles can be used to develop a venture transition plan. Here, we in particular extend the work of Rice et al. (2002), who provided a list of ten transition uncertainties in the transition process. Our study validates a number of their recommendations (e.g., performing a transition readiness assessment), but more importantly, our study describes more in detail *which* actions could be done and specifies *when* they should be done.

Thus, the set of design principles provides an instrumental framework for practitioners, which is in particular relevant for two different situations. First, in contrast to literature arguing for a large degree of strategic fit (e.g., Gilsing et al., 2010), our analysis showed that transition problems were in particular surfacing when there was a large degree of overlap between the venture and the established business in terms of market and technology (see the

Beta venture). In this situation, implementing the design principles (e.g., design principle 6 regarding a continued degree of autonomy) reduces the chance that the venture will be terminated during the transition because of the fear for cannibalization. Moreover, the design principles appear very relevant in case the venture is radically different from existing products and markets (see the Delta venture). In this situation, implementing the design principles (e.g., design principle 1 and 2) support building mutual understanding, searching for an appropriate business unit and making use of championing managers at both ends (see design principle 3).

The validity and appropriate application domain of this study's results are limited in a number of ways. First, the external validity of our results with regard to the influence of the degree of fit between the established business and the corporate venture on the transition process is limited. To substantiate our conclusions, studies using a larger set of venture transition processes could further examine the differences in the transition processes between ventures that have a high degree of fit and ventures that have products, technologies and/or markets that differ significantly from the established business. Second, a design science approach serves to develop general design principles, but cannot claim that they will always work. Implicit assumptions or ill-understood confounding factors might reduce their validity. Third, as design knowledge is time and context dependent, the validity of the set of design principles is subject to future research that may serve to confirm, complement and refine these principles. For example, the principles regarding the transition moment are only based on our data. Future research could establish more transition criteria and advance the process view of corporate venturing and corporate venture transition. In addition, future developments in the corporate venturing practices may necessitate updating the set of design principles. Fourth, although the first validation of the design principles has been given by the study's methodology, the ultimate validity test is the practical development of solutions based

on our set of design principles by independent designers and adapted to different contexts. This could provide additional insights in the comprehensiveness, coherence, contextdependency and ease of use of the current set of design principles. As such, this set of design principles is a step toward a more integrated and practical understanding of corporate venturing transition processes.

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FIGURE 1

The research-design-development cycle (adapted from Van Burg et al., 2008)





Process view on implementing design principles for corporate venture transition



Pseudonym	Corporate company	Transition phase	Number of years as corporate venture	Period covered in case	Industry	Technology or product	Existing or new product and market	State of venture at end of period covered	State of the host unit (turnover EBITDA)
Alpha	ChemCo	Post- transition	10	2002- 2009	Chemicals	Fibers	New product, existing market	5 FTE employees, about EUR 10 Mio turnover, technology platform for the host unit.	Business Group Performance Materials, 174 Mio EUR turnover, 4000 employees.
Beta	ChemCo	Transition	6	2006- 2009	Painting	Resins	New product, existing market	8 FTE employees, about EUR 1-2 Mio turnover, venture is split up.	Business group Materials, 1823 Mio turnover, 4670 employees.
Gamma	ChemCo	Post- transition	20	1990- 2009	Nutrition	Lipids	New product, new market	About 15 FTE employees about EUR 1 Mio turnover, standalone business.	Business Group Nutrition, 655 Mio EUR turnover, 7000 employees.
Delta	PhysCo	Post- transition	2	2006- 2009	Consumer Electronics	Massage products	New product, new market	10 FTE dedicated and around 50 employees on contract, about EUR 10 Mio turnover. Venture is integrating in host unit as new product category.	Business Group Consumer; 8467 Mio turnover; around 2000 employees.
Omicron	PhysCo	Pre-transition	1	2005- 2009	Healthcare	Software product for healthcare	New product, new market	40 FTE employees, pre sales, pre- transition, talking to several host units as new technology.	Business unit Radiology; 400-500 Mio EUR turnover, 100 employees.
Zeta	PhysCo	Pre-transition	3	2000- 2009	Healthcare	Software systems for patients	New product, new market	30 FTE employees, EUR 3-5 Mio turnover, venture was in discussion with several host units, as additional product line.	The search for a host unit was still ongoing.

TABLE 1. Characteristics of the six corporate ventures

TABLE 2. Corporate venture descriptions

Alpha. Around 2002, during the development of the Alpha fiber technology, an innovation director at one of ChemCo's business units noted that the technology was potentially promising. It was fully patented and only the application areas of the technology were unknown. He imagined that Alpha's technology could be applied in different materials produced by the established business and that there was only a small threat of cannibalizing existing business. The innovation director decided to place Alpha outside the running business, since the applications of Alpha's technology would most likely be outside the current business scope of ChemCo. An engineer was staffed at the project and corporate funding paved the way for further development in a stand-alone start-up company. Product applications were developed and the first products were sold in 2005, but the long awaited 'hockey-stick' revenues did not come through. In 2007, a few investment rounds later, the Alpha venture was ready for spin out or divestiture. At that moment, knowing the recent acquisitions in consumer care, the established business' emerging markets manager saw the market-potential of Alpha and he decided to retain the technology for ChemCo. It turned out to be the right choice: the technology was used in several applications within the recently acquired activities and also multiple business units expressed their interest in the technology. The venture manager successfully sold the technology internally and positioned it within the emerging markets unit in the mainstream business organization. Soon multiple business groups of ChemCo use its technology in their new product developments.

Beta. During a strategic dialogue at ChemCo in 2006, the management of the Materials business group decided to separate the new business development activities from the established business activities to foster innovation. In one of the business domains industry regulations forced chemical companies to replace or adjust the materials in many consumer end-products before 2010. In the end of 2006, ChemCo launched Beta to develop resins that adhered to these regulations. Because the Beta venture had large overlap in markets and technology with its established business' counterparts, it was positioned outside the established business to remain innovative in its product development activities. The overlap resulted in large hostility to Beta, because it was perceived as threatening the existing business and customer base. But the established business was also depending on the innovations developed by Beta, and required a timely market introduction. Yet, being technology oriented, Beta's employees were reluctant to release the products too early in the development process. After three years, in 2009, ChemCo's management decided to change the organizational structure, and to spread the Beta activities among the business units that required its innovations to retain their competitive edge in their markets.

Gamma. Around 1990, three pharmacists decided to start their own company in lipids that influence the appetite of humans. Soon the start-up expanded and penetrated a new market segment. About 10 years later, the company started to expand internationally and faced the challenge of extensive international growth to capture market share. The company was around 15 people and needed to grow in both production and organization to be able to penetrate the global obesity care products market. The founders realized that they needed a corporate parent. Meanwhile, ChemCo's Venturing department already casted this fledging start-up as a potential acquisition target. Gamma was developing technology that fitted nicely with ChemCo's technology roadmap, while the main assets required for production and distribution were quite similar. The markets targeted by Gamma's technology and materials were not yet served by ChemCo, making Gamma an interesting business to acquire from ChemCo's Nutrition Group perspective. After taking a minority share and placing the venture in its incubator program in 2006 for three years, ChemCo decided to acquire the venture, found a business host and transitioned the venture to its corporate realm.

Delta. In 2006, during a corporate management development program, one of PhysCo's top executives got the idea of serving a specialized care market that required a new type of product. Consequently she decided to pursue the challenge of introducing the radical, breakthrough innovation to PhysCo. The Delta venture was started in 2007 and placed carefully in the Lifestyle incubator, as its product, target customer segment and business model were recognized as radically different from any of PhysCo's current businesses. Its product is a body care device (a massage product), using technology and design from PhysCo. Although Delta targets a totally different customer segment, these customers were often buying other PhysCo products. For the traditional sales channels, Delta could make use of the

network and assets of PhysCo, but Delta's management decided to establish an online sales channel as well. Such an experiment was hard for the established business units, as it could harm their close relations with the traditional sales channels. In terms of markets and technology, the Delta venture posed no threat to established business units, and so a cooperative mindset towards its development was present. As soon as first sales were made in 2008, the venture required corporate assets to facilitate further growth. When the incubator's capacity dwindled in the end of 2008, corporate management supported the quest for a proper landing spot in one of PhysCo divisions. After a series of venturing seminars, one business unit decided to invest in the venture and the transition of activities commenced.

Omicron. Based on its strong R&D capabilities in imaging technology, PhysCo developed a business in the healthcare imaging area: hardware and software to support the diagnosis and research work of physicians. In 2005, they developed digital imaging technology for a type of research that was at that time very time consuming. Being aware of its potential and radical character, the management of PhysCo decided to place Omicron in the incubator program and hired an entrepreneur to accelerate its development in 2006. The entrepreneur established a team and developed technology and products, prepared markets and sales channels, and found ways to pitch Omicron activities internally to facilitate synergies between established and venture activities. By using PhysCo's current technology and expertise the Omicron development was closely related to PhysCo's divisions, although it was targeting a completely different market segment. Because of overlap in technology but not in business model or markets, established business units perceived the Omicron venture not as a direct threat to their own businesses. Recognizing the need for internal support and funding to facilitate further development, the entrepreneur started to collaborate closely with corporate departments, in search of a business host or investor.

Zeta. Zeta's founder was already working for one of PhysCo's divisions when he in 2000 recognized a need at his hospital clients for innovative hospitality services. Because the founder was familiar with service concepts in the different markets where PhysCo was selling its products, he soon realized that there was large market potential for software systems for patients. Besides that, he knew PhysCo had the capabilities to enter this market segment. In parallel, PhysCo's research was developing similar products targeting a similar market segment. In 2001, both activities were combined in the Zeta venture. At the same time, PhysCo was starting an incubator program, and although Zeta was already developing products and talking to prospects, it became one of the first ventures in the Healthcare incubator. Zeta's development was closely related to PhysCo's established business, as Zeta was selling to the same customers. Zeta could profit from the sales channels and relationships, but also was perceived to threaten these carefully established relationships if Zeta's activities would be discontinued. In 2006, once sales picked up with projects throughout Europe, Zeta matured and required more assets from the established company. Its success caused tensions with the established business units. In 2009, the challenging environment of Zeta consisted of managing client relationships, working together with the established business units, and in the meantime looking for a business unit where Zeta could be transitioned to.

TABLE 3. Design principles related to themes from interviews

Design Principle	Phase	Theme and Quote
1	Pre-transition	 Dedicated transition team. "A review team was responsible for the transition, BU director, production, NPD, all possible stakeholders." (New business development manager of Beta) Readiness and capability assessment. "It is important to start integrating as soon as possible. It should be part of the assessment of the business host: how to integrate [the venture] in our activities." (Integration manager of Gamma)
2	Pre-transition	 Provide training. "So, he [the integration manager] was a large share of the time at the venture's side to smoothen everything and to train people and prepare processes for the transfer." (Manager of the business unit which adopted Gamma) Personnel transfer. "People within the venture project work on a certain part of the research and then new people come in. At the moment that certain work packages are finished, they become available to collaborate with established business' people to facilitate knowledge management. The people hired for the development are in the same lab as the people from mainstream business that support the delivery." (Founder of Beta)
3	Pre-transition, transition and post-transition	 <i>Corporate champions.</i> "Venture transition is in the first place something that grows organically, instead of being pushed from above. It is extremely important to create that situation instead of being force-fitted. That has a lot to do with lobbying; step by step, but in the end with the support of higher management to make it go in a certain direction." (Founder of Zeta) <i>Corporate champion in pre-transition.</i> "Actually my role at the start was that I had the task to initiate the interest in this venture. We discussed the strategic roadmap and decided that this was an area that we would start exploring. So I invited them [Gamma venture's management] at my office, together with the venturing board of ChemCo, and stayed in the team the whole process." (Manager of the business unit which adopted Gamma)
4	Transition	 First sales as a criterion. [Interviewer:] "Are you already considering transition?" [Founder of Omicron:] "No, it is too early. That only happens when you can really contribute to the profitability of a business [unit]." First sales as a criterion. "So what you see is that people are thinking, it [the venture] needs to go to the mainstream at some point but that mainstream business says that they won't pay for such uncertain activities. So there is some time required before you are certain enough for the mainstream business to adopt, and depending on your business that may take some years. So when the market is really adopting your products, and there are clients and your orderlist is growing, then the mainstream business will dare to invest." (Founder of Omicron)
5	Pre-transition and post- transition	 Venture autonomy in pre transition. "The way we would like to structure it, theoretically, is that the venture accomplishes the alpha phase [a phase in the incubator's venturing methodology], in which there still is a kind of shelter from pressures from the business, and we have to kind of find out what it wants to do." (VP Strategy PhysCo Incubator) Venture autonomy in post transition. "What we got into was quite successful, because the host unit was managed like a portfolio of activities, without much staffing and with modest distance between management and the business. So they let the businesses report on finance and strategy and don't bother too much about other things." (Founder of Delta)
6	Post-transition	 Performance measurement alignment. "So, when a venture reaches a certain state of maturity, you may start measuring its performance. You may look at product development progress, market education progress, and regulatory approval progress." (Founder of Omicron) Performance measurement alignment. "At the time of transition, we agreed upon a certain set of performance measurement criteria with the new business development board, but we should have involved the host unit as well, because they may have different interests. Some elements are important for us and for the incubator, but for the hosting unit sales may be more important. That's what counts in the end, they want to develop a new business, and that has to be profitable. We are now in a phase were sales is becoming more important, but we need to learn from our mistakes as well." (Founder of Delta)