

**SEARCH AND INTEGRATION IN EXTERNAL VENTURING: AN INDUCTIVE
EXAMINATION OF CORPORATE VENTURE CAPITAL UNITS**

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Research summary

How do external venturing units effectively achieve external knowledge search and integration of their initiatives with mainstream organizational units? We investigate this largely unexplored question through an inductive study of 17 corporate venture capital units. We document a set of five novel practices that influence the efficacy of a unit's external search and internal integration, and identify how these practices complement a broader set of practices used by all units. We highlight the entrepreneurial nature of managing an external venturing unit, often to overcome unfavorable corporate contexts, a perspective that prior research has largely overlooked. Our findings provide unique insights into why some corporate investors are better at learning from external startups than others.

Managerial summary

External venturing involves strategic partnerships by established firms with entrepreneurial ventures. Top management usually tasks autonomous units with searching for willing and potentially valuable partners. These units must integrate their activities with the operations of parent firms to elicit cooperation from important business units. To understand how external venturing units implement search and integration in combination, we study corporate venture capital (CVC) units, which form external partnerships through minority investments in startups. While all units adopted fundamental processes that are well-established in the venture capital community, certain processes that are idiosyncratic to corporate investing helped units demonstrate superior performance in their strategic missions. These processes often required CVC unit managers to be entrepreneurial and politically savvy in building connections with relevant personnel in parent firms.

SEARCH AND INTEGRATION IN EXTERNAL VENTURING

Although established firms need to adapt to changing competitive environments to survive and prosper over time, they are often constrained in doing so by their own processes, cultures, and capabilities (Leonard-Barton, 1994). An important way incumbents can remain nimble while continuing to compete in core businesses is through corporate venturing—programmatic efforts to create new entrepreneurial ventures within the firm (Block and MacMillan, 1993). Venturing can be internal or external, depending on whether the venture idea and required resources originate inside or outside firm boundaries (Sharma and Chrisman, 1999).

In internal corporate venturing, new business ideas are generated and nurtured within the firm, often through autonomous efforts by lower-level employees rather than explicit top-down direction (Burgelman, 1985).¹ In contrast, external venturing involves a deliberate search for new ideas and knowledge outside firm boundaries (Keil, 2004; Keil et al., 2008). Established firms typically pursue external venturing by partnering with and learning from young entrepreneurial ventures (Wadhwa and Kotha, 2006), through dedicated units distinct from the mainstream organization (Dushnitsky, 2012). These external venturing units are tasked with the responsibility of searching for new ventures that are willing and potentially valuable partners (Keil, 2004). Thus, the effectiveness of an external venturing unit depends considerably on the efficacy of its external search processes (Dushnitsky and Lenox, 2005).

Research also suggests the extent to which external venturing units are effectively integrated with mainstream units complements their external search efforts (Hill and Birkinshaw, 2014). External venturing units act as boundary-spanners between external partners and units within their parent firms (Keil, Autio, and George, 2008) and thereby face unique challenges in

¹For example, firms often create autonomous units such as incubators or skunk works to nurture internal ventures with strategic potential but poor strategic fit with mainstream businesses (Burgelman, 1985; Sykes, 1990).

fostering knowledge sharing between these parties (Puranam and Srikanth, 2007). To perform their assigned role effectively, external venturing units must overcome the apathy or outright resistance of mainstream units towards sharing resources with, or learning from, external venture partners (Chesbrough and Rosenbloom, 2002).² Effective integration of external venturing units secures cooperation for themselves and external partners from the mainstream organization, enhancing these units' performance (Gaba and Bhattacharya, 2012).

In sum, research demonstrates that external venturing can contribute to the renewal and resilience of incumbent firms and is distinct from internal venturing in important ways. Scholars have pointed out that while it is important for external venturing units to engage in both search and integration, achieving both simultaneously can be challenging. Focusing on external search can result in relative isolation from the mainstream organization (Chesbrough and Rosenbloom, 2002; Sykes, 1990), while efforts at enhancing integration can detract from the unit's primary search mission (Hill and Birkinshaw, 2014).

Despite these contributions to our understanding of external venturing, this literature is limited in two important respects. First, while prior research has highlighted the importance and challenges of search and integration during external venturing, there is little examination of the specific practices³ that allow venturing units to overcome these challenges. Prior research has typically highlighted effective search processes without elaborating on how they may affect integration or vice versa. Therefore, research has yet to identify how search and integration processes can work in tandem without impeding each other. For example, Keil et al. (2008) identify particular problems external venturing units face in searching for external ventures and in

² Mainstream units often lack incentives to work with new ideas or knowledge generated by external venturing units, view such units as a threat to their internal activities, and resist ideas that are inconsistent with the organization's dominant cognitive frameworks and business logic.

³ Throughout this paper, we use the terms *practices* and *processes* as synonyms.

integrating with mainstream units, but do not explore how particular venturing practices address these problems. Souitaris, Zerbinati and Liu (2012) demonstrate trade-offs between structures that increase venturing units' legitimacy with external venturing audiences (facilitating search) and those that increase legitimacy with internal mainstream unit audiences (facilitating integration). However, this study does not examine how these inconsistencies can be resolved so that units can be efficacious in search *and* integration. Similarly, Souitaris and Zerbinati (2014) identify and describe eight practices that differentiate corporate venture capitalists (a particular form of external corporate venturing) from independent venture capitalists (VCs) but do not investigate which of these practices aid search or integration, and how.

Second, research has primarily focused on top management initiatives that foster search and integration (Dushnitsky and Shapira, 2010; O'Reilly and Tushman, 2008). Scholars have highlighted how senior managers who create specialized units also try and find ways to integrate these units with the mainstream organization (Tushman and O'Reilly, 1996)⁴, and establish performance metrics and incentives to influence the search for external partners (Dushnitsky and Shapira, 2010). By emphasizing top management's role in integration and search, researchers have overlooked the potential for entrepreneurial agency by unit-level managers, particularly in the context of external venturing, to overcome the constraints and challenges of their corporate environment. While some recent studies acknowledge the importance of integration initiatives external venturing units undertake to build relationships with the mainstream organization (e.g., Hill and Birskinshaw, 2014), research is yet to highlight specific practices that unit-level managers can adopt in this regard.

⁴For example, an organization's top management is responsible for "strategic integration," which consists of "a common strategic intent, an overarching set of values, and targeted structural linking mechanisms to leverage shared assets ... orchestrated by a senior team with a common fate incentive system and team processes capable of managing these inconsistent alignments in a consistent fashion" (O'Reilly and Tushman, 2008: 22-23).

We address these limitations by studying *how external venturing units effectively achieve external knowledge search and integration of their initiatives with mainstream organizational units*. We seek to identify processes that help overcome the challenges of implementing search and integration in combination. We examine an important type of external venturing unit, responsible for corporate venture capital (CVC) investments, to address our research question. CVC units are dedicated, specialized units of established firms that make minority equity investments in privately held entrepreneurial ventures (Dushnitsky and Lenox, 2005, Wadhwa and Kotha, 2006). CVC investments allow corporate investors to access and learn about potentially valuable or disruptive knowledge their portfolio companies are developing (Basu, Phelps and Kotha, 2011; Dushnitsky and Lenox, 2005). The rapid global growth in the pursuit of CVC by incumbent firms over the past decade (Global Corporate Venturing, 2015) has been accompanied by increasing academic research on the topic (see Dushnitsky, 2012).

Given the lack of research into how and why external venturing units achieve effective search and integration, we conducted a qualitative, inductive study of 17 corporate venture capital units. This study extends substantive theory of CVC unit performance by explaining how unit-level processes differentially influence the efficacy of its search and integration. In particular, we document a set of five practices that prior research has not adequately examined, but which were found to have important influences on either CVC unit search or integration. Our results suggest that CVC units that minimize the complexity of deal negotiations with ventures and protect ventures' strategic interests improve their reputation among start-ups and VCs as attractive investors. Units that evaluate and select ventures based on an early stage of development increase the search benefits they offer their parent firms by helping them probe potentially useful, but uncertain technologies, markets, or business models before rivals. Moreover, CVC units that help develop explicit collaborative blueprints between venture partners and mainstream businesses

create social contracts between the parties, thereby increasing venture integration. Finally, CVC units that avoid competing with mainstream units and frame their role as complementary reduce internal political resistance to their activities, resulting in more effective unit integration.

Drawing from our data, we provide in-depth explanations for how these processes enhance aspects of search or integration, and how they are complementary to each other as well as with other fundamental practices. Therefore, our study highlights how CVC units can overcome the trade-offs of effective search and integration and accomplish both effectively. It also suggests the benefits of an organizational configuration approach (Miller, 1996), in which variations in bundles of practices are responsible for favorable organizational outcomes rather than individual practices alone. Through our focus on micro-level practices adopted by unit managers, we highlight how these managers are required to be entrepreneurial and politically savvy, to respond to corporate contexts that are sometimes unfavorable. These insights are often counter to conventional wisdom and have largely been overlooked by prior research.

THEORETICAL BACKGROUND

Prior research on CVC has been conducted at three levels of analysis (Narayanan, Yang, and Zahra, 2009). First, considerable research has focused on established firms' motivations to engage in CVC activity and the resultant outcomes to these firms from such efforts (Basu et al., 2011; Dushnitsky and Lenox, 2005; Gaba and Meyer, 2008). Second, researchers have examined ventures' motivations for pursuing CVC relationships, how they manage the relationships with their investors, and how such ties affect venture performance (Dushnitsky and Shaver, 2009; Katila, Rosenberger and Eisenhardt, 2008; Maula, Autio, and Murray, 2009). Finally, research has focused on CVC unit structures and practices that enable them to function more effectively (Hill et al., 2009; Souitaris et al., 2012; Yang, Narayanan, and Zahra, 2009). We elaborate on the

last research stream given its relevance to our research question.

Search and integration in CVC units

Recent studies have examined CVC units' search activities, that is, the formal role which these units are tasked with (Dushnitsky and Lenox, 2005). An important aspect of search is the generation of investment opportunities. Some studies highlight the benefits of "syndication" or co-investing with other investors such as independent VCs (Hill et al., 2009; Yang et al., 2009). Syndication partnerships are beneficial in increasing the "deal flow" of potential investment opportunities (Wright and Lockett, 2003), and particularly for corporate investors, can help in learning good investment practices from experienced investors (Maula, Keil, and Zahra, 2013). While it is difficult for CVC units to form these relationships initially, they can gain legitimacy within the VC community by mimicking its decision-making and compensation practices (Souitaris et al., 2012). CVC units can also access greater investment opportunities by enhancing their reputations as valuable partners that nurture portfolio companies with critical resources (Wadhwa and Basu, 2013).

CVC units' search activities also involve selection of ventures for investment from available opportunities. Some studies highlight the importance of selecting appropriate sectors in which to invest, proposing that relatedness to the investor's expertise (Keil et al., 2008) and the technological opportunities that sectors offer (Dushnitsky and Lenox, 2005) should be considered. Moreover, research examines how learning from existing CVC relationships should also inform subsequent selection criteria. Keil et al. (2008) characterized CVC relationships as a form of "disembodied experimentation", wherein multiple trials with new technologies and business models take place outside the boundaries of the corporate investor, providing information about their potential economic value.

Other studies have focused on the integration approaches that enable CVC units to fulfill

their role as knowledge brokers between parent firms and portfolio ventures. They suggest that effective CVC units should monitor their investments through board memberships or observation rights (Wadhwa and Kotha, 2006). Further, CVC units can facilitate integration with mainstream units by emphasizing knowledge sharing at the organizational level, and by building relationships with those units' managers based on trust and commitment (Weber and Weber, 2011). CVC units may also sacrifice the pursuit of legitimacy with VC firms to increase their legitimacy with internal mainstream units for more effective integration (Souitaris et al., 2012).

In sum, research has typically examined how CVC units pursue either search or integration activities, and highlighted the challenges of pursuing both aspects simultaneously (Souitaris et al., 2012; Weber and Weber, 2011). However, we know little about how CVC units effectively manage search and integration simultaneously, which is crucial to their own survival and their parent firms' renewal (Hill and Birkinshaw, 2014; Keil et al., 2008).

METHODS

We employed a qualitative, inductive research approach, which is appropriate for “how” and “why” questions (Eisenhardt and Graebner, 2007) such as those motivating our research. We sought to elaborate on “substantive” theory – theory pertaining to a specific context and phenomenon (Burgelman, 2011) – of how and why CVC units achieve effective search and integration. Theory elaboration is implemented when pre-existing conceptual ideas or a preliminary model drive a study's design and results are contrasted with past findings through description, interpretation, and explanation (Lee, 1999).

Design and sample

Design. We used a multiple case design following “replication” logic where cases are analogous to experiments. Each case serves to confirm or disconfirm the inferences drawn from others (Yin,

1994). This approach enables a broader exploration of the research question and a better grounding for theoretical insights using empirical evidence (Eisenhardt and Graebner, 2007). Although our research question primarily addresses the level of the CVC unit, we employed an embedded design involving multiple levels of analysis including the CVC unit and the parent corporation, which increases the likelihood of inducting richer and more reliable theoretical insights (Yin, 1994). Multiple-case embedded designs have been adopted in prior research on CVC to study related research questions (Keil et al., 2008; Weber and Weber, 2011).

Sample. We sought to observe the CVC units of U.S.-based firms⁵ that exhibited maximum variation in certain observable characteristics (Miles and Huberman, 1994). Based on our reading of the CVC literature, we selected CVC units that varied by four observable characteristics: parent firm primary industry, parent firm size, CVC unit size and age. This approach helped examine any variances in CVC unit practices in different contexts. To increase the likelihood of finding contrasting patterns and polar differences in performance (Yin, 1994), we sought cases that involved active CVC investors and recently disbanded units.

We used Thomson Financial Corp.'s VentureXpert database to identify active or recently inactive corporate investors that exhibited variation across the above dimensions. Next, we contacted a senior manager at each CVC unit and invited him or her to be interviewed. If our initial contact declined, we contacted others in the same unit. If none of the managers responded positively, we expanded our list to other CVC units. Finally, we assembled a set of 17 cases (i.e., units) – 13 active and four recently disbanded. To ensure the sample was consistent with our research question, we asked specific questions to corroborate media reports that all units had a

⁵ U.S.-based units carry out the vast majority of CVC investments (Dushnitsky, 2012). Sampling only these units also holds the influence of formal and informal national institutions constant.

primarily strategic mission involving access to external knowledge. Our CVC units pursued three types of strategic objectives: horizon scanning, gap filling, and ecosystem building, each of which have been identified and described in prior literature (Chesbrough, 2002; Kann, 2000).⁶

Descriptive information about our sample of CVC units, their parent firms, and interview subjects is provided in Table 1. We disguised unit names to protect their identities.

--Insert Table 1 about here--

Data collection and sources

Interviews. We conducted interviews in multiple waves between 2006 and 2012. As Table 1 shows, our primary respondents were senior managers of active CVC units and former senior managers of disbanded units. They represent “key informants” who are highly knowledgeable about the phenomenon being studied (Kumar, Stern and Anderson, 1993). To assess the perspectives of different internal stakeholders about a particular CVC program, we also interviewed senior managers from business units and corporate functions (e.g., R&D) at the parent organizations of many of the CVC units. These managers typically had long tenures and technological backgrounds at their respective firms. Our choice of respondents therefore helped minimize recall problems that could potentially influence the results (Huber and Power, 1985).

Consistent with the theory-elaboration objective, we adopted a focused approach in which findings from prior research guided the data collection and analytical procedures (Eisenhardt, 1989). In particular, because our motivation is to extend theory concerning the role of search and integration in external corporate venturing, our data collection efforts were focused on, but not limited to, these specific aspects of units’ activities. We developed a semi-structured protocol,

⁶Most units had more than one type of objective. Twelve units pursued horizon scanning, i.e., investing in ventures that were developing technologies and business models that could potentially disrupt their parents’ products or technologies. Nine units pursued gap filling, i.e., investing in ventures with knowledge their parents did not possess but needed in order to develop new products and processes. Three units pursued ecosystem building, i.e., investing in ventures with complementary products which may enhance the demand for the parents’ products.

with some variation among active and disbanded unit managers, and parent organization managers. Open-ended questions in the protocol concerned the following areas of CVC unit operations: 1) motivation and structure of the CVC program; 2) determinants of investment volume and deal flow; 3) unit hiring and compensation practices; 4) evaluation and selection of portfolio companies; 5) monitoring of investment relationships; and 6) evaluation of individual investment and program success. Interviews followed the “courtroom” procedure (Eisenhardt, 1989) focusing on facts, concrete examples, and quantitative data, which are less subject to cognitive biases and impression management than opinions or interpretations (Huber and Power, 1985).⁷ Each interview lasted approximately one hour on average and was typically recorded and transcribed. We did a total of 28 interviews with a combined transcript length of 530 pages. Of these, 17 were with current and former CVC unit managers and 11 were from other perspectives (mostly parent firm managers, but also a few portfolio company managers, co-investors, and competing firm managers).

Archival data. We supplemented interview data and follow-up emails with archival information about each CVC unit and corresponding parent firm. This information was collected from a variety of sources such as parent firm 10K statements, company websites, Factiva, Lexis-Nexis, and the VentureXpert database. It included data on unit investment volumes and patterns, choices of sectors, motivations, rounds of investments, and syndication activities. The supplementary data enriched informant statements, helped to clarify ambiguous statements, and confirmed interview data where applicable. Such diverse sources helped triangulate our primary data (Jick, 1979) and examine them from multiple vantage points (Yin, 1994).

⁷To encourage candor and accurate information, all subjects were assured confidentiality and the opportunity to review and revise the transcripts (Huber and Power, 1985).

Data coding and analysis

Following prior research (Eisenhardt and Graebner, 2007; Miles and Huberman, 1994), we used a three-step analytical procedure, as described below:

Step 1: Within-case analysis to identify search and integration processes. We treated all data about a sample CVC unit as constituting a single case (Miles and Huberman, 1994). We followed the practice of “constant comparison” (Strauss and Corbin, 1998) through cycles of comparing basic coding of raw data with induced higher level abstractions. First, we carefully read the interview transcripts and associated archival materials in order to “open code” an informant’s responses, using his or her own language (retaining words, phrases, terms, or labels offered by the informant). We tagged each passage that conveyed a particular point, thought, or idea with one or more codes that reflected what the informant was describing. Next, we reduced the dimensionality of these open codes by constructing first-order processes (Strauss and Corbin, 1998). Finally, first order processes were grouped into broad activity themes that involved a critical aspect of search or integration. The mapping and clustering of codes and processes involved numerous iterations until we reached “theoretical saturation” (Miles and Huberman, 1994), where no new theoretical categories emerged from the last few cases studied.

Step 2: Evaluating performance outcomes for each case. Research suggests that high performing CVC units positively affect diverse stakeholders and maintain favorable relationships with these stakeholders (Bassen et al., 2006; Hill and Birkinshaw, 2014). Thus, we sought to capture the nature of our units’ relationships with three important sets of stakeholders: the parent firm's top management, business unit personnel, and investing partners, each of whom is vital to the units’ continuance (Hill and Birkinshaw, 2014). Observations by unit managers (and parent firm managers wherever applicable) on relationships with these critical stakeholders were used to evaluate each unit’s performance in fulfilling its strategic mission.

We identified four strong performers based on respondents' observations of favorable relationships with all three stakeholders: Impressive, Qualified, Momentous, and Leading Ventures. We also identified three weak performers where respondents reported unfavorable relationships with each of these stakeholders: Booming, Advanced, and Knockout Ventures. The remaining units, which had mixed assessments, were treated as average performers.

In 2006 (when we conducted our initial interviews), the four strong performers had been active for between five and 16 years, and their cumulative investments ranged from \$80 million to \$3 billion. In contrast, two of our weak performers, Booming and Advanced, had been disbanded recently. The third unit, Knockout, was still active and had accumulated investments of around \$100 million, but annual investment volumes were volatile and the unit was often on the verge of termination.⁸

The strong and weak performers are highlighted in Table 2, along with representative quotes regarding their relationships with the three types of important stakeholders.

-- Insert Table 2 about here --

We also attempted to confirm our categorizations of strong, average, and weak performers using archival data to evaluate the extent to which the CVC units were able to transfer knowledge to and from portfolio firms⁹. Building on prior research (e.g., Gomes-Casseres, Hagedoorn, and Jaffe, 2006), we used patent cross-citations to measure interfirm knowledge transfer. We collected bibliometric data on all U.S. patents issued between 2001 and 2006 (the five years prior to when we conducted our first round of interviews) to parent firms and their portfolio

⁸ The unit was terminated in 2012 as we were working on subsequent revisions, which increased our confidence in the predictive reliability of our evaluative approach. The respondents from the other two disbanded units reported mixed outcomes and suggested their closure might have occurred for reasons other than performance.

⁹ Both inbound and outbound knowledge transfers are central to the performance of a CVC unit (Basu et al., 2011). While inward learning is necessary to realize investor strategic objectives (Wadhwa and Kotha, 2006), outbound knowledge transfer indicates an investor's ability to nurture portfolio firms and thereby realize long-term collaborative goals (Keil et al., 2008).

companies. Inbound knowledge transfer from a portfolio company was assumed when the focal corporate investor's patents cited the portfolio company's patents (at least once) after the investor's initial investment. Outbound knowledge transfer to a portfolio company was assumed when the portfolio company's patents cited the patents owned by the corporate investor (at least once). Parent companies of the strongly-performing units generated inbound learning from 17% of their portfolio firms, while 27% of portfolio firms garnered outbound learning from these parents, which were significantly higher than corresponding figures for the average and weak performers. In contrast, weakly-performing units' parents generated inbound learning from 7% of their portfolio firms while 11% of the portfolio firms garnered outbound learning from the parents. Both values were significantly lower than those for the strong and average performers.

Step 3: Cross-case analyses using predictor-outcome matrices. Finally, we created “case-ordered predictor-outcome matrices” (Miles and Huberman, 1994) to discern similarities and differences in adoption of processes among strong and weak performers. A focused comparison of only the polar cases enabled clearer contrasts to emerge and stronger inferences to be made (Yin, 1994). This exercise allowed us to identify key search and integration processes that appear to enhance unit performance (cf. Weber and Weber, 2011, for a similar approach). We also examined how average performers adopted these processes in combination. Throughout our analyses, we developed causal explanations for the observed relationships by theorizing about underlying mechanisms, considering existing evidence, and checking respondents' explanations for any linkages (Miles and Huberman, 1994).

FINDINGS: IMPORTANT UNIT PROCESSES

As discussed above, we first conducted within-case analyses to identify all search and integration processes adopted by units. This approach helped us uncover processes related to generating and

selecting venture investment opportunities (aspects of a unit's search mission), and integrating specific ventures as well as overall unit activities with the mainstream. We summarize the primary links between these practices and the different dimensions of search and integration in Figure 1. We subsequently discuss how some practices have secondary links with other aspects of search and integration.

--Insert Figure 1 about here--

After identification of strong, weak, and average performers reported earlier, we conducted cross-case analyses to identify patterns in the adoption of each search and integration process. The results of these analyses are presented as a case-ordered matrix in Table 3, depicting the use of all observed search and integration practices by each sample unit, arrayed by unit performance.

--Insert Table 3 about here--

Based on differences in adoption among sample units, we identified three types of unit-level processes which are also depicted in Figure 1. Four of the search processes and two integration processes were adopted by all units, and were therefore termed as *universal* processes. Most CVC managers probably understand the benefits of these processes resulting in their widespread adoption. Consequently, these processes appear to be necessary but not sufficient to ensure that a unit stands out as a strong performer. Our findings also highlighted a few *contingent* processes, of which one was in search and two in integration. For these processes, the links to unit performance appear to be ambiguous since some strong units did not adopt these processes while some weak units did. While these processes perhaps help unit performance in certain situations, they may impede performance in others.

While we briefly describe processes of the above two types in this section for the sake of completeness, we focus particularly on a third type of unit-level process, which all the strong

performers had adopted but none of the weak performers.¹⁰ Processes of this type, which we term *differentiating*, therefore appear to be strongly related to CVC unit performance. We identified three differentiating search and two differentiating integration processes. The qualitative evidence for the differences in adoption of these processes between strong and weak performers is provided in Tables 4 and 5.

--Insert Tables 4 and 5 about here--

Search processes

The formal role of a CVC unit is to search for new investment opportunities (Dushnitsky and Lenox, 2005). Effectively doing so ensures that valuable knowledge from portfolio firms is available to mainstream units and complements their internal competencies (Chesbrough, 2002). As vital aspects of the search function (Siggelkow and Levinthal, 2003), we found that CVC units adopted processes that helped in both generating adequate venture investment opportunities and selecting ventures for investment. All three types of processes— universal, contingent, and differentiating— were among the search processes observed.

Opportunity generation. We observed two *universal* processes, adopted by all units, for generating new investment opportunities. The first such fundamental approach was *syndication with traditional VCs*, that is, investing in partnership with such investors. This practice enabled units to gain visibility and legitimacy within the investor community and consequently increase deal flow. As the manager of Productive Ventures asserted:

We also happen to be a pretty nice syndication partner because we invest relatively small amounts. We do add credibility due to our brand. Our venture friends tend to pick up the phone and show us a lot of stuff.

Another universal process adopted by all units was to pursue a *nurturing orientation*

¹⁰We found evidence that either a weakly performing unit had not adopted a particular process or no evidence to show it had adopted the process, whereas we found strong evidence for the adoption of each process by all strongly performing units.

towards their portfolio firms by transferring vital resources from their parent companies. Units using this approach built a reputation as a valuable partner, which again helped attract a greater volume of investment opportunities. As the manager of Dynamic Ventures remarked:

I need to know that that a strong connection is made that will continue. Then, the small company benefits because it knows somebody's going to help them exploit their technology while using [the investor's] customers or market access, whatever we agreed.

One *contingent* process that some of our units pursued was to take a *lead investor role* in several investments. Different approaches to leading an investment involved being the only investor in a round, inviting other investors to form a syndicate, and deciding the terms of the deal. A lead investor role resulted in greater visibility in the investment community and thereby more invitations to participate in financing other ventures¹¹. For example, the manager of Qualified Ventures remarked:

As we had more visibility into the market and better understanding of the product or technology, we took on more of a co-lead role. We brought [in] the VCs, helped them understand the opportunity better from a technical and market standpoint, and influenced the terms of the investment.

We now highlight two important *differentiating* processes that appeared to strongly help opportunity generation, but which prior research has not examined adequately. This first was to pursue *reductions in deal complexity*, through efforts to simplify and minimize the terms and conditions of the investment contract. Units pursuing this process made investments more quickly, more transparently, and less restrictively for the portfolio venture. As the manager of Impressive Ventures noted, such efforts were of high priority for his unit:

We typically heard [from ventures] that our deal process is too complex; we have a lot of terms and conditions. I think we're addressing and getting a lot better at [these areas].

¹¹ However, some of our respondents remarked that taking a lead investor role may be counterproductive if a corporate investor lacks the expertise or credibility to put together an investment deal, which might explain the mixed effects of this process.

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The manager of Momentous Ventures suggested that restrictive contractual clauses made potential portfolio companies reluctant to form relationships. Therefore, the absence of such clauses resulted in a unit becoming more desirable for ventures as a partner.

Contractual terms like the right to first refusal are rare [for the unit] because they create a financial impediment to the company and quite frankly most companies won't sign them.

Table 3 indicates and Table 4 provides further evidence that all strongly performing units recognized the importance of this process. However, respondents from the weakly performing units did not indicate that reducing deal complexity was an area of concern and further remarked that they often tried to insert contractual rights into a contract (with the often unintended effect of increasing its complexity).

The second differentiating opportunity generation process was to ensure *protection of venture interests*, such that units' own or parent activities did not negatively impact a portfolio venture's prospects. This addressed entrepreneurs' concerns regarding investor opportunistic behavior and resulted in more opportunities seeking investment in the long run. For example, the manager of Momentous Ventures explained that he tried to protect the portfolio companies' intellectual property before they received funding from his unit.

We don't want to invest in things that we have conflict with. We tell people: if you don't have the intellectual property [protection] on something yet, [we] don't want to see it.

The Qualified Ventures manager described another approach used to protect venture interests. He consciously avoided investing in ventures that directly competed with any of the unit's existing venture partners, signaling the unit's commitment to these partners.

We would not invest in competitors of our portfolio company. We were very loyal to the company that we invested in. So, that created a reputation of these companies wanting to have us on as an investor versus looking at us as a sort of necessary evil.

As Tables 3 and 4 indicate, all strong performers took deliberate steps to protect portfolio

company interests while the weak performers did not undertake any such specific actions.

Moreover, there were instances at Booming Ventures when their mainstream units violated a portfolio company's interests. The average performers were split between adopting these two differentiating opportunity generation processes. Four average performers made efforts to reduce deal complexity and were also conscious of protecting venture interests. The joint adoption of these processes by some units suggests complementarities such that adopting one makes the other less costly or more valuable.

Our data suggests important reasons why reducing deal complexity and protecting venture interests result in the generation of quality investment opportunities. A common perception of entrepreneurs is that corporate investors are difficult to work with (Katila et al., 2008), which can dissuade ventures from seeking CVC funding. Our respondents often faced similar concerns such as, "corporations move too slowly," and their "deal process is too complex." Potential portfolio companies were worried that the investor could be "looking to potentially buy them," "infringing on the probability of raising more money," and "tainting in some form [through investment]." Simplifying the terms and conditions in the investment contract helped venture managers see that the investor had "an ability to move quickly if necessary," was foregoing "any special rights," and keeping investments at "arm's length where the company does not experience a bear-hug."

Further, the threat of intellectual property misappropriation by corporate investors is a major concern for entrepreneurial ventures, which can inhibit them from accepting CVC investments (Dushnitsky and Shaver, 2009). Many of our respondents similarly noted that their portfolio companies did "sometimes have problems with technological leakage" and believed that their knowledge would be used to "fill white spaces within the corporation." The onus was usually on the CVC units to "go out of [their] way to partner in a meaningful way" and "clarify the intent of the investment model."

Opportunity selection. The opportunity selection aspect of search involves the development of criteria for evaluating ventures for investment. Following standard VC practices, a *universal* process that all our units tried to implement was a careful *evaluation of venture potential* prior to making an investment. In particular, they exercised due diligence in evaluating the quality of ventures' technology and management, which are often important predictors of subsequent performance. As our respondent from Ultimate Ventures remarked:

We often evaluate a technology that's still trying to prove itself. Clearly their management's experience with that type of business opportunity is going to be important to us.

Another universal process was a *focus on broad thematic areas* for investment by all units. Such thematic areas were often identified by considering the complementarity or relatedness with the investors' areas of expertise. Some units developed strategic plans to formally identify the sectors they would be focusing on in future. Our respondent from Joyous Ventures observed:

We seek novel therapies, devices, or technology platforms that are strategically aligned with [the firm's] areas of focus. We proactively seek investments in such specific areas.

In contrast to these well-known universal processes, a relatively novel *differentiating* selection process involved the *commitment to early-stage ideas*. Units adopting this process invested in ventures that possessed potentially valuable knowledge but which required significant further development, such as recently founded ventures and/or ventures that had not yet launched a product,. Therefore, they focused on the long-term potential of portfolio companies as opposed to an immediate route to commercialization. The manager of Leading Ventures noted:

Strategically our interest is in seeing enough early stage innovation get funding. So we're trying to make closer alliances with the few very early stage investors that remain in the life sciences, and we're trying to establish some capability for ourselves there.

This process also included commitment to a venture's development as its early-stage ideas

matured. One approach that units used to display commitment was by making follow-on investments in later funding rounds. Follow-on investments also prevented dilution of ownership in a venture to the point where access to its ideas became difficult for the corporate investor. The manager of Impressive Ventures noted his unit's committed approach, thus:

For a reasonably healthy portion of our deals, we can look at something and say, that thing really looks like it has serious long term potential. And we're relatively patient money as long as the company is progressing and moving and doing the things that make sense. We can stick with it.

As Tables 3 and 4 indicate, our respondents from strongly performing units mentioned a continuing commitment to ventures' development while their early-stage ideas matured. In contrast, none of our weak units reported an overriding emphasis on early-stage ideas or a patient approach to nurturing ideas. The former manager of Advanced Ventures explained that if he did invest in early-stage ventures, it was with a view to increasing financial returns rather than gaining access to ventures' ideas. While the former manager of Booming Ventures did invest in early-stage ventures, he did not usually make follow-on investments, indicating a lack of continued commitment. Of the 10 average performers, only five adopted this process, as indicated in Table 3. Three of these five units also adopted both the differentiating opportunity generation processes¹², suggesting some complementarity between the earlier processes and this key opportunity selection process.

In contrast to prior research that argues for the conditional benefits of making early-stage ideas for both corporate investors (Markham et al., 2005) and ventures (Kann, 2000),¹³ our results also suggest that corporate investors can *always* benefit from investing in early-stage

¹²As discussed below, these units were deficient in one or more differentiating integration processes.

¹³Despite its recognized benefits, the actual adoption of this process is rare since CVC managers tend to be relatively risk-averse, perhaps because compensation structures do not incentivize taking risks (Dushnitsky and Shapira, 2010) or because of limited experience with VC investment processes (Dokko and Gaba, 2012).

ideas, once they have taken steps to protect venture interests as discussed earlier. In such cases, CVC investments can be beneficially used as low-cost probes to evaluate uncertain but potentially valuable initiatives before further commitment is made. Drawing from multiple interviews, our respondents mentioned that “we use the minority equity model when we don’t think we know enough about what the company has or what the technology could do for us”, or that “the companies that we bring in for investment evaluation have a two to five year horizon in terms of things that might impact our business.” The CVC investment model is most appropriate when “the risk profile of the asset is such that an equity stake is the most applicable tool for minimizing risk and maximizing future option value.”

Moreover, continued commitment to early-stage ideas in the form of participation in follow-on rounds, or “staging” investments, can help a unit maintain access to collaborative opportunities with portfolio companies. Many respondents echoed similar reasons for staging their investments, such as enabling “staying power through at least a couple of subsequent value inflection points,” ensuring that their ownership and leverage “do not get diluted too badly” and signaling their commitment “as long as the portfolio company still has strategic value.”

In sum, we observed that our units adopted five opportunity generation processes of which two were universal, one contingent, and two differentiating. We also observed the adoption of three opportunity selection processes, of which two were universal and one differentiating. We now move to a discussion of the integration processes depicted in Figure 1.

Integration processes

Integration refers to the extent to which other organizational units will cooperate and coordinate activities with a CVC unit to help it achieve its organizational mission (Lawrence and Lorsch, 1967). When integration is ineffective, mainstream units may be disinterested in the knowledge generated by a CVC unit or perceive it as a threat (Weber and Weber, 2011). The integration

processes our CVC units adopted helped link both specific ventures and overall unit activities with mainstream units of the parent firm. Again, these processes were a mix of universal, contingent, and differentiating processes.

Venture-specific integration. Some of the integration practices we observed were intended to establish effective cooperation and coordination between specific ventures and mainstream units and functions. Of these, a *universal* process was the establishment of *formal governance mechanisms* such as board memberships and observer roles to monitor venture activities and ensure these are aligned with the strategic interests of units' parent firms. We found that all units had instituted such governance mechanisms, which they complemented with informal visits and meetings. For example, our respondent from Glorious Ventures remarked:

I walk a bit of the grey area when I fill a board role for one of these companies I'm there at the behest and for the care and loyalty of their shareholders. By the same token I sit here as a [parent firm] investor so I have to navigate both sides of everything.

A *contingent* process, which was adopted by units with varying performance, was to seek *mainstream assistance in selection*, either to validate the strategic value of a potential partner or to obtain leads for investment opportunities. Respondents from these units indicated that these efforts made relevant business units more responsive to portfolio companies' activities¹⁴. As our respondent from Masterful Ventures noted:

Around twenty percent of our leads are generated from our external partners in operations and around 20 percent are proposed by the business units. We also use the expertise of the business units in doing technical evaluations [of potential portfolio companies] though some of our team members also have technical backgrounds.

In addition to the above universal and contingent processes for venture-specific

¹⁴ However, as we discuss later, excessive mainstream involvement in venture selection might have an adverse side-effect of resulting in conflicts with the interests of portfolio companies. Some of our respondents pointed out that it was necessary to create a "firewall" between their portfolio companies and parent firms which was not possible when such mainstream involvement was sought. This is perhaps one of the reasons why adoption of this process did not benefit all units strongly.

integration, an important *differentiating* process that has not been documented in prior research was the proactive *development of collaborative blueprints*. Managers of units adopting this practice outlined plans for collaboration between relevant business units and individual portfolio companies, highlighting areas of mutual interest and the specific business unit personnel responsible for furthering this collaboration. As the manager of Qualified Ventures observed:

One of the things that the venture group did was develop fairly deep relationships with the companies that we invested in. The business development aspect was important for us regardless of whether we made the investment or not. And so, going in, we would be very focused on the relationship, the alliance aspect of it.

As an important aspect of a collaboration blueprint, units often requested that key business unit personnel work closely with a venture. For example, the manager of Momentous Ventures assigned such individuals to board observer roles in his portfolio firms.

In many instances the prospective holder of the commercial agreement will be the relevant observer . . . because traction's got to take place inside and that really is dependent upon a strong relationship with the business units.

Tables 3 and 5 indicate that all strong performers emphasized such blueprints and made business-unit personnel responsible for implementation. None of the weak performers developed collaborative plans at the time of investment but rather attempted to forge informal post-investment communication between a portfolio company and relevant business units. As the quote from the manager of Knockout Ventures suggests, these unit managers hoped that informal communication would translate to subsequent collaborative activities, which did not often happen. Of the average performers, only three units tried to develop collaborative blueprints (see Table 3). None of these three units adopted more than one differentiating search process. A relative weakness in search therefore, may have prevented them from taking extracting the full benefits of this venture-specific integration process.

Our data from multiple interviews suggested why such blueprints helped in venture-

specific integration. Our respondents noted that the success of an investment is often determined by “whether it ends up being a joint collaboration eventually,” when it is “necessary to find opportunities for interactions within the organization.” “Getting the business to buy in” to a venture is usually “[a unit’s] first work,” as is figuring out “the right time for [the venture] to have a conversation with key scientists in Licensing and Research groups.” Collaborative blueprints helped in “identifying maps of how [the parent and the venture] are going to collaborate,” generate “traction that is dependent on a strong relationship with the business units” and ensure “some element of cooperation is built into the relationship.”

Unit-generic integration. The remaining integration practices were intended to establish effective cooperation and coordination between the generic activities of a CVC unit, independent of particular external ventures, and mainstream units. Through these practices, CVC units tried to reduce the resistance and hostility of powerful mainstream units that might perceive external venturing as a threat to their activities (Chesbrough and Rosenbloom, 2002). As an example of a *universal* process in this regard, all units adopted an *advisory role to parent management* to highlight their potential value to the mainstream organizations. Unit managers tried to regularly inform parent firm’s top management of technological and market trends that they gleaned from their partnerships with external ventures. As the manager of Ultimate Ventures noted:

We give [the top management] updates several times a year, of some of the trends in the marketplace, our portfolio companies as well as the companies we didn’t invest in.

A *contingent* process pursued by some units was the exclusive *recruitment of internal personnel* from within the parent organization, either through transfers or rotation of individuals working in business-units. In doing so, these units expected unit members to use their social ties with mainstream personnel to avoid any hostility from, and build bridges with, mainstream

divisions¹⁵. For example, our respondent from Glorious Ventures noted:

For the most part we have found that having somebody who has lived the business gives [the unit] more power both in terms of credibility and the ability to influence the businesses.

One important and yet little-explored *differentiating* practice through which units mitigated mainstream resistance was the deliberate *avoidance of competitive postures* with mainstream activities. These units consciously fought perceptions that their activities were substitutes for mainstream initiatives by constantly emphasizing that their primary role was to complement and assist mainstream divisions. Some units made considerable efforts to understand current and future parent initiatives to avoid competing with these initiatives. The manager of Qualified Ventures stated:

If the opportunity was competitive or something that [the firm] would want to get into directly in the future then it would be really hard to make investments outside that had a similar agenda. We didn't need a business unit check-off to make an investment, but if the business unit said no, then it became a politically uphill battle.

Some units also downplayed any competitive threat by understating their relative size in terms of budgets and/or returns in comparison to mainstream divisions. For instance, the manager of Leading Ventures continuously emphasized that his CVC unit would never match the scale and scope of mainstream units and therefore should not be considered a threat.

I literally sat down the five heads of all research including their boss, and went through Accounting 101 for them. [I] explained the difference between opex and capex and said "Look guys, what I'm spending is capex." Because [the parent] has such a strong balance sheet the capex constraints on these guys are relatively minimal. Opex constraints on them are very real, but my opex is about \$1.7 million, I mean it's a rounding error. It's taken five and a half years, but that argument has thankfully just gone away.

As seen in Table 5, most strong performers avoided investing in areas that overlapped or

¹⁵ However, as prior research suggests (Dokko and Gaba, 2012) and some of our respondents noted, the network contacts that external recruits possess and their experience with beneficial VC practices might often be more valuable than the integration advantages of having purely internal members. This is perhaps why not all units adopting this process experienced strong performance benefits.

competed with mainstream unit activities. While all of the weak performers were confronted with mainstream indifference and hostility, they failed to formulate an approach to counter such resistance. The managers of some of the units seemed resigned to these negative attitudes, as the quote from the manager of Knockout Ventures indicates. Moreover, as shown in Table 3, six of the 10 average performers avoided competitive postures with the mainstream units. Two of the three units that developed collaborative blueprints were also able to avoid competitive postures, suggesting some complementarity among venture-specific and unit-generic integration processes.

Data from multiple interviews indicate why avoiding competitive postures was an important practice in building acceptability for the CVC unit. A unit's activities of "bringing learning into the organization" were "dependent on the goodwill of all the other folks in [the parent]" and "the real hurdle is always more internal." "There had to be a linkage within the organization . . . both in terms of credibility and ability to influence the business." "Strategic alignment had to be managed prudently and proactively" by "maintaining close relationships with the various operating groups."

CVC units avoided a competitive posture by "asking business units for those things that will be impacting them in a two-to-five year time horizon." This prevented a "politically uphill battle if a business unit said no [to their investments]." Units "avoided the likelihood of conflict" by not making investments "in pathways where [the parent] currently has an active R&D program" and "flying a little bit below the radar because of the group's small size and newness."

In sum, our units adopted three processes relating to venture-specific integration, of which one was universal, one contingent and one differentiating. We also observed three processes relating to unit-generic integration, of which one was universal, one contingent and one differentiating. We now discuss some cases where processes may have multiple influences aspects of search and/ or integration.

Interdependencies between processes

In the interests of parsimony, we categorized first-order processes based on their primary utility in helping a particular aspect of search or integration. However, as our interviews revealed, some processes had weaker secondary effects (sometimes negative) on other aspects of search and integration.¹⁶ We discuss these relationships to better understand the different ways in which a process can benefit or impede CVC unit performance.

Interdependencies within search or integration. From our interviews, it appeared that some opportunity generation processes had secondary relationships with opportunity selection, since these processes often resulted in the creation of relevant selection criteria. For example, units usually selected a venture for investment if the invitation was extended by a prominent syndication partner. Units that sought to protect venture interests typically avoided selection of investments where the potential for violation of venture interests existed (such as with ventures that lacked adequate intellectual property protection). Opportunity selection processes may in turn have had a favorable secondary impact on opportunity generation. As a unit focused on thematic sectors and early-stage ideas, it gained a reputation for being a valuable partner to relatively young ventures in these sectors, resulting in increased investment opportunities.

There were similar secondary relationships between venture-specific and unit-generic integration processes. The legitimacy of the CVC unit increased as more individual ventures were successfully integrated (through developing collaborative blueprints and establishment of governance mechanisms) causing the unit's positive performance to be more visible to mainstream units. Moreover, as unit managers advised parent management on external developments and their units' complementary activities, interest was often generated in specific ventures from which valuable knowledge could be accessed.

¹⁶ We thank an anonymous reviewer for pointing us in this direction.

Interdependencies between search and integration. We also observed instances of positive and negative interdependencies between search *and* integration processes. First, while the process of nurturing portfolio ventures was primarily related to opportunity generation, we found it had a secondary link with venture-specific integration. As CVC units approached relevant business-units for critical resources to support portfolio ventures, this resulted in a greater understanding and appreciation of ventures' activities within the mainstream organization. Second, the unit-generic integration process of avoiding competitive positions with the mainstream appeared to be secondarily related to selection—units adopting this process selected only those ventures for investment that did not potentially compete with mainstream units. This process also had a secondary effect on opportunity generation since the CVC unit better protected a venture's interests when the venture did not compete with the mainstream. Third, the venture-specific integration process of developing collaborative blueprints had a secondary effect on opportunity generation and selection. Greater collaboration with ventures helped create a favorable reputation for a unit as a reliable investor and thereby resulted in greater investment opportunities. It also served as a selection mechanism since units adopting the process only formed relationships with ventures that were agreeable to such collaborative blueprints. Fourth, the venture-specific integration process of soliciting mainstream assistance also impacted opportunity selection by establishing mainstream involvement as a critical part of the selection process. As discussed earlier, this process may however negatively impact opportunity generation since venture interests were harder to protect when the mainstream was closely involved in selection. Similarly, the unit-generic integration process of recruiting internal employees may negatively impact opportunity generation as internal employees lack external networks that help generate investment opportunities.

In sum, the presence of interdependencies between processes suggests that there are often

multiple and indirect ways to implement the different aspects of search and integration other than the direct relationships we highlighted in our framework. Moreover, while search and integration sometimes impede each other and are therefore difficult to implement concurrently, there are also several conditions where they could complement each other. As the above findings highlight, this was particularly true of the differentiating processes we identified.

DISCUSSION

To examine how external venturing units generate valuable knowledge for their corporate parents, we studied how CVC units engaged in search and integration activities and the efficacy of their specific practices. Previous research on external venturing provides little insight into this important question and has thus overlooked the potential entrepreneurial role that unit managers may play in achieving effective search and integration. We identified and described a set of four universal practices that all sample CVC units used to facilitate the two components of their search mission – the generation and selection of new venture investment opportunities – and two universal practices used to achieve integration with mainstream units. We also identified three widely adopted practices that did not have a discernible relationship with unit performance, possibly because their influence was contingent on unobserved factors.

Differentiating processes. In addition to these well-known and widely adopted practices, we uncovered a set of five novel practices that varied in use across CVC units and were related to observed differences in the efficacy of unit search and integration. Specifically, units that focused on reducing deal complexity and protecting ventures' interests improved their reputation among start-ups and VCs as an attractive investor, thereby increasing the number and quality of partnering opportunities, a primary component of search. Units that evaluated and selected ventures based on an early stage of development increased the search benefits they offered their

parent firms by helping them probe potentially useful, but uncertain technologies, markets, or business models before rivals. In terms of integration efficacy, CVC units that helped develop explicit collaborative blueprints between specific venture partners and mainstream businesses created social contracts between the parties, thereby increasing venture specific integration.

Finally, CVC units that sought to avoid a competitive posture relative to mainstream units and frame their role as complementary reduced internal political resistance to their activities, resulting in more effective unit integration.

Contributions and implications

Our study makes important contributions to the external corporate venturing literature. We extend and elaborate substantive theory of CVC by documenting the above five differentiating unit practices which we found to be valuable in improving the efficacy of units' search for external venture partners and integration with mainstream organizational units. Prior research has examined some of the universal and contingent practices we identified (Hill et al., 2009; Maula et al., 2013; Basu and Wadhwa, 2013) but has not highlighted the importance of our differentiating processes in much detail. We contribute to the external venturing literature by drawing from our data to provide detailed explanations for how and why these practices influence the efficacy of CVC unit search and integration. In doing so, we show how CVC units attempt to manage the trade-offs between achieving effective search and integration and accomplish both. Although studies show CVC investing can enhance a corporate investor's innovativeness by learning from its portfolio firms (Maula et al., 2013, Wadhwa and Kotha 2006), the conditions under which this happens are poorly understood (Dushnitsky, 2012). Our results suggest that an important source of heterogeneity in the effects of CVC investing on firm-level innovation is the efficacy of CVC units' search and integration mechanisms.

We further extend substantive theory of CVC by identifying and explaining

complementarities among the observed CVC unit practices. Our analysis suggested the five differentiating practices complement each other and are therefore more effective when adopted as a bundle rather than as individual processes in isolation. Our analysis also indicated that the differentiating practices complement universal processes by enhancing the benefits of these processes. For example, syndication and nurturing portfolio companies (both universal processes) are more effective in stimulating opportunity generation when the investor's reputation is enhanced through protecting venture interests and reducing deal complexity. Similarly, the universal selection processes of venture evaluation and focus on thematic areas are more effective when complemented by a commitment to early-stage ideas. Board membership or observation rights work better to integrate particular ventures when collaborative plans with a mainstream unit have been developed and an advisory role to parent management is more beneficial in integrating a CVC unit when competitive postures are avoided. In sum, our analysis suggests that an organizational configuration approach, in which variations in particular bundles of practices explain organizational outcomes (Miller, 1996), contributes to better understanding of CVC unit performance relative to examining individual practices in isolation.

We also extend research on external corporate venturing by moving beyond its focus on top management in creating the structural context that enables and constrains program execution (e.g., Dushnitsky and Shapira, 2010). We instead focus attention on the role of CVC unit managers as entrepreneurial agents in pursuit of effective search and integration. Our results show how effective unit managers strive to increase the value of search initiatives for mainstream units by building bridges between specific ventures and relevant mainstream units and increasing the internal legitimacy and acceptance of their units' overall activities. Because they lack authority over many needed resources, CVC managers are involved in a variety of political processes that anticipate resistance from mainstream units and seek to mitigate it through social

influence. For example, our analysis suggests that CVC unit managers who pursued the practice of collaborative blueprinting facilitated a social exchange relationship (Starr and MacMillan, 1990) between a particular mainstream unit and a particular venture by creating a social obligation between them. The obligation is created when a mainstream unit manager agrees to pursue collaboration with a venture or agrees to participate as a board member or observer for the venture (Homans, 1958). Moreover, unit managers who pursued the avoidance of competitive postures focused much of their efforts on a political process of meaning construction (Kaplan, 2008). These managers acknowledged the potential for mainstream units to frame CVC programs as a threat, which would result in hostility and resistance towards their activities. However, they worked to replace the threat framing with an opportunity framing by mobilizing mainstream personnel around the complementary and value-enhancing nature of the CVC program. Similar to the case of effective venture integration, CVC unit managers that achieved effective unit integration were politically skilled organizational operatives.

Possible alternative explanations

We considered two characteristics of our sample CVC units as possible alternative explanations for the relationship between the five differentiating practices and the efficacy of CVC unit search and integration. First, we considered if the different objectives pursued by the units drove both the choice of practices and unit performance. To recall, our units had diverse and often multiple strategic objectives involving horizon scanning, ecosystem building, and gap filling. Next, we considered if the parent firm's primary industry generated the choice of practices and unit performance. Both of these arguments are inconsistent with the data (see Tables 1 and 3). Units that pursued the same objectives varied with respect to their adoption of differentiating practices and their performance. Similarly, CVC units of parent firms in the same primary industries varied with respect to both practices and performance. Therefore, we concluded that unit objectives and

parent firm industry could not fully explain the relationships between the differentiating practices and unit performance.

We also considered the possibility that the causal direction of our results is the opposite of what we inducted from our data¹⁷ – i.e., do differences in CVC unit performance (in terms of their search and integration effectiveness) cause differences in their use of the five differentiating practices? While longitudinal data on practice adoption and unit performance and/or some source of exogenous variation in practice choice would help us investigate this possibility, we lack such data. However, we know from our data that some of the high performing units adopted some of the differentiating practices at the time their units were established. Consequently, these choices could not have been made in response to feedback about unit performance. Similarly, we know that one of our low performing units had never used any of the five differentiating practices, which suggests they did not abandon them in response to poor performance. Therefore, we concluded that unit performance did not cause the adoption of any differentiating practice.

Limitations and future research

An interesting follow-up question to our study is why more external venturing units did not adopt the differentiating processes identified here. Unit managers may not be aware of the nuanced interactions possible among these processes. Understanding such barriers to adoption would be a valuable endeavor for future research. While identifying differentiating processes by contrasting strong and weak performing units, we found interesting differences in the adoption of these processes by average performing units. Given the scope of this study, we did not explore the reasons for, or implications of, these differences. Neither did we fully examine the conditions under which the identified contingent processes positively impact unit performance. We believe

¹⁷ Given that our data are essentially cross-sectional and we observe choices, which may be made in consideration of or response to performance (i.e., are non-randomly assigned), reverse causality is a distinct possibility.

these are also interesting opportunities for future researchers.

Our findings suggest that through effective integration, CVC units can often transform unfavorable corporate environments to become more receptive to their activities. Future research could dynamically examine if changes in corporate context alter the relative importance of the differentiating processes we identified. Finally, future research could examine if our findings are relevant to other types of organizational units, such as internal venturing groups, to build more general theory on how autonomous units can help parent firms become “ambidextrous” in balancing exploration and exploitation (Tushman & O’Reilly, 1996).

Conclusion

How can external corporate venturing units effectively search for valuable external venture partners, leverage the resources of internal mainstream units in the process, and facilitate learning between these two audiences, thereby contributing to corporate renewal and resilience? We investigated this important, yet largely unexplored question through an inductive study of 17 corporate venture capital units. We documented a set of five practices that influence the efficacy of a unit’s external search and internal integration. We also identified complementarities between these five practices and other, more common practices used by all sample CVC units. This study contributes to external venturing research by showing how unit managers can achieve both effective search and integration via entrepreneurial and politically savvy practices and provides insight into why some corporate investors are better at learning from external startups than others.

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SEARCH AND INTEGRATION IN EXTERNAL VENTURING

Table 1
Sample of CVC units

CVC unit name (coded)	Parent firm's industry	Objectives+	Parent's revenues in 2006 (\$ MM)	Year of unit establishment	Cumulative investment volume (\$MM)	Number of unit Employees (approx.)	Informants	Unit status in 2006
Impressive Ventures	Semiconductors	1/2/3	35,382	1990	3000	>100	Vice President of Investment Group, Principal Architect at Parent, Principal Engineer at Parent.	Active
Qualified Ventures	Semiconductors	1/ 3	7,526	1999 (3 ad hoc investments earlier)	200 (Commitment of 500mm)	Initially 6 (size is larger now)	Head of Investment Group in North America, Sr. Director of Bus. Dev. at Parent, Chief Technology Officer at Parent.	Active
Momentous Ventures	Telecommunications Equipment	1/ 2	42,879	1999 (earlier wave in the '80s)	500	15	Corporate Vice President and Director of Equity Investing.	Active
Masterful Ventures	Software	2/ 3	44,282	Mid-'80s (since parent's early days)	800	12 (in entire Corporate Development Group)	Managing Director-Corporate Development, Principal Manager at Parent.	Active
Joyous Ventures	Pharmaceuticals	2	53,324	1973	500	28	Director- Portfolio Investments & Analysis.	Active
Glorious Ventures	Medical Devices	1	Acquired (3,550 in 2005)	Just before IPO in 1994	200	5-7 (size has been as large as 30)	Vice President of Business Development, VP-Technology at competing firm.	Active
Ultimate Ventures	Logistics	1/ 2	47,547	1997	36 (Approval required for every 25mm)	2 (have been 5 earlier)	Fund Manager.	Active
Auspicious Ventures	Instruments	1	4,973	2001 (ad hoc since 2000)	100	3 (30-40 in entire Business Creation Group)	Investment Manager.	Active
Productive Ventures	Pharmaceuticals	2	48,371	2004 (earlier wave too)	100(Commitment of 200mm in 5 years)	4	Senior Manager in Strategic Investments Group.	Active
Knockout Ventures	Photographic Equipment	1	13,274	2001 (indirect investments for 25 years)	100	9	Director and Vice President of External Alliances.	Active

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**Table 1 (contd.)
Sample of CVC units**

CVC unit name (coded)	Parent firm's industry	Objectives+	Parent's revenues in 2006 (\$ MM)	Year of unit establishment	Cumulative investment volume (\$MM)	Number of unit employees (approx.)	Informants	Unit status in 2006
Dynamic Ventures	Chemicals	2	28,982	2003 (ad hoc since '70s)	30	5	Venture Development Manager, VP-R&D at competing firm.	Active
Accomplished Ventures	Biotechnology	2	14,268	2004 (indirect investments earlier)	60 (Capitalization of 100mm)	3	Managing Director of Investment Group.	Active
Leading Ventures	Pharmaceuticals	1	15,691	2001 (limited partner 10 years ago).	86 (Capitalization of 175mm)	6	Executive Director of New Ventures, Senior VP of Research at Parent.	Active
Booming Ventures	Aerospace	1	61,530	1999	Capitalization of 250mm	6-7	Managing Director of Investment Group, Director of Corporate Innovation at Parent, VP of Technology of portfolio company.	Terminated in 2005
Advanced Ventures	Management Services	1	18,228	1999 (ad hoc deals since 1995)	250	25	General Partner of Investment Group, President of external collaborating organization.	Terminated in 2002
Bountiful Ventures	Engineering and Construction	1/2	20,500	1998	Capitalization of 200mm	20	CEO & Chairman of Investment Group.	Terminated in 2002
Innovative Ventures	Information Technology	1	91,424	1999	200	6	VP of Growth Initiatives.	Evolved into indirect investing

+1=Horizon Scanning, 2= Gap-Filling, and 3= Ecosystem Building

Table 2

Strong and weak performing units

Unit	Observed Performance	Representative quotes		
		Top management relationship	Business unit relationship	External partner relationship
Impressive	Strong	Positive <i>[Our management] was very clear about maintaining our investment pace and quite public in their view that the right time to invest is during down cycles. We were concerned about where innovation was going to come from, which is ultimately what drives our industry and we were not going to let up.</i>	Positive <i>We're viewed as kind of an honest information broker source for the company. People want to talk to us all of the time to get a sense of what's going on out there in the marketplace which they might be missing.</i>	Positive <i>Our most important source of quality deals is our entrepreneurial network. This consists of proven entrepreneurs that we've worked and invested with in the past.</i>
Qualified	Strong	Positive <i>Now, it's a situation where not only is there a strategic need to sustain this activity but, people are actually very happy about the results of this. And because of that want to continue this activity.</i>	Positive <i>The business-units were part of helping us bolster our case that a company was strategic to [the parent's] needs. And then they would also help us on the partnership side, whether it was a co-development type partnership or a channel partnership.</i>	Positive <i>In the wireless communication value chain, we were a very neutral party. So, for example, partnering with us would not preclude partnering with [the parent's rivals]. So we played on that neutrality. We were the Switzerland of the value chain.</i>
Momentous	Strong	Positive <i>I have endorsement at the very top of the corporation. We have a CEO who is well aware of the urgency and the speed and innovation that can be realized via these outside investments; and so a great appreciation for what it is that we do and a great interest in it.</i>	Positive <i>I would say [the business-units] are very deeply involved. When there is a specific product linkage, I want to make sure they have near day to day visibility. My team spends most of it's time outside the walls of the garden area but ultimately that traction's got to take place inside and that really is dependent upon a strong relationship with the business units.</i>	Positive <i>I sit on the ventures' boards as a [parent] investor so I have to navigate both sides of everything but it really has been designed to be a win – win; so that the companies I invest in win as well as [the parent]. I think we've done a pretty good job of that.</i>
Leading	Strong	Positive <i>The vice presidents of chemistry and biology, discovery, etcetera, in [the parent company] are keenly interested in the explore side of our investments. They see the venture capital group as being a great way for them to explore new areas of research in a very leveraged way.</i>	Positive <i>We found this little company and brought it to [our researchers'] attention, and so you know, we were very much, the extra set of eyes and ears for them. On the other hand, this company that we're looking at right now was brought to our attention by some of our early stage discovery chemists who said you know, there's this really bright guy in Australia, and he desperately needs funding.</i>	Positive <i>We have always demanded that if there is an asset within a portfolio company that's open for being licensed, that somebody pick up the phone and call someone at [the parent]. When I say "demanded" it's probably a strong term because we've never had anyone in our portfolio companies who's anything other than delighted [to do so].</i>

Table 2 (contd.)
Strong and weak performing units

Unit	Observed performance	Representative quotes		
		Top management relationship	Business unit relationship	External partner relationship
Booming	Weak	Negative <i>Behind the scenes, people were going to the Chairman and the CTO and whispering in their ears because everybody had their different agendas. When those guys disappeared because of other problems, there was nobody to manage the family disputes and that's when things really got ugly.</i>	Negative <i>Most of the product divisions resented us and were jealous. They actually viewed us as a tax. We were spending Treasury money, which is money they generated, and we wouldn't be in the top ten things they would spend money on if they had a vote.</i>	Negative <i>Because we were big [the VCs] never trusted us. So if it went well, they'd say, "Well, that worked out better than we thought it would." And if it didn't work out they'd say, "See, we thought it wouldn't."</i>
Advanced	Weak	Negative <i>If you talk to a [parent] partner, most of them would probably say, "I don't think we did all that well [in CVC investing]." I was asked that question six months ago by our CEO.</i>	Negative <i>A couple guys at headquarters start telling the practice, "Okay, here's the solution [from a portfolio company] we're going to use." And our practice is a bunch of free, independent guys who are going to say, "Bullshit. Nobody tells me what to do. I'm going to pick the best solution that I deem fit for this client." So we always had this battle going on for about four or five years on that front.</i>	Negative <i>Often times our portfolio companies were disappointed that even though they cracked the venture organization, it was very difficult to crack the consulting organization.</i>
Knockout	Weak	Negative <i>We've never had stronger support [than the present] because we almost died many times believe me.</i>	Negative <i>[Tension with R&D groups] is really, really, a hot button around here. It's almost that the longer I drag my project out in the resources labs, the, higher probability I have of guaranteed employment. Why in the world would I ever go outside? That along with the arrogance of a researcher who will never admit that you could get it outside better. So we struggle with that a lot.</i>	Negative <i>We're experts in our industry but we not going to bring an expert necessarily from some other industry to help the company, per se. Sometimes other people are concerned that if you have a potential customer as an investor then other customers who are competitive with the investor might not come their way.</i>

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Table 3
Case-ordered matrix of search and integration processes

		Search								Integration					
		Opportunity generation				Opportunity selection				Venture-specific integration			Unit-generic integration		
	CVC Unit Name	Syndication with VCs	Lead investor role	Nurturing orientation	Reduction of deal complexity	Protection of venture interests	Evaluation of venture potential	Focus on thematic areas	Commitment to early-stage ideas	Formal governance mechanisms	Mainstream assistance in selection	Collaborative blueprints	Advisory role to management	Avoidance of competitive postures	Recruitment of internal personnel
Strong performers	Impressive	*	*	*	*	*	*	*	*	*		*	*	*	*
	Qualified	*	*	*	*	*	*	*	*	*	*	*	*	*	
	Momentous	*	*	*	*	*	*	*	*	*		*	*	*	*
	Leading	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Average performers	Masterful	*	*	*	*		*	*		*	*	*	*		
	Auspicious	*	*	*			*	*	*	*	*	*	*	*	
	Glorious	*	*	*	*	*	*	*	*	*	*		*	*	*
	Ultimate	*		*	*	*	*	*	*	*			*	*	*
	Joyous	*		*			*	*	*	*	*		*		*
	Productive	*		*			*	*		*			*		
	Dynamic	*	*	*			*	*	*	*	*	*	*	*	*
	Accomplished	*		*	*	*	*	*	*	*	*		*	*	*
	Bountiful	*	*	*	*	*	*	*		*	*		*	*	
Innovative	*		*			*	*		*			*		*	
Weak performers	Booming	*	*	*			*	*		*			*		*
	Advanced	*	*	*			*	*		*	*		*		*
	Knockout	*		*			*	*		*	*		*		*
	Total Adoptions	17	11	17	9	9	17	17	9	17	11	7	17	10	12

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Table 4
Differentiating search processes

Aspect of search	Process	Adoption by strong performers	Adoption by weak performers
Opportunity generation	Reduction of deal complexity	<p>Impressive, Qualified, Momentous, Leading—Yes</p> <p><i>Impressive: We typically heard [from ventures] that our deal process is too complex, we have a lot of terms and conditions. I think we're addressing and getting a lot better at [these areas].</i></p> <p><i>Qualified: We never tried to insert contractual clauses for privileged access. And actually that was deliberate because I had done enough research through various means to know how that kind of an approach is perceived by the investment community and by the companies themselves.</i></p> <p><i>Momentous: Contractual terms like the right to first refusal is rare [for the unit] because they create a financial impediment to the company and quite frankly most companies won't sign them.</i></p> <p><i>Leading: We try not to insert any sort of preferential contractual language in the term sheet because we think that has a tendency to reduce the value of an asset from an economics standpoint.</i></p>	<p>Booming, Advanced, Knockout-- No</p> <p><i>Booming: To avoid losing the ability to control or influence as ownership dilutes, I'd negotiate things like warrants and things, so if the thing was going well we could take more in.</i></p> <p><i>Advanced: So if we had an opportunity that the practice said, "Wow, this is really cool," I said, "Well, I'll tell you what, there's a way of making even more money on this, we'll have to do a warrant structure so we can extend the value of the cash investment."</i></p> <p><i>Knockout: We put in the right to participate should there be a change of control, such as an acquisition kind of thing. At times we can't always get a board seat or observer seat, so we have done side letters where we'll ask for the board information separate.</i></p>
	Protection of venture interests	<p>Impressive, Qualified, Momentous, Leading—Yes</p> <p><i>Impressive: We try not to have [the portfolio companies] be directly competitive. We If an existing portfolio company strongly objects, we'll go meet with them to try and figure out if we can do this in a way that isn't a problem or not do the deal.</i></p> <p><i>Qualified: We would not invest in competitors of our portfolio company. We were very loyal to the company that we invested in. So that created a reputation of these companies wanting to have us on as an investor versus looking at us as a sort of necessary evil.</i></p> <p><i>Momentous: We don't want to invest in things that we have conflict with. We tell people: if you don't have the intellectual property on something yet, [we] don't want to see it.</i></p> <p><i>Leading: We will quite consciously segregate people who are involved in our activities. With respect to intellectual property, we really never let [parent] people look at the patent applications or anything like that, we use outside patent counsel for that.</i></p>	<p>Booming—No, Advanced, Knockout-- Not indicated</p> <p><i>Booming: Clearly, it was a control issue [for the ventures]. Would our bureaucracy and our management support these things or at the same time would they stay away? And of course, legal would come in and say, "Well, no, we can't stay out of their hair because we have a legal responsibility."</i></p>
Opportunity selection	Commitment to early-stage ideas	<p>Impressive, Qualified, Momentous, Leading—Yes</p> <p><i>Impressive: For a reasonably healthy portion of our deals, we can look at something and say, that thing really looks like it has serious long term potential. And we're relatively patient money as long as the company is progressing and moving and doing the things that make sense. We can stick with it.</i></p> <p><i>Qualified: We would often focus on Series A rounds since we would look at companies with core and disruptive technologies. We would be able to better assess using our internal technical resources the technical merit these investments had. By series B, I would expect the company to have a prototype and a well thought out business or go-to-market plan.</i></p> <p><i>Momentous: Of the [selection criteria] that matter, number one is the technology. Will it fit somewhere or intersect with [the parent] some day? , That's what kept us out of dot com investing and we're thankful. In many instances, we ask ourselves what we could do for [the parent] three to four years out.</i></p> <p><i>Leading: Strategically our interest is in seeing enough early stage innovation get funding. So we're trying to make closer alliances with the few very early stage investors that remain in the life sciences, and we're trying to establish some capability for ourselves there.</i></p>	<p>Booming-- Partial, Advanced-- No, Knockout-- Not indicated</p> <p><i>Booming: We never went beyond an A round. Once you get to an A round, other investors are coming in and your ownership is diluting. You're losing the ability to control or influence.</i></p> <p><i>Advanced: So we felt that we could get in earlier relationships with these companies as an investor, as opposed to a strategic partner, simply because as A or B round investor, they don't have a marketable product. The [parent] consulting business is not going to recommend to our clients non-market proven solutions. So that was the dilemma and that's the approach we took.</i></p>

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Table 5
Differentiating integration processes

Aspect of integration	Process	Adoption by strong performers	Adoption by weak performers
Venture-specific integration	Development of collaborative blueprint	<p>Impressive, Qualified, Momentous, Leading—Yes</p> <p><i>Impressive: It's relatively common for our deals to have a business agreement component involving the business-units. We generally do it upfront because we know we're doing it. Because quite frankly you're negotiating position once the deal is done is significantly less than that when you're into it.</i></p> <p><i>Qualified: One of the things that the venture group did was develop fairly deep relationships with the companies that we invested in. The business development aspect of it was important for us regardless of whether we made the investment or not. And so, going in, we would be very focused on the relationship, the alliance aspect of it.</i></p> <p><i>Momentous: In many instances the prospective holder of the commercial agreement will be the relevant observer...because traction's got to take place inside and that really is dependent upon a strong relationship with the business units.</i></p> <p><i>Leading: For example, in the investments that we made in healthcare IT, nearly every one of those companies had a pretty substantial agreement with [the parent] immediately. ...for our investments in research tools, which was very hot a few years ago but turned into a financial dog, two of the three companies have significant commercial agreements subsequent to our venture capital investment.</i></p>	<p>Booming-- Not indicated, Advanced, Knockout-- No</p> <p><i>Advanced: Now, when it got into doing alliances and things like that, we were very careful to draw a line. Having run the alliance function I was not going to dictate that, "Because we did an investment we'll have an alliance."</i></p> <p><i>Knockout: We're always involved in monitoring the commercial situation because we are responsible for [the firm's] reputation in the space. We often will act kind of as an in-between and it's certainly in our best interest to make sure that that commercial deal is pulled off.</i></p>
Unit-generic integration	Avoidance of competing postures	<p>Impressive, Qualified, Momentous, Leading—Yes</p> <p><i>Impressive: We have a small group of people from [the unit] who are assigned to the central research labs. Business units typically have a two to four year horizon on product planning and investing in stuff and these guys have three to seven years.</i></p> <p><i>Qualified: If the opportunity was competitive or something that [the firm] would want to get into directly in the future then it would be really hard to make investments outside that had a similar agenda. We didn't need a business unit check-off to make an investment, but if the business unit said no, then it became a politically uphill battle.</i></p> <p><i>Momentous: [Our position] is that you can't do everything yourself in a big corporation fast enough to satisfy all your customers. But even more importantly we tell the units you don't have to do everything yourself. So the things that we leverage outside are those that people might be able to get to more quickly or that they're not looking at.</i></p> <p><i>Leading: Because [the parent] has such a strong balance sheet the capex constraints on these guys are relatively minimal. Opex constraints on them are very real, but my opex is about \$1.7 million, I mean it's a rounding error. It's taken five and a half years, but that argument has thankfully just gone away.</i></p>	<p>Booming, Knockout-- No, Advanced-- Not indicated</p> <p><i>Booming: Here they viewed it as either their money or their technology or their people. And we'd end up talking to the Executive Vice President about things that he or she knew nothing about. Middle management would jump in there and wouldn't let go of things.</i></p> <p><i>Knockout: The struggle with people embracing this activity is because they're afraid that if I go outside then I'm outsourcing my job.</i></p>

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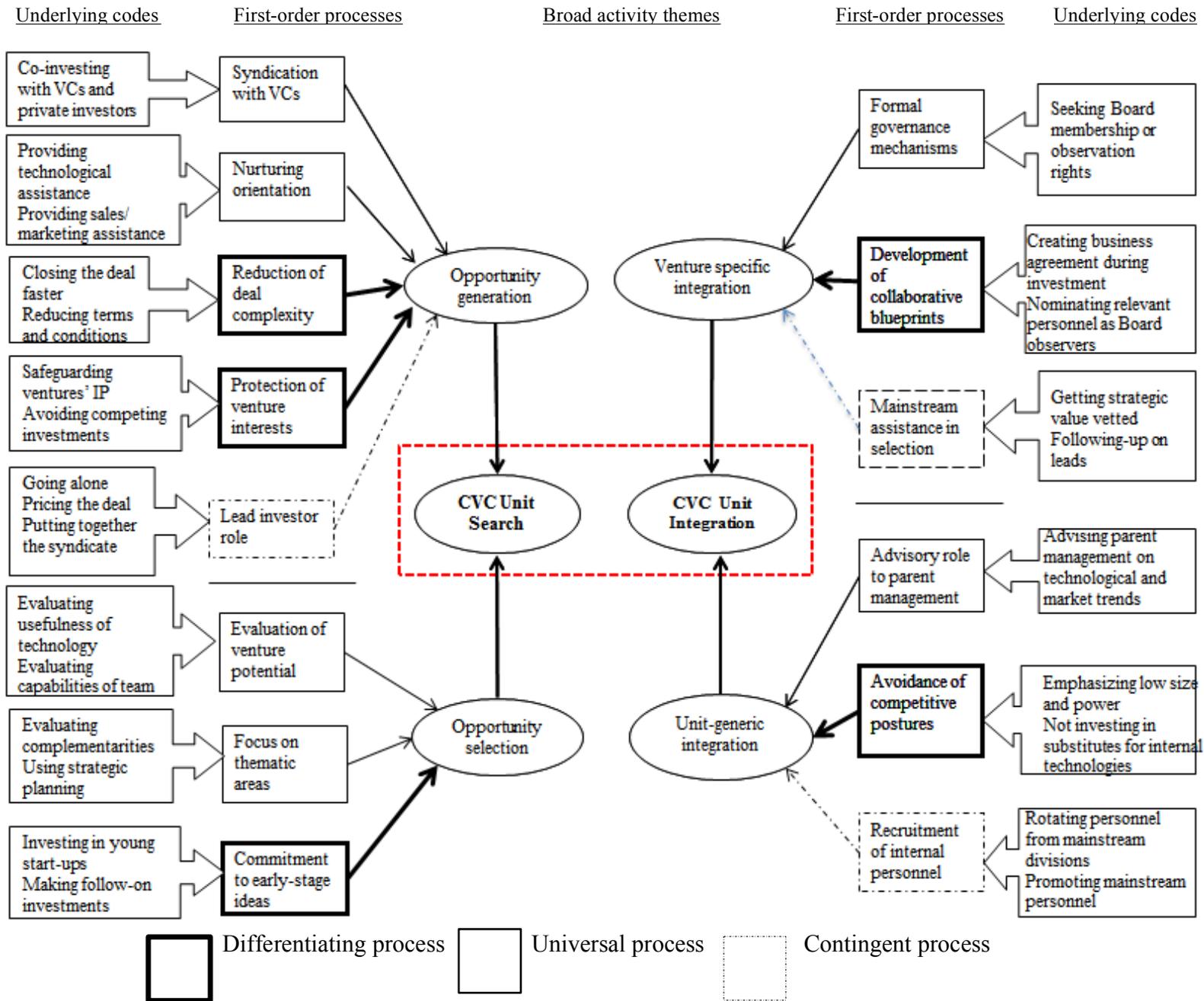


Figure 1: Framework of CVC unit search and integration processes