1. Internal corporate venturing: a review of (almost) five decades of literature

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INTRODUCTION

The continued, and burgeoning, growth of interest in corporate entrepreneurship (CE) amongst scholars and managers makes an opportune time for stock-taking and examination of the field's current state of knowledge, and to reflect on the road ahead. This is especially important given the longstanding but frequently non-cumulative, fragmented nature of research into CE (as well as entrepreneurship more broadly). Recent years have thus evidenced a number of reviews of CE literature (Dess et al. 2003; Ireland and Webb 2007; Narayanan et al. 2009). Multiple facets of CE have been examined in such literature reviews, including:

- firm-level entrepreneurship (Zahra et al. 1999);
- organizational learning, capabilities and CE (Dess et al. 2003; Phan et al. 2009; Sambrook and Roberts 2005);
- managerial and leadership roles in CE (Dess et al. 2003; Phan et al. 2009);
- corporate venturing (Narayanan et al. 2009); and
- corporate venture capital (Dushnitsky 2006; Maula 2007).

However, one core component of CE has not, to our knowledge, yet been subject to review—that of internal corporate venturing (ICV). We seek here to redress this imbalance by undertaking a review of the corpus of published articles on ICV.

In broad terms, conducting research on CE is a challenging endeavor, and a litany of shortcomings in extant empirical studies is readily identifiable. Just a few of the frequently cited culprits are cross-sectional studies, single sources of data, a lack of common frameworks and measures, limited alignment with major theoretical streams, fragmentation across diverse disciplines, and (in general) a lack of cumulative knowledge building (Ireland and Webb 2007; Narayanan et al. 2009; Zahra et al. 1999). These shortcomings appear even more pronounced in studies of ICV than in externally oriented forms of CE, where sampling frame construction

and data access difficulties are typically somewhat reduced. In addition, ICV activities may encounter even more intensive organizational challenges than their external counterparts (Birkinshaw 2005; MacMillan et al. 1986; Rind 1981; Sykes 1986). Thus, a wide-ranging but systematic literature review of the ICV field appears valuable. Accordingly, we content analyzed 100 articles on ICV, published between 1963 and 2009, from a wide variety of outlets. This process yielded a number of consistent findings regarding ICV as well as open questions, thereby providing a platform for future research.

The remainder of the chapter is structured as follows. In the next section, we locate ICV within the broader CE literature, providing an overview of key definitions in the domain. We then describe the procedures employed to select and analyze the papers included in our review. Thereafter, two sections present our findings. First, a chronological overview of the findings, describes the major temporal patterns observed over the time period of the review. Second, we synthesize the findings of the empirical studies along eight major themes identified in the literature. The chapter concludes with recommendations on areas for, and approaches to, future research on ICV.

DEFINING INTERNAL CORPORATE VENTURING

ICV literature forms a subset of the larger and very rapidly expanding body of literature on CE. Across individual articles within the ‘umbrella’ of CE, vagueness and imprecision in defining key constructs and phenomena of interest is fairly commonplace (Narayanan et al. 2009; Sharma and Chrisman 1999), complicating the search for generalizable findings in any review process. Nonetheless, at the broader domain level, there exists a fairly widely accepted set of distinctions between the multiple forms through which CE is manifested.

At its broadest level, CE has been distinguished from ‘independent’ entrepreneurship (Sharma and Chrisman 1999) that is, entrepreneurship occurring through the vehicle of start-up ventures. Instead, CE describes a more diffuse phenomenon, encompassing (in one widely cited conceptualization) the sum of an existing company’s innovation, strategic renewal and corporate venturing activities (Guth and Ginsberg 1990; Zahra 1995). While innovation describes the introduction of new products, services or technologies, strategic renewal refers to the ‘revitalization of a company’s business and changing its competitive profile’ (Narayanan et al. 2009: 59), resulting in profound changes to its strategy or structure (Sharma and Chrisman 1999). Corporate venturing (CV) in turn refers to

‘an activity which seeks to generate new businesses for the corporation in which it resides’ (von Hippel 1977: 163). While CV is clearly closely (and recursively) associated with innovation and strategic renewal, it is distinctive in its focus on the steps and processes of new business creation (Narayanan et al. 2009).

CV can take many forms, including formal or informal, as well as internal or external (Sharma and Chrisman 1999; Zahra et al. 1999). The latter distinction is more widely employed. Ambiguity exists, however, over the basis along which venturing is classified as internal (that is, CV within the boundaries of the firm) or external (CV outside the boundaries of the firm) (Miles and Covin 2002); while some authors ascribe an internal–external categorization based on where the venture idea *originates*, others do so along where the venture is ultimately *located*. So, CV may be regarded as internal (ICV) where it develops an idea generated within the parent company and as external where it develops an idea sourced from outside the firm (Hill and Birkinshaw 2008; Narayanan et al. 2009). Alternatively, ICV is ‘activities that result in the creation of organizational entities that reside within an existing organizational domain,’ whereas external CV (ECV) results in ‘activities that reside outside the existing organizational domain’ (Sharma and Chrisman 1999: 19–20). Where a venturing initiative is internal along one categorization but external along the other, this definitional ambiguity becomes problematic.¹ Side-stepping this issue, recent literature typically identifies licensing, joint venturing, acquisitions and corporate venture capital (CVC) investment with external CV (Keil et al. 2008; Narayanan et al. 2009).

One further useful distinction for categorizing forms of CV is between its dispersed and focused modes (Birkinshaw 1997). Dispersed ICV describes venturing activities originating via employees across different organizational units²—that is, business creation activities undertaken by individuals or small groups within the mainstream divisions of the parent company. Focused ICV involves a specially designated organizational unit mandated with building new (internal) businesses for the parent company—that is, venturing occurring (most typically) via a corporate venture (CV) unit. While focused ICV is by definition of a formal nature, dispersed ICV may be either informal (autonomously occurring initiatives) (Burgelman 1983a, b, c; 1988) or formal (a program to stimulate venturing activities). The subject of this review is all ICV activities, whether of a dispersed or focused nature.

METHOD OF REVIEW

In order to systematically review the extant literature on ICV, we content-analyzed 100 articles published between 1963 (the earliest relevant article surfaced by our search procedures) and 2009. The procedures employed to identify and code these articles (cf. Grégoire et al. 2011) are described below,³ with Appendix A providing further detail.

Sampling Procedure

We used criterion sampling (Patton 2005) to identify relevant articles through conducting a keyword search (detailed in Appendix A) within the EBSCO Business Source Premier database. As much of the literature on ICV has taken a practice-oriented approach and has appeared in a wide array of outlets, we initially cast our net fairly widely across diverse publication outlets. Thus, we did not restrict our sample to a selection of top management journals or to empirical articles only, as is fairly common practice in literature reviews.

Our initial search yielded 125 articles. Given that keyword searches can yield a broad variety of documents of varying relevance, we took steps to filter this list in order to ensure a final sample characterized by a high degree of content validity (cf. Grégoire et al. 2011). Each article deemed of questionable relevance to ICV was read by both authors, resulting in the elimination of 50 articles. Hence, our electronic search resulted in 75 published articles centrally concerned with ICV. We supplemented this set with an additional 25 articles identified through the ‘ancestry’ approach (Cooper 1998), whereby the reference lists of published works are scanned for additional relevant works. Thus, our final sample consisted of a total of 100 articles centrally concerned with ICV. While the sample may not, despite our efforts, be fully exhaustive, the process through which it was sourced should contribute to high levels of content validity.

Coding Procedure

Both authors then independently coded all articles. Given that the data of interest was embedded within the text, figures and tables of the articles, content-analysis was an appropriate methodological technique. Following the recommendations of Krippendorff (2004) and Neuendorf (2002), the authors initially (and independently) coded a training sub-sample of seven papers randomly selected from the full sample. Thereafter, we discussed the operationalization of the coding scheme and debated any discrepancies between our results, recoding all the training articles independently

once more and then finalizing the coding scheme. We then proceeded to independently code all the remaining articles, employing the coding scheme outlined in Table 1.1. In addition, both authors summarized the propositions or findings (as appropriate) and identified the primary theoretical anchor(s) of each piece.

Inter-rater reliability was high. Specifically, we obtained the following inter-rater agreement levels: 98 percent agreement on the conceptual versus empirical nature of each article; 88 percent agreement on the level of analysis employed; and 97 percent agreement on whether dispersed or focused modes of ICV were of interest. Following discussion of the discrepancies, a final list was synthesized, forming the basis of the analysis represented in this chapter. This list is available from the authors on request.

Finally, each of the articles was classified according to whether it was centrally concerned with one or more of the eight themes identified iteratively during the coding process. We combined categories identified by synonymous labels and subsumed lower-level categories within ones of increasing abstraction, recognizing categories employed in Narayanan et al.'s (2009) recent CV review. We deemed the resulting themes concise enough to permit efficient exposition, but sufficiently fine-grained to meaningfully characterize the ICV literature.

CHRONOLOGY OF ICV LITERATURE

Figures 1.1 to 1.4 provide an overview of historical patterns in the articles reviewed; Figures 1.5a to 1.5d show features of these articles in cross-section. For greater clarity regarding the historical trends, the 46-year time frame of the review has been broken into five-year time periods.⁴

Overall, these charts demonstrate fluctuations in the volume of articles published on ICV, although the historical trend is generally in an upwards direction. In addition, two peaks are evident. The first pertains to the 1985–90 period which saw the publication of 21 articles; the second to 2005–09, which evidenced 24 articles. These peaks appear to correspond fairly well to the timing of the major ‘waves’ of CVC investment activity over the past few decades (cf. Dushnitsky 2006).⁵

In terms of publication outlets (see Figure 1.1), practice-oriented periodicals have dominated ICV publications. In total, 37 percent of the articles in the review were published in such outlets (see Figure 1.5a). This dominance has, however, declined somewhat over the review period. The second largest outlet for ICV literature is entrepreneurship journals (in particular, the *Journal of Business Venturing*), constituting 34 percent of

Table 1.1 Coding scheme

Variable, and coding categories	Operationalization
Type of article	
Conceptual	The article is principally concerned with exploring relationships between concepts, rather than testing (or supporting) these relationships via real-world data. (Note: We included articles that referred to case examples, but did not describe a broader program of study, in this category.)
Empirical	The article describes a research study that involves the analysis of primary and/or secondary data.
Level of analysis	
	The article's relevant variable(s) of interest is(are) articulated, operationalized and/or measured at the level of:
Venture(s)	... a particular venture (set of ventures)
Corporate venture (CV) unit(s)	... a separate organizational unit (set of organizational units) mandated with developing new businesses for the corporate parent
Venturing program(s)	... the entirety of venturing initiatives within a firm
Multi-level	... a combination of two or more of the above categories.
Other	The article cannot be categorized in terms of the above categories.
Mode of ICV	
Dispersed	The article focuses on entrepreneurial ventures originating across an organization (cf. Birkinshaw, 1997).
Focused	The article focuses on entrepreneurial ventures originating within a semi-autonomous organizational unit mandated with this function (usually a CV unit) (cf. Birkinshaw, 1997).
Both (dispersed and focused)	The article pertains to both the above categories.
Other	The article cannot be categorized in terms of the above categories.
Themes	
Forms of ICV	The article focuses on alternative structural arrangements through which ICV may be conducted.
Comparison of ICV and other venturing modes	The article focuses on comparing ICV with other modes of venturing (for example, with independent start-ups; with other modes of corporate venturing, such as alliances, acquisitions and CVC; or with VC investment).
Role of ICV in parent firm strategy	The article focuses on the contribution of ICV to parent companies' strategic outcomes.

Table 1.1 (continued)

Variable, and coding categories	Operationalization
Impact of strategy on ICV outcomes	The article focuses on the impact of the strategic choices made in respect of a venture(s) (/CV unit/ICV program) on its outcomes.
Impact of organizational context on ICV outcomes	The article focuses on how one or more dimension of internal organizational context (cf. Narayanan et al., 2009) influences the outcomes attained by a venture(s) (/CV unit/ICV program).
Separation versus integration	The article focuses on the extent to which ICV is structurally separated from (or integrated into) the organizational units of the parent company's mainstream businesses.
ICV processes	The article focuses on the social and/or psychological processes underlying ICV.
Temporal dynamics of ICV	The article focuses on temporal aspects of ICV.
Managerial guidelines	The article focuses on providing normative guidelines on how to manage ICV.
Other	The article cannot be categorized in terms of the above categories.

the review articles reviewed.⁶ Publications in general management journals trail thereafter, at 12 percent of the sample (with some authors disproportionately represented therein)—for example, Burgelman 1983a, b, c—and to date show no sign of an upwards trend since 1980–84 (peaking at four articles).

Consistent with its practice orientation, much of the ICV literature has been concerned with providing 'guidelines' to managers on how best to manage ICV—especially, managing individual ventures. A full 21 percent of the literature reviewed was classified as reflecting the 'managerial guidelines' theme (see Figures 1.2 and 1.5b). More strong interest across most of the review period has been in the influence of the organizational context on corporate venturing 'success', or other outcomes (16 percent of the literature). Other themes have increasingly entered the literature, particularly from the mid-1980s onwards.

Consistent again with the practice orientation that has characterized ICV literature, many articles reflect an applied 'managerial' orientation rather than an identifiable strand of theory. Indeed, we identified such an orientation in 33 percent of the articles (see Figures 1.3 and 1.5c). Overall however—although this trend is not entirely consistent across all time periods—this orientation is of decreasing significance. Instead, there has

Note: n = 100 (review articles).

Figure 1.1 Chronology of articles by type of publication outlet

been a substantial increase in the variety of theoretical perspectives being brought to bear on ICV. The most recent period (2005–09), together with 1985–89, evidenced the most marked expansions, with multiple management theories appearing in the ICV literature. Strategic management has exerted (at 26 percent) the single strongest disciplinary influence over the ICV corpus to date.⁷ This discipline, however, demonstrates a marked decline in prevalence, at 13 and 17 percent respectively, for the 2000–2004 and 2005–09 periods.

In terms of the research methods employed (see Figures 1.4 and 1.5d), case studies and surveys—mostly at the venture level and virtually entirely cross-sectional—have dominated historically, and continue to do so. This pattern is consistent with that observed by Narayanan et al. (2009) in their review of the CV literature from 1995 to 2004. While the lack of appropriate public data limits archival studies of ICV, analysis of the Profit Impact of Market Strategy (PIMS) database contributed to understanding the impact of strategy on venture performance from the mid-1980s to the mid-1990s.

The ICV literature has thus experienced the simultaneity of constancies

Note: As an article may reflect more than one of the identified themes, the sample for this chart consists of all themes ($n = 143$), rather than the total number of articles in the review. Most articles (62) were classified as (strongly) reflecting only one of the themes; 33 articles were identified with two themes; and 5 were classified along three themes.

Figure 1.2 Chronology of thematic areas

and changes. We now briefly describe these by chronological period (Table 1.2).

Up to 1979: Early Origins

Articles on ICV first appeared during the ‘first wave’ of CV activity (Dushnitsky 2006), at which time 25 percent of Fortune 500 companies in the United States embarked on formal CV programs, typically employing CV units. A wave of programs was initiated in the late 1960s and

Notes: As an article may reflect more than one theoretical perspective, the sample for this chart consists of all theoretical lens observations identified as strongly present in the review article ($n = 135$ observations), rather than the total number of articles in the review. Most articles (63) were classified as reflecting only one theoretical perspective; 21 articles were identified with two theories; and 6 were identified with three (or more) theories. 'Other' includes the following perspectives: behavioral theory of the firm; business history; cognition; organizational configurations; organizational life cycle; and social network perspectives. In addition, where the emerging body of CE literature is employed to develop theoretical propositions, such instances are included within the 'other' category on the basis that such literature is no longer managerial in nature but is unlikely to be viewed as fully fledged theory yet.

Figure 1.3 Chronology of theoretical perspectives

early 1970s, to be abandoned in the late 1970s (Fast 1978). The trickle of articles published during this period share a number of commonalities. All are managerial in nature rather than strongly grounded in theory, as was perhaps to be expected for a new phenomenon-based domain. With one exception (Hlavacek and Thompson 1978), all appeared in practice-oriented outlets; and, accordingly, a strongly normative orientation runs

Notes: n = 66 (empirical articles).

All but one of the papers identified as consisting of 'multiple' methods in the 2000–2004 and 2005–09 periods refer to a single, multi-method study conducted by Birkinshaw, Hill and colleagues (2002, 2003, 2005, 2008, 2009).

The 'other' category refers to: (a) a computer-administered factorial experiment using conjoint analysis (DeSarbo et al., 1987) and (b) longitudinal participant observation (Sykes, 1986).

Figure 1.4 Chronology of research methods

through the majority of the articles. Furthermore, case studies dominate the empirical studies, with Biggadike's (1979) research proving an exception by combining survey and archival (PIMS database) data.

The themes established by these early authors are ones that have endured, as are many of their views which have become central tenets within the ICV literature. For example, large businesses were pitted as 'not natural habitats' for CV (Hanan 1976: 40), and a host of organizational obstacles—creating a minefield of potential pitfalls for ventures and venture divisions to navigate—were identified (Adams 1969; Biggadike 1979; Fast 1979a, b; Hanan 1976; Peterson 1967). The need for practices, systems and processes that differed from those of corporations' mainstream businesses was emphasized, with authors recommending the emulation of small business or start-up environments (Hanan 1976; Peterson 1967). Accordingly, focused ICV via 'new venture divisions' was recommended by some authors, informed by the logic that a new venture organization enjoys the best advantages of two business worlds: the incentive and independence of the small entrepreneur; and the

Figure 1.5a Profile of ICV articles: articles by type of publication outlet

resources and dollars of experienced people and facilities found in the large corporation.

The fragility of both new venture divisions (CV units, in our terminology) and individual ventures to early termination, before they could prove their worth, was well recognized though. Biggadike's (1979) study of 68 ventures launched by 35 Fortune 500 companies established the importance of time in ICV, finding ventures to require on average eight years to profitability. That such patience is seldom accorded to ICV was brought into stark relief by Fast's findings (1979a, b): his longitudinal case studies highlighted the vulnerability of CV units to closure due to a host of factors. So, this early period of writing posited ICV as, paradoxically, both very important and extremely challenging to organizations—a belief that continues to endure.

The 1980s: Rapid Growth

The 1980s, especially the latter half of the decade, saw a large expansion in ICV literature. Variation therein also increased markedly: diversity in publication outlets, themes addressed, theoretical perspectives and

Note: Per Figure 1.2, the sample for this chart consists of all thematic observations across the articles reviewed ($n = 143$) rather than the number of articles.

Figure 1.5b Articles by theme

research methods all increased. In fact, 1985–89 saw the greatest variety of methods used to date in researching ICV: surveys joined case studies as highly used methods, and PIMS-based archival studies constituted over one quarter of empirical studies. Even conjoint analysis made an appearance (DeSarbo et al. 1987). By the conclusion of this decade, all the themes identified in the review were established in the literature, and entrepreneurship journals had become the modal outlet for ICV articles.

With the expansion of theoretical perspectives, strategy process, strategy content and ecological theories became most prominent (after practice-oriented articles providing guidelines to managers). These theoretical perspectives evidenced themselves in two principal streams of research. The first, exemplified by the longitudinal case studies of Burgelman (1983a, b, c; 1984, 1988), examined the processes through which ICV activities influence firm-level strategy. The second, using PIMS data or surveys,⁸ examined the influence of a venture's strategic positioning on its performance, measured in financial or market share terms.

Note: Per Figure 1.3, the sample for this chart consists of all theoretical lens observations across the articles reviewed ($n = 135$) rather than the number of articles.

Figure 1.5c Articles by theoretical lens

The 1990s: Between the Waves

The 1990s saw a slight decline in the volume of ICV publications (from 31 in the 1980s to 24). This may reflect the (lagged) decline in overall CV activity between the second and third CV waves of the early 1980s and late 1990s, respectively (Chesbrough 2000). Volume aside, the trends observed in the 1980s generally continued, with high levels of diversity evidenced in publication outlets, themes and (especially) theoretical perspectives. Likewise, venture-level empirical studies employing case studies and surveys continued to dominate, followed (for the final time during review period) by archival studies drawing on the PIMS database.

Furthermore, strategic management remained the dominant discipline informing ICV literature, although substantial growth occurred in the application of (its associated) resource-based view (RBV) (Barney 1991; Wernerfelt 1984) and organizational learning theories. Some differences from the 1980s, however, were in the pronounced dominance of

Note: Per Figure 1.4, $n = 66$ (empirical articles).

Figure 1.5d Articles by research method

entrepreneurship journals—at over 50 percent of publications—and the lowest proportion of practice-oriented articles. Thematically, the impact of organizational context variables on ICV outcomes garnered the most attention (at 25 percent). Much of this literature probed in more depth than previously the complex challenges embodied in relationships between ventures and other parent company stakeholders (for example, Kanter et al. 1991; Miller et al. 1991) and the importance of championing roles for garnering organizational support for venturing (for example, Day 1994; Simon and Houghton 1999). Next in line were: (a) continued studies on the influence of ICV strategy on venturing performance (typically from a positioning perspective, although sometimes also from an RBV vantage point); and (b) literature comparing ICV against other modes of venturing.

The 2000s: Internationalization and Further Growth

Consistent with the significant growth of interest in CV amongst scholars and practitioners since the late 1990s (Narayanan et al. 2009), the 2000s exhibits further growth in ICV publications. The volume of published ICV articles reviewed totals 37 for this decade (13 for the first half of the

Table 1.2 *Chronology of ICV literature*

	To 1979	1980s	1990s	2000–2009
Total number of articles	8	31	24	37
Article type				
Conceptual	2	13	9	11
Empirical	6	18	15	26
Level of analysis				
Venture	5	18	15	9
Venture unit	2	2	3	9*
Venturing program	–	8	4	12
Multi-level	1	3	2	5
Unclear	–	–	–	2
Mode of corporate venturing				
Dispersed	1	4	1	–
Focused	3	6	3	16
Both (dispersed and focused)	2	6	7	13
Unclear	2	15	13	8

Note: * The publications by Birkinshaw, Hill and colleagues (2002, 2003, 2005, 2008, 2009) that draw on a single longitudinal study skew the representation of CV unit-level studies for the decade 2000–2009.

decade and 24 for the latter half), that is, the highest publication levels to date. While managerially oriented articles dominate again at 40 percent, the remainder of the articles reflects an increased variety of theoretical perspectives. These include the appearance (in 2005–09) of international management, institutional and mainstream economic theories. Following practice-oriented publication outlets (15 articles), entrepreneurship journals (10 articles) remain the most prevalent source of ICV publications.

One significant change from prior periods is the dramatic increase in the internationalization of research: from a trickle of non-North American studies previously, studies now include a significant number of multi-continent as well as single-country European settings.⁹ Another change is towards venturing program analyses (almost 50 percent of empirical studies) as well as a greater proportion of multi-method studies,¹⁰ although the overall diversity of methods is reduced. Finally, after articles offering managerial guidelines, the most prevalent themes were: temporal dynamics of ICV; (once again) the impact of organizational context on ICV outcomes; and the role of ICV in parent company strategy.

THEMATIC OVERVIEW

We now provide an overview of the literature on each of the themes identified in the review, focusing on the empirical studies for each theme. The themes, along with illustrative empirical studies, are identified in Appendix B.

Forms of ICV

Two principal streams of empirical literature are encompassed within the umbrella of the ‘forms of ICV’ theme. The first seeks to specify alternative structural forms through which an organization may manage a particular venture, and the contingencies affecting this choice; the second focuses on formal venture units, identifying systematic ‘types’ across such units.

Drawing principally on case studies, the first stream helps make sense of the multitude of structural options open to organizations for CV. It identifies contingencies affecting the appropriateness of different structural arrangements. So, by way of illustration, Burgelman (1984) advocates nine alternative ‘organization designs’—ranging from ‘directly integrated’ ventures to ‘complete spin-offs’—the suitability of which depends on the degree of operational relatedness and the strategic importance of the venture in question. Following a similar line of reasoning, MacMillan and George (1985) identify six ‘levels’ of ventures with attendant degrees of ‘difficulty,’ proposing that lower levels are managed through integration within existing divisions, while the most challenging are organized via specialized venturing structures. A contingency logic thus links venture characteristics—along with some organizational attributes (Miles and Covin 2002)—to alternative structural forms of CV. Nonetheless, the utility of the posited venture-structure contingency relationships are not subjected to empirical verification.¹¹

While this first stream addresses both dispersed and focused (Birkinshaw 1997) modes of venturing, the second stream pertains only to focused modes: namely, formally established CV units. Empirically derived taxonomies (Campbell et al. 2003) and theoretically derived typologies (Hill and Birkinshaw 2008) are advocated to differentiate between different forms of CV unit. The distinction drawn between variants of ICV units is frequently a strategic one: classifying the principal strategic objective of the unit to the parent company. For example, some venture units may be ‘exploratory’ (extending parent firm capabilities) (March 1991) while others are ‘exploitive’ (better utilizing parent assets and capabilities) (March 1991; Hill and Birkinshaw 2008).¹² Again, per the contingency logic running across the first stream, contingent (or configurational; cf. Hill and Birkinshaw 2008)

'fit' relationships are posited between CV unit form, their management practices and their outcomes. These were also subject to empirical validation, receiving moderate support, in Hill and Birkinshaw's (2008) study of 95 CV units (combining both ICV and CVC units).

Comparison of ICV and Other Venturing Modes

A small body of empirical work compares ICV to alternative forms of venturing. Conducted principally in the late 1980s and the 1990s, these studies mostly employ cross-sectional survey methodologies. They compare ICV against three benchmarks, namely: (a) independent ventures (that is, start-up companies); (b) other forms of corporate venturing; and (c) venture capital (VC) partnerships. In all, this small set of studies suggests that we know little of a comparative nature regarding ICV and other forms of venturing.

First, studies by Shrader and Simon (1997) and Zahra and George (1999) demonstrated a number of differences between corporate and independent ventures in the resources and strategies they emphasize. The jury is still out, though, on whether these different emphases translate into systematic performance differences:¹³ while the former study finds no significant differences and proposes equifinality in their pathways to performance, the latter finds that independent ventures perform significantly better.

Second, in a rather less directly comparable set of studies, some scholars have tested for differences in the strategies and, especially, in the performance of different forms of CV. These studies lend some support for the idea that ICV may represent a more challenging form of CV to get right than its more externally oriented counterparts (Birkinshaw 2005). Specifically, ICV investments may be on average less financially successful than CVC investments (Sykes 1986), and may also encounter more 'obstacles' than either joint ventures or acquisitions (MacMillan et al. 1986). Compared with product innovations from mainstream divisions, autonomous ICV projects may, however, be more radical (David 1994).

Third, the oft-expressed view that VCs are superior investors to their CV counterparts (Chesbrough 2000; Hamel 1999) has been little subject to testing. While not a direct test of this assertion, Hill et al. (2009) found that the adoption of multiple VC practices enhanced CV units' strategic and financial performance, as well as their odds of survival.

Role of ICV in Parent Firm Strategy

As highlighted earlier, the strategic management discipline has played a prominent role in ICV literature. Accordingly, a number of researchers

have given attention to the role played by ICV in firm strategy. Such endeavors have, however, taken on a very different flavor to that within the CVC literature. While the nature of the archival data available on CVC has encouraged the measurement of (especially innovation-oriented) strategic outcomes to external venturing (Maula 2007), the principal focus in ICV literature has been to articulate processes and organizational antecedents to (broadly defined) outcomes of strategic interest to firms. All ten relevant empirical studies identified in the review consisted of case studies taking a venture level of analysis. Most of these studies investigated ventures within focused settings.

These studies identify three broad classes of strategic outcomes that ICV may contribute to, namely: (a) explorative outcomes, (b) exploitive outcomes and (c) unintended learning outcomes. Viewing ICV as a mechanism for exploration (March 1991) by corporations has the longest history of the three classes of outcomes and is the most dominant perspective within extant literature. Within this stream, the influential longitudinal process studies of Burgelman (1983a, b, c; 1985, 1988) have identified an important role for the ‘autonomous initiatives’ of ICV ventures in encouraging firm-level adaptation to changing environmental conditions. Other studies have emphasized the suitability of CV units to radical innovation (although this is by no means guaranteed) and, more broadly, to the strategic renewal of the parent company (Kola-Nystrom 2008; Maine 2008).

An additional, exploitive (March 1991) role for ICV has more recently been identified. ICV acts not only to create new sources of value and to develop new areas of competence for parent companies, but also to better exploit their existing assets and capabilities (Campbell et al. 2003; Darroch et al. 2005; Hill and Birkinshaw 2008; Tidd and Taurins 1999). By way of illustration, Tidd and Taurins (1999) identified a ‘leveraging’—as opposed to ‘learning’—motive as informing the majority of the ventures they observed. They described five specific leveraging objectives, namely:

1. to exploit under-utilized (technological and human) resources;
2. to extract further value from existing resources;
3. to place competitive pressure on internal suppliers;
4. to spread the risk and cost of product development;
5. to divest non-core activities.

Finally, a small stream of literature has examined the unintended (and often unrecognized) lessons that may be learned from ventures—including from those that ‘fail’ (Keil et al. 2009; McGrath 1995). This literature seeks to re-orient thinking on what constitutes venturing success, emphasizing (consistent with a real options approach) the importance of

managing ICV programs so that firms take advantage of the opportunities for learning that ventures, irrespective of whether they are ultimately abandoned, may offer.

It is worth noting that while this literature is concerned with the relationship between ICV and firm strategy, little attention has explicitly been devoted to the central issue of how strategy and venturing relate to each other—the work of Burgelman (1983, 1985, 1988) being an exception. This is an issue that has recently been taken up by Covin and Miles (2007), who identify five possible models by which these constructs may relate, calling for further research thereon.

Impact of Strategy on ICV Outcomes

Just over 22 percent of the empirical articles are concerned with the influence of strategy on ICV outcomes. Unlike those articles described above (which address the relationships between ICV and parent companies' strategic outcomes), authors in this stream have investigated how the strategic choices made by a venture influence its outcomes. In all but one instance—namely, Hill et al. (2009), where CV units are examined—the venture itself is the unit of analysis. Four topics characterize these studies:

1. the relationship between venture competitive strategy, and market and economic outcomes;
2. the degree of strategic relatedness of ventures to their parent company, and their market and economic outcomes;
3. the impact of the nature of the venturing 'opportunity' and its success;
4. the influence of industry environment on ventures' outcomes.

The first two sub-themes make up the bulk of the studies on this theme. First, on the topic of how ventures' competitive strategy choices influence their outcomes, studies have employed two dominant methodologies. These are: archival analysis of the corporate start-ups in the PIMS database; and cross-sectional survey research. In addition, some studies combined both methods (Biggadike 1979). The greater consistency in methods allows for reader comparison of the findings in contrast to many areas of ICV research.

Overall, aggressive venture entry (that is, large scale, early entry with heavy investment in promotion) is associated with strong market share gains and return on investment (ROI) (Biggadike 1979; Klavans et al. 1985; MacMillan and Day 1987; Miller et al. 1989; Tsai et al. 1991). The impact of adopting either a differentiation or low-cost strategy (Porter 1980; 1985) on venture outcomes is less clear though. Although research

by Miller and Camp (1985) found product quality to generate higher ROI than low prices, Tsai et al. (1991) found price to have consistently positive effects on both market share gains and ROI, while product quality increased market share growth but not ROI. Furthermore, broad product offerings enhanced ventures' sales and market share growth, and overall performance satisfaction, in a study by Zahra and George (1999), but were found by Shrader and Simon (1997) to decrease their return on sales.

Second, concerning the performance impact of ventures' strategic relatedness, a greater variety of research methods, operationalizations of relatedness, and outcomes measures make it more difficult to draw straightforward conclusions. Where relatedness is operationalized in terms of *parent company experience* in a given market, von Hippel (1977) and Sykes (1986) found the odds of venture success to be enhanced by such experience. A study by Klavans et al. (1985), however, found a negative correlation between the number of ICVs undertaken and the expansion of existing markets. Findings are equivocal too where relatedness is viewed as the *sharing of resources*, suggesting that drawing on parent resources may improve product quality but worsen costs for ventures (Miller et al. 1991). Resource sharing appears to have little direct impact on venture ROI (Miller and Camp 1985), but it may enhance market share gain where parent companies have strong intangible (brand) assets (Sorrentino and Williams 1995). Finally, moderate *investment relatedness*—measured as the correspondence of parent and venture Standard Industrial Classification (SIC) codes—had a positive impact on the financial performance of venture units (Hill et al. 2009).

Third, a handful of studies have investigated how characteristics of opportunities pursued by ventures influence their success. These studies suggest that:

- Identifying a market need (rather than a technological capability) is associated with venture success (von Hippel 1977).
- Ideas for successful ventures tend to come from inside the firm (Klavans et al. 1985).
- Patent protection increases venture ROI (Miller and Camp 1985).
- And, unsurprisingly, higher market and technical risk are associated with lower venture success (Ohe et al. 1992; Sykes 1986).

The final central, albeit also little researched, topic within this theme pertains to task environment conditions affecting venture performance. PIMS studies by Miller and Camp (1985) and Tsai et al. (1991) indicated that growing markets, more mature industries and (unexpectedly) higher competitor concentration were positively associated with venture ROI,

while fragmented markets and more mature industries were negatively associated with market share gains.

Impact of Organizational Context on ICV Outcomes

The organizational challenges facing ICV are intensive and wide-ranging. Accordingly, considerable attention (16 percent of the literature) has been given to understanding the role of the organizational context that embeds ICV in influencing its outcomes. This interest is common across both scholarly and practitioner audiences. Concerning the latter, articles on organizational context also form the basis for the bulk of the large 'managerial guidelines' literature on ICV.

Several dimensions of organizational context have been identified and their impact on ICV examined empirically. We discuss this empirical literature along a number of sub-themes. After first reviewing studies investigating how the degree of structural separation of ICV from the parent company's mainstream businesses affects its outcomes,¹⁴ studies concerning the influence of the organizational context dimensions of autonomy, top management support, evaluation systems, human capital and rewards on ICV are then reviewed.

Separation versus integration

In attempts to unravel the pathways to successful ICV and the role(s) of organizational context therein, scholars and practitioners have extensively debated the following question: what is the optimal degree of structural separation (versus integration) of ICV activities from the core business activities of the firm? Furthermore, researchers have been concerned with identifying contingencies affecting this relationship. Strong resonances exist between literature on this theme, the historical debate on differentiation and integration (Burns and Stalker 1961; Lawrence and Lorsch 1967) and the more recent debate on the relationship between exploration and exploitation within organizations (Gupta et al. 2006; March 1991). The dominant research method employed is case studies.

Hosting ICV within the organizational structures of the parent company's mainstream businesses has been viewed as problematic by many researchers, who instead advocate the structural separation of ventures. Such authors assert that the systems and processes of core business units are hostile to the more uncertain and vulnerable nature of venturing activities, pointing to significant areas of divergence between these. Such divergences between ventures and mainstream business units include: differences in their objectives; task environments (for example, in their levels of stability, regulation and uncertainty); patterns of hierarchy;

bureaucratization of administrative systems; evaluation systems; job descriptions, rewards and incentives; and their orientations towards risk and change (Bart 1988; Burgelman 1983c, 1985; Garvin 2002; Garvin and Levesque 2006; Ginsberg and Hay 1994; Kanter 1985; von Hippel 1977). These differences, it is claimed, make its existence under the same 'roof' highly risky for ICV.

In general, empirical research has indicated that structural separation has a positive impact on ICV performance (Burgers et al. 2009; Peterson 1967). However, contingency factors moderate this relationship. These include the size of the parent company, its organizational culture, the nature of its coordination mechanisms and the ICV activity in question. In particular, Shah et al. (2008) concluded that in small firms, in which the exchange of ideas and cooperation can be more readily achieved, ventures can be initiated alongside firms' core projects. With regard to large firms, strongly entrepreneurial firms (that is, with robust dispersed modes of entrepreneurship) may allow venturing to flourish without the creation of separate structures. In a study by Burgers et al. (2009) in which 240 Dutch firms were surveyed, cross-functional integration and shared organizational vision were found to moderate the relationship between structural differentiation and corporate venturing: the first negatively and the second positively moderating this relationship. Finally, as mentioned earlier in the 'forms of ICV' theme, Burgelman (1984) and George and MacMillan (1985) identified a number of ICV activity characteristics that influence the utility of structural separation.

While discussed in purely structural terms here, the issue of how distinctive ICV activities should be within their parent firms assumes a number of guises across the remaining organizational context sub-themes. This issue is very readily identifiable in the discussion that immediately follows on the impact of autonomy on ICV outcomes. While perhaps less strikingly so at first glance, it is also of significance to the other organizational context sub-themes.

Autonomy

The articles on this sub-theme have empirically investigated whether the autonomy afforded to ICV activities influences its performance. The unit of analysis is typically the venture itself (Briody et al. 2004; Hlavacek and Thompson 1978; Kuratko et al. 2009), or the CV unit (Birkinshaw, Hill and colleagues 2002, 2005, 2009; Shah et al. 2008). The research methods employed include case studies, surveys and/or interviews.

There is broad agreement that, in general, autonomy from the core activities of the parent firm has a positive impact on venture outcomes. Attempting to identify more specifically the type(s) of autonomy that

may influence ICV outcomes, researchers have indicated the necessity for financial autonomy—that is, a separate pot of money (Birkinshaw, Hill and colleagues, 2002, 2005; Michalski et al. 2006; Shah et al. 2008). Autonomy over investment decisions (Hill et al. 2009; Kuratko et al. 2009) also contributes significantly to ICV success, with Hill et al. (2009) finding that such autonomy is especially beneficial to CV units' financial performance. Findings on operational autonomy are more mixed: while Hill et al. (2009) and Hlavacek and Thomson (1978) found operational autonomy to be positively linked to strategic performance, Kuratko et al. (2009) found it to be an obstacle to ICV success.

Although a lack of autonomy has been indicated by the aforementioned articles to have detrimental effects on ICV, too much autonomy may also be harmful (Briody et al. 2004; Fast 1979b), suggesting the possibility of an inverted U-shaped relationship with performance. Finally, Riley et al. (2009) found that, in addition to its direct effect on ICV success, autonomous behavior mediated between managerial skills and success.

Top management support

Top management support and its impact on ICV outcomes is another organizational context factor that has received considerable attention. Three main topics have been investigated empirically, namely: (a) whether top management support affects the success of ICV; (b) factors moderating the relationship between top management support for ICV and venturing outcomes; and (c) the mechanisms through which top management may encourage ICV activity. In the majority of studies the unit of analysis is the venture itself, followed by the CV unit. Case studies are the most common method employed.

In broad terms, top management support has been found to be important to ICV performance. Fast (1979a) found that the early involvement of top management in radical ventures secures a longer grace period for these projects to prove their worth, although top management champions may be associated with lower venture novelty (Day 1994). In more recent studies, Kuratko et al. (2009) and Michalski et al. (2006) also found top management support to be positively associated with venture success.

However, the nature of top management engagement with ventures proves important. A top management orientation that prioritizes short-term results may have detrimental effects on venture performance, resulting in prematurely 'pulling the plug' on promising ventures (Garvin 2002; Hlavacek and Thompson 1978). Evidence examining the potential moderating impact of sponsors' hierarchical distance from the CEO on their efficacy, however, remains inconclusive (Fast 1979b; von Hippel 1977). Furthermore, whether sponsors are formally or informally charged with

ICV responsibility does not appear to affect venture success (von Hippel 1977).

Research has also focused on identifying the actions that top management can take in order for CV to flourish—a subject of much attention in ‘managerial guidelines’ articles too. By way of illustration, Fast (1979b) identified via case study research a number of ways in which top management can contribute to successful CV units, including: securing funds; resolving conflicts with other departments; facilitating the transfer of staff, knowledge and skills from the core; and dedicating a significant portion of their time to mentoring, guiding and facilitating CV teams in facing internal and external obstacles. In addition, MacMillan and George (1985) emphasized the importance of top management along two fronts: in both initiating and in implementing ICV in firms, including building appropriate structures.

Evaluation systems

The assessment of ICV activities presents challenges which render typical evaluation systems (based largely on historical financial data) of lesser utility than within stable core businesses. It has been broadly recognized that most companies have difficulty in evaluating new projects, especially where these occur in new fields. Researchers have accordingly addressed: (a) the importance of effective evaluation for successful ICV; and (b) have attempted to create guidelines for evaluating ventures. Empirical studies on this theme are fairly evenly split between those taking ventures as their unit of analysis and those examining ICV programs. The dominant research method employed has been case studies.

Regarding the necessity of a good evaluation system to ICV, Keil et al. (2009) suggest that such systems contribute to supporting the best ventures and pinpointing unpromising ones that should be terminated early. Where effective systems are not in place there is a significant danger that unpromising projects may act as a drain on financial resources or that funds may be directed towards politically connected ventures (Burgelman 1988; Simon and Houghton 1999).

Milestone-based evaluation systems are one alternative that has frequently been advocated (Garvin and Levesque 2006; George and MacMillan 1985). In addition, employing a real options logic may usefully inform ICV investment decisions (McGrath 1999). Furthermore, paying greater attention to the performance of (and options provided by) the entire CV portfolio (Keil et al. 2009) as well as recognizing the less tangible, learning-oriented outcomes of venturing has been recommended (Burgelman and Välikangas 2005; Garvin and Levesque 2006; McGrath et al. 2006). Of broad applicability across these approaches, DeSarbo et al.

(1987) suggested that ‘managerial myopia’ during the evaluation process be guarded against, such that management does not only prioritize criteria with which it is highly familiar (such as the sophistication of a particular technology), discounting or ignoring other key criteria.

While studies to date have thus highlighted the importance of appropriate evaluation systems to ICV and made recommendations regarding principles on which to base such systems, they have shed little direct light on how different evaluation systems may affect ICV behavior, decision-making and performance.

Human capital

A number of empirical articles address the importance of human capital to ICV activities. This literature has principally focused on two issues: (a) identifying the types of managerial human capital, especially knowledge, associated with ICV success; and (b) investigating the relationship between recruitment strategies and ICV outcomes. Most of the relevant studies took a venture level of analysis, examined focused ICV and employed surveys.

In respect of managerial human capital, general managerial skills, functional skills, venture-specific knowledge and learning capability have been associated with positive ICV outcomes (Kuratko et al. 2009; Riley et al. 2009). While prior venturing expertise does not appear crucial, managerial experience in the venture’s target market contributes to its financial success (Kuratko et al. 2009; Sykes 1986). Furthermore, technically rather than commercially oriented ICV managers may constitute a factor in venture failure (Hlavacek and Thompson 1978).

Regarding recruitment, high levels of motivation to engage with ICV activities are important in selecting ICV managers. A study by Bart (1988) indicated that open internal competition for ICV managerial jobs, in contrast to assignment thereto, is more beneficial for ICV outcomes. Another interesting finding, of von Hippel (1977), is that medium- and high-level corporate managers were associated with worse ICV outcomes than managers who had previously worked in lower-level corporate jobs. In addition, David (1994) found that ICV projects managed by the intrapreneurs that initiated them had the highest commercial success rates. They may also be associated with greater venture innovativeness (Day 1994). Nonetheless, experts must be recruited from outside when a firm is not experienced in the target market concerned (Sykes 1986).

Rewards

The dimension of rewards/incentives has frequently been identified as a factor that may influence ICV outcomes. Overall, empirical findings are

inconclusive on whether rewards have a significant effect on ICV performance, as well as which types of reward (under which circumstances) may be beneficial. The empirical articles on this theme were fairly evenly spread across venture, CV unit and venturing program levels of analysis. Surveys, or surveys combined with interviews, were the dominant methods used. The main sources of debate are: (a) whether rewards/incentives can improve ICV outcomes (or may they in fact cause harm); and (b) the impact of the type of reward on ICV performance.

Positive associations between ICV performance and the awarding of bonuses (Klavans et al. 1985) as well as equity-based rewards (Hill et al. 2009; Hisrich and Peters 1986) have been found empirically. Indeed, as is typical in corporations, when common compensation systems are used for both ICV activities and core businesses, then the more risky nature of the venturing and the career risks make new venture building unattractive (Sykes and Block 1989). Large financial rewards, however, may create tricky managerial challenges—including jealousy and feelings of inequity within the core business—and business unit managers and employees may reduce their support or even sabotage ventures (Birkinshaw et al. 2002; Sykes 1992). Furthermore, it is frequently difficult to attribute results to specific individuals or teams within corporations; lack of personal financial risk may attenuate the impact of pecuniary incentives; and agency problems may result from rewarding short-term, readily quantifiable achievements, where the delivery of longer-term strategic value is the principal object (Block and Ornati 1987; Hill et al. 2009).

In a smaller set of studies, non-pecuniary factors other than rewards have also been shown to play a significant role in motivating CV, with achievement (Block and Ornati 1987; Peterson 1967), autonomy, challenge and job satisfaction (Sykes 1992) being amongst these.

ICV Processes

A small body of empirical literature has examined the social (and, to a far lesser extent, the psychological) processes underlying ICV. This limited focus on process studies is perhaps surprising given the widespread recognition of the organizational challenges in conducting ICV. Pertinent studies were principally conducted in the 1980s and 1990s, and take a venture level of analysis. Most studies are broadly informed by strategy process literature, especially that of learning and/or behavioral theories of the firm (Cyert and March 1963; March and Simon 1958).

Despite these commonalities, this small corpus of work is disparate. A variety of methods characterize this literature, including conjoint analysis, case methods and multi-method field studies. The topics addressed vary

too, including: managerial decision-making on ventures (DeSarbo et al. 1987); the role of learning processes in ICV (Burgelman 1988; Garud and Van de Ven 1992); championing processes (Day 1994); and the distinctive roles of different levels of management in ICV processes of variation and selection (Burgelman 1983a, c; 1988).

Temporal Dynamics of ICV

Empirical studies classified within the ‘temporal dynamics’ theme have essentially revolved around one issue, namely the mismatch between the (lengthy) time period required for ICV to demonstrate commercial viability and the (short) time frame over which parent companies typically engage in ICV initiatives. It has long been asserted that ‘ICV programs are usually closed before investment pays off’ (Burgelman and Välikangas 2005: 27).

Two main streams of research may be identified within this theme. In one stream, scholars have sought to establish the average duration of various ICV activities. In an influential early study that combined survey and PIMS data, Biggadike (1979) found that ventures took on average eight years to be profitable, and 10–12 years to reach similar levels of ROI to mature businesses. In contrast, ICV programs have typically been found to last for less than a decade on average (Burgelman and Välikangas 2005; Fast 1979a, b).

The other stream is concerned with factors influencing the initiation, evolution and abandonment of ICV activities within firms. Employing a variety of research methods, such studies have typically taken the CV unit as their unit of analysis. This stream builds on Fast’s (1979a b) early observation of the ‘premature’ closure of CV units due to changes in the corporate strategic and venture unit’s political ‘postures’¹⁵—changes in these heralding gains or losses in an organization’s support for CV. Focusing on two of Fast’s corporate strategic factors (1979a, b)—that is, prospects of the mainstream businesses and the availability of uncommitted resources—Burgelman and Välikangas (2005: 26) identify ‘cycles’ of ICV activity whereby:

Periods of intense ICV activity are followed by periods where such programs are shut down, only to be followed by new ICV initiatives a few years later. Like seasons, internal corporate venturing programs begin and end in a seemingly endless cycle.

In addition to such factors identified as influencing the intensity of multiple phases of ICV activity across, some studies have investigated influences on particular phases. Regarding early phases of ICV activity,

Husted and Vintergaard (2004) emphasized the importance of the (internal and external) social networks of the corporate parent, and particularly of the CV unit, to providing high-quality, innovative venture ideas. In a related vein, Campbell and Park (2004) concluded that CV's high failure rate stems principally from a shortage of valuable opportunities.

Few studies have investigated the evolution of ICV with firms, and thus little is known about whether general patterns of evolution exist. Although the specific post-dotcom timing of the study should be borne in mind, Birkinshaw and colleagues (2005; Birkinshaw and Hill 2005) observed a number of trends in the CV units they sampled between 2001 and 2003. These included: displaying greater autonomy from their parent companies; becoming more selective in funding investment proposals; emphasizing venture development over deal-making; and reducing their ratio of internal to external investments.

Finally, the (limited) longevity of ICV remains a topic of interest. In addition to the factors raised by Fast (1979a, b), the type of CV unit and its managerial practices seem to influence the odds of CV units surviving within their parent companies. Specifically, Hill and Birkinshaw (2008) found that survival odds over a two-year period were higher for 'exploitive' than 'exploratory' CV units (March 1991). The more risky, long-term nature of exploratory ventures appears to pose greater challenges to corporate evaluation systems, as well as to their patience. In addition, the adoption of VC-like structures and practices (partially mediated by CV unit perceived performance) enhanced the odds of CV unit survival (Hill et al. 2009).

Other Themes

A handful of the empirical articles reviewed incorporate themes not readily classifiable within our categorization schema. These constitute recent studies that draw on the greater variety of disciplines brought to bear on investigating ICV over the past decade. One stream draws on social capital literature. For example, Husted and Vintergaard (2004) examine the impact of internal and external contacts (which they term 'the venture base') on the generation of venturing ideas. In addition, Hill et al. (2009) and Michalski et al. (2006) examined the impact of contact with VCs on venturing performance, finding this to be positive. Another stream integrates international business literature into researching ICV. This is illustrated empirically in Callaway's (2008) case study of two 'global corporate ventures', ING Direct and HSBC Direct.

DIRECTIONS FOR FUTURE RESEARCH

Given the complexity of ICV and the very limited exploration to date of many of its facets, it is not difficult to identify existing topics that would benefit from further research, or entirely new avenues for investigation. Indeed, a number of authors have already made very useful recommendations on advancing knowledge of CV (for example, Dushnitsky 2006; Maula 2007; Narayanan et al. 2009; Phan et al. 2009; Zahra et al. 1999), many of which also apply to ICV. We hence merely touch on just a few options for future research on ICV here—by no means intending to be exhaustive. We first present generic recommendations on furthering the treatment of (a) methodological, (b) conceptual and (c) theoretical issues in ICV literature. Thereafter, we propose a number of avenues for further, or new, exploration.

Methodological Issues in ICV Research

Conducting research on ICV is a highly challenging endeavor. While it is easy to offer methodological criticisms of ICV studies, it is more difficult to adequately address some of the domain's trickier research challenges.

One readily identifiable limitation of ICV research to date is its largely cross-sectional nature wherein survey and case methods are very highly dominant. Problems in inferring causal relationships result, which are exacerbated by single-respondent designs (within the survey research) that encourage common method biases. In addition, few studies employ common measures (or comparable operationalizations) of core constructs or seek to replicate prior findings, thereby limiting the extent to which ICV findings are cumulative (Narayanan et al. 2009; Zahra et al. 1999). There is hence a clear need for more longitudinal studies, a greater variety of research techniques and increased efforts towards cumulative knowledge building.

Another serious methodological concern in ICV research relates to the validity of sampling procedures. It is no easy matter to try to identify a valid sampling frame of either ICV initiatives within a firm or CV units across a population of firms. Unlike CVC research, which can draw on archival sources such as SDC VentureXpert (Dushnitsky 2006; Maula 2007) to identify a relatively comprehensive sample of CVC investments and/or funds, no comparable data sources are available for constructing ICV sampling frames. Consequently, the generalizability of findings from ICV studies is less assured. Furthermore, survival biases are likely to play a stronger role in skewing ICV samples towards later-stage, and more prominent, initiatives or units than is the case in CVC research.

These concerns suggest a requirement for ICV researchers to be creative as well as diligent in constructing their samples (for example, via 'snowballing' techniques), and to carefully reflect upon sampling factors that may influence the generalizability of their findings. In addition, while publically available archival sources may remain of limited utility to ICV research, we encourage researchers to think more broadly about techniques that may be valuable to exploring this domain. For example, techniques such as verbal protocol analysis, conjoint analysis and a range of quasi/experimental techniques may be particularly well suited to understanding the cognitive and social processes underlying the early stages of ICV. Indeed, such techniques are currently seeing expansion in the broader entrepreneurship literature. In addition, comparative case analyses may enable rich analysis across a range of ICV phenomena.

Finally, Narayanan et al. (2009) have recently called for researchers to employ a broader variety of analytical techniques (including structural equation modeling) in CV research. We add our voice to this call. We also make one very specific additional call: for the usage of analytical techniques that are particularly well suited to dealing with the heterogeneity within ICV. By way of illustration, qualitative comparative analysis (QCA) (Fiss 2007) along with other configurational techniques (cf. Doty et al. 1993) may help generate insights into multiple forms of ICV and/or yield findings that are robust across diverse manifestations of ICV.

Conceptual Issues in ICV Research

From a conceptual standpoint, we encourage ICV researchers to more carefully define and explicitly articulate the objects of their analysis. In other words, we call on scholars to make clear the extent to which they address particular levels of analysis, forms of ICV, outcomes of interest, and so on, within each ICV piece. Given the complex, multi-level and heterogeneous nature of ICV, it is important that research findings and theory can aggregate in a cumulative manner that takes into account important distinctions within this phenomenon.

By way of illustration, a significant proportion of the ICV literature is at present unclear as to whether it concerns dispersed and/or focused forms of ICV. Indeed, we were unable to classify nearly 40 percent of the articles reviewed along this dimension. Given that multiple dimensions of the organizational context embedding ventures are likely to differ between dispersed and focused modes of ICV, this lack of clarity is of some concern. In addition, we found in constructing our sample of articles that it was not always clear whether scholars were addressing internal or external forms of CV (or some combination thereof). Furthermore, it is

evident from our review that multiple dimensions (and levels of analysis) of performance may be adopted within ICV studies. Accordingly, we encourage researchers to be explicit regarding which outcomes are of concern to them (for example, financial, strategic or learning). Following Narayanan et al. (2009), we also encourage scholars to think creatively about examining intermediate- and long-term outcomes to ICV, as well as those of a short-term nature.

Theoretical Issues in ICV Research

Significant opportunities exist for a broader range of theoretical perspectives to be brought to bear in better understanding ICV. As the cross-disciplinary review conducted by Ireland and Webb (2007) indicates, multiple disciplines have an interest in entrepreneurship, and numerous opportunities exist for multi-disciplinary collaboration. Nonetheless, until fairly recently, a limited set of theoretical perspectives have been represented in the ICV literature. Furthermore (with some notable exceptions), where utilized, existing theories have frequently been ‘invoked’ (Narayanan et al. 2009) but not applied with any depth to ICV, and with little or no intention to utilize the ICV setting to contribute to broader theory building.

We hence echo the call of Narayanan et al. (2009) for more rigorous engagement with extant theoretical perspectives in ICV research. At the very least, deeper theoretical grounding may elevate our understanding of ICV; at best, a two-way dialogue between ICV and established theories may ensue. As the range of theoretical perspectives (and foundational social science disciplines) with a stake—current or potential—in ICV is considerable, it is not our intention here to enumerate a list of such perspectives. The options are numerous, as Narayanan et al. (2009) effectively indicate in their discussion of the potential contribution five perspectives—namely the RBV, transaction cost economics, real options, organizational learning and institutional theories—may make to advancing research on CV (in broad terms).

In turn, we wish to briefly highlight three additional perspectives (and/or disciplines) that we believe may also yield significant returns (and quickly) for ICV literature. First, we encourage scholars to look to the burgeoning entrepreneurship literature on opportunity recognition (as well as its disciplinary roots, for example, in theories of cognition and creativity) for exploring the almost completely neglected topic of the origins of ICV ventures (cf. Dimov 2004; Husted and Vintergaard 2004). Second, we believe that greater application of organizational behavior theories (and theories from psychology and sociology, more broadly) would

be particularly helpful for investigating the many questions still remaining concerning the impact of the corporate context on ICV performance, as well as the social and psychological processes underlying ICV. Finally, consistent with our view that the heterogeneity of ICV needs to be taken more seriously, we encourage theorizing consistent with contingency and (especially) configurational perspectives on organizations (cf. Fiss 2007; Miller 1986, 1996).

TOPICS FOR FUTURE RESEARCH

Table 1.3 outlines the avenues we propose for further, or new, exploration. These are by no means intended to be exhaustive. Consistent with the aforementioned recommendations, there are some commonalities across these avenues. They include greater emphasis on: heterogeneity within ICV; multi-level investigations; examining the impact of contextual factors (including national context) on ICV phenomena; and further integrating ICV research into related literature streams. Space regrettably does not permit us to explicate all research questions outlined in Table 1.3; rather, we touch on some directions we believe likely to be particularly fruitful and interesting.

Existing Themes

We believe that none of the existing themes in the ICV literature have yet reached saturation. To the contrary, many important questions remain unexplored, and those that have been subject to investigation typically retain substantial room for further exploration. Indeed, the limited number of studies on any particular research question—and the lack of consistent frameworks, research methods, measures and levels of analysis applied thereto—means that our knowledge to date on most facets of ICV is rather tentative.

In terms of the *heterogeneity* of forms of ICV, and of venturing more broadly, we believe that considerable scope exists for comparisons of the practices, challenges encountered and outcomes associated with (a) dispersed versus focused modes of ICV, (b) different types of CV units and (c) alternative forms of CV—such as ICV, CVC, joint ventures and acquisitions (Keil 2004). At present, little is known regarding whether and how the value created by these various forms varies systematically, creating considerable uncertainty in their selection by managers. Importantly too, our knowledge concerning how ICV may interact with other forms of CV within a portfolio of venturing activities is virtually non-existent.

Table 1.3 *Directions for future research*

Themes	Research Questions
Existing themes	
Forms of ICV (Note: The questions shown could also apply to research on different types of ICV unit)	<p>Do dispersed and focused modes of ICV differ in the organizational challenges they experience?</p> <p>If so, which management practices and systems need to be common, and which to diverge, for dispersed and focused modes to be effective?</p> <p>Are dispersed and focused modes of ICV associated with different levels of performance and/or different types of venture?</p> <p>How do environmental and organizational factors influence the choice of (or the balance between) dispersed or focused modes in a firm's ICV program?</p> <p>How does whether ICV is exploration- or exploitation-oriented impact how it is best organized and managed?</p> <p>To what extent, and how, do normative, mimetic and coercive isomorphic processes (DiMaggio and Powell, 1983) influence the forms of ICV adopted by organizations?</p> <p>What are the respective roles of different venturing modes in value creation for parent companies? (for example, are the different modes synergistic or competitive; which forms of value creation are each most suited to?) Under which environmental and organizational conditions do the modes deliver most value?</p> <p>Do the different venturing modes differ in the sets of challenges they experience?</p> <p>What are the challenges in managing a diverse portfolio of venturing modes, and how can these effectively be addressed?</p>
Comparison of ICV and other venturing modes	<p>Which model(s) of relationships between ICV and firm strategy is/are most effective (cf. Covin and Miles, 2007)? Is this pattern moderated by the nature of a firm's strategic goals or by environmental and/or organizational factors?</p> <p>What are the mechanisms and processes through which ICV informs parent company strategy (both corporate and business strategy), and vice versa?</p> <p>To what extent (and, if to a significant extent, how) can ICV enable firms to build sustainable sources of competitive advantage?</p>
Role of ICV in parent firm strategy	

How can ICV contribute to organizational ambidexterity? (including, how should ICV be managed over time—should it remain at more or less constant levels, or be employed on a fluctuating basis?)

Which mechanisms are effective in transferring lessons learned and knowledge from ICV, including failed ventures, to the rest of the parent company?

Can high-performing configurations of strategies, parent–venture relationships and environmental conditions be identified? If so, do these demonstrate equifinality across multiple ICV outcomes, or are particular configurations associated with superior performance along specific outcomes?

To what extent are multiple (financial, market, strategic and learning) outcomes of interest in ICV independent, competitive or complementary? And, do venturing strategic choices, environmental conditions and organizational factors moderate the relationships between outcomes?

Does the performance impact of parent company relatedness (in its multiple forms) interact with the nature of a venture's/CV unit's strategic position?

How does the diversity of forms of ICV impact the organizational context characteristics associated with ICV performance?

Do adopting 'VC-like' structures, practices and values improve ICV performance, assessed across a range of outcome measures?

What are the relationships between the degree of structural separation, venturing strategic relatedness and firm coordination mechanisms on ICV outcomes? Do configurations of variables underlie the outcomes experienced?

Which organizational processes and factors influence the nature of the identity developed by a venture/CV unit (cf. Brickson, 2005)? Which form(s) of identity are most associated with perceptions of legitimacy amongst stakeholders, and with other positive outcomes? Does employee diversity (for example, in their knowledge base) influence ICV outcomes?

How does senior management composition affect decision-making on ICV ventures?

Which personal attributes are important for venture managers and staff? Which roles do diversity, creativity and personality play in these? Which recruitment practices are most effective (including internal versus external recruitment)?

Impact of strategy
on ICV outcomes

Impact of
organizational
context on ICV
outcomes (including
separation versus
integration)

Table 1.3 (continued)

Themes	Research Questions
ICV processes	What are employee motivations for engaging in ICV? What impact does (various forms of) ICV experience have on individuals' career trajectories?
	What forms of training are most useful for venture managers and staff?
	How do parent company executives make decisions concerning ICV investments? How do these differ from judgments made by those directly engaged in ICV initiatives? Which political, economic, social and organizational factors play important roles in the various decisions concerning ICV?
	What learning processes (including capability development) tend to occur over time in ICV, both at a firm level and within ventures and/or CV units? Which factors moderate the rate and nature of learning that occurs?
	How do emotions (for example, passion) on the part of venturing staff and company executives affect ICV processes, decisions and performance?
Temporal dynamics of ICV	How do cognitive framing processes and heuristics on the part of venturing staff and company executives affect ICV processes, decisions and performance?
	How does the rhetoric—both in terms of content and format—used in framing a venture/CV unit affect its perceived legitimacy and treatment by various stakeholders? How is this influenced by the source of the rhetoric?
	What are the typical organizational and social processes underlying the initiation of focused and/or formal dispersed venturing programs?
	How widespread are IVC 'cycles' (cf. Burgelman and Välikangas, 2005) within organizations? Which organizational, institutional and environmental factors drive such cycles? Why do some organizations demonstrate longer-term ICV commitment than others?
	Are there discernable temporal patterns across investment in ICV and other forms of venturing, both within organizations and across economic periods?

Are there typical configurations through which ICV evolves (for example, in terms of capabilities developed, modes of ICV, strategic orientation and patterns of social norms) within organizations over time?

To what extent does the performance, and which particular dimensions/assessments thereof, of ventures /CV units affect decisions regarding their longevity?

Under which (if any) circumstances do initial 'skunk-work' activities enhance the performance of ventures?

New/emerging themes

International dimensions of ICV

Do the forms, challenges, dynamics and performance of ventures/CV units differ across nations

(cf. Narayanan et al., 2009)? If so, what form do such differences take, and what are the underlying drivers of patterns of international divergence and/or convergence?

What are the antecedents and key moderators of the performance of 'born global' ventures/CV units?

How prevalent are such initiatives?

To what extent have US/Western practices or models (for example, those of VC partnerships) influenced ICV internationally? How have such models diffused or undergone adaptation in different contexts?

Do the substantive and symbolic roles played by such models differ between national contexts?

Which dimensions differentiate the venturing ideas ('opportunities') generated by corporate knowledge workers (cf. Hill and Birkinshaw, 2010)? Which of these are discernable *ex ante* and which only *ex post*?

What are the cognitive processes through which ICV ideas are generated? Are there systematic patterns of association (for example, configurations) between the characteristics of ICV idea generator(s), their contexts, the idea generation processes and the characteristics of their venturing ideas?

How do organizational and environmental factors influence the variation and selection regimes affecting ICV idea generation and progression? Do these differ systematically between dispersed and focused modes of ICV and/or between different forms of venturing?

Which forms of social capital enable positive ICV outcomes across different levels of analysis (for example, venture manager, CV unit staff, senior executives, champions and members of sibling business units)?

To what extent do these sources of social capital provide substantive and/or symbolic value to ICV?

To what extent, and which forms of, internal and external boundary-spanning social contacts enable the success of different phases of ICV?

Role of social capital in ICV

These are issues which are starting to receive attention in CVC literature (for example, Dushnitsky and Lavie 2010; Keil et al. 2008; Van de Vrande et al. 2009) but have not, to our knowledge, spread to include ICV. Given, however, that ICV is likely in practice to comprise only a component of a portfolio of CE activities, such avenues of exploration are of interest both from a theoretical perspective regarding value creation modalities and as of practical relevance to managers.

As regards *strategic issues* concerning ICV, we see multiple opportunities for ICV researchers to align their research much more closely with contemporary concerns of the strategic management discipline. For example, little is currently known regarding the inter-relationships between ICV and firm strategy. If indeed, ICV is an important means through which strategic renewal may occur (Burgelman 1984; 1988; Covin and Miles 2007), understanding the multi-level mechanisms through which ICV and firm strategy interact is a valuable topic for understanding firm longevity. Likewise, from an RBV perspective, understanding how ICV may function as a dynamic capability to create sources of firm competitive advantage offers a compelling avenue for future investigation (Narayanan et al. 2009). For the burgeoning organizational ambidexterity literature too, questions concerning how ICV may enable the simultaneity of exploration and exploitation appear ripe for investigation.

Considerable scope also exists to develop a much more nuanced understanding of the *strategic and organizational options* within ICV, and their consequences for performance. One avenue that we believe may hold promise here is to adopt a configurational approach (Miller 1986, 1996)—theorizing and researching sets of ICV strategic choices, venturing organizational designs and outcomes that ‘cluster’ or ‘cohere’ in practice. The complexity of the findings to date on strategic and organizational antecedents to ICV outcomes, and the recognized heterogeneity within ICV designs, suggests that analytical techniques that go beyond simple, direct ‘one-size-fits-all’ effects may be necessary to advance knowledge on how strategic and organizational context factors influence performance (cf. Hill and Birkinshaw 2008). Furthermore, research on the role of organizational context in ICV demonstrates many opportunities for integration with organizational behavior concerns, for example, in examining factors such as the roles of motivation, personality and creativity, and social diversity on ICV outcomes.

Likewise, we believe that the *ICV process and temporal pattern* themes are ripe for studies informed by organizational behavior, psychology and sociology theories. In addition, longitudinal process studies would potentially be of immense value to many of the research questions currently of

interest, as well as those that we have proposed in Table 1.3, within these themes. For example, topics such as learning and capability development in ICV, legitimacy building processes in ICV, and the evolution of ICV strategy and management practices would appear well suited to richer and longer-term research techniques than have typified ICV research to date. This recommendation notwithstanding, other research questions posed in respect of ICV processes would likely benefit from the application of a creative range of research methods, including experimental and quasi-experimental designs to examine such individual-level topics as emotion and decision heuristics in ICV.

New or Emerging Themes

Multiple new avenues—many beyond those we can presently begin to imagine—exist for future ICV research. We highlight just three possible directions here that take advantage of emerging interests in CV and/or broader entrepreneurship literatures.

First, we encourage more research into *international dimensions* of ICV (cf. Narayanan et al. 2009). While the review has shown non-US settings to be increasingly common in ICV research, there has been little attention paid to its international dimensions, per se. Three major types of question may be of interest:

1. Does international practice in ICV diverge or converge?
2. How can we understand ICV activity that occurs across national boundaries?
3. How do international institutional forces impact ICV practices?

The first type of question calls for comparative analysis at the national level; the second recognizes that ICV activities may be ‘born global’ (Callaway 2008) and addresses interests of international entrepreneurship; and the third is concerned with the effects of institutions on shaping ICV practice internationally.

Second, a very large gap exists in our understanding of the early stages of venturing in corporations—in particular, *idea generation* in ICV. To our knowledge (cf. Dimov 2004; Husted and Vintergaard 2004), contrary to the burgeoning literature on entrepreneurial opportunity recognition in independent venturing settings, this topic has not been the principal focus of any published articles to date. Accordingly, a large—and indeed much trickier to research—component of the ICV process remains at present ‘a black box’. Some possible questions include (cf. Hill and Birkinshaw 2010):

- What are the cognitive processes through which ideas are generated in corporations?
- What roles do individual, job, organizational and environmental factors play in corporate idea generation?
- Are there different ‘types’ of idea generators in companies?
- Do the variation and selection regimes in focused and dispersed ICV modes result in systematic variations in the characteristics of ideas generated and progressed by these modes?
- Is there systematic variation in the ideas generated by corporate and independent entrepreneurs?

Third, the role of *social capital* in ICV offers, we believe, another promising avenue for investigation. Given the challenging nature of the organizational context embedding ICV, relationships between intrapreneurs (whether part of a dispersed initiative or within a CV unit) and key internal stakeholders have received attention from the very earliest articles published in this domain. The burgeoning stream of social capital literature (Nahapiet 2009) may offer a fruitful lens through which to analyze two (interrelated) sets of challenges commonly experienced in conducting ICV—namely, relational and resource acquisition challenges. The challenging ICV context may, in turn, provide a useful setting for building social capital theory.

A social capital lens may also prove useful for identifying social changes occurring over time with the progression of ICV initiatives, or the increasing experience of CV units. We suggest that, while the focus in ICV literature has fairly naturally been on relationships with internal stakeholders, social connections with external parties—such as VCs (Hill et al. 2009; Michalski et al. 2006), who increasingly have relationships with CV units, even those of an internal orientation—are not ignored. Possible research questions may include: Which sources and forms of social capital are most valuable across the different phases of a venture? What is brokered across such social ties (for example, knowledge, legitimacy, other resources)? From a multi-level perspective, how does a venture/CV unit build social capital with different stakeholders?

CONCLUSION

Despite nearly five decades of literature on ICV, and the centrality of ICV to most conceptualizations of CE, this is (to our knowledge) the first systematic review of the ICV literature published to date. Our intention in this review was to try to help make sense of this complex, rather dispersed

and frequently non-cumulative literature by (a) identifying historical patterns across the themes covered, methods employed, theoretical lenses applied and publication outlets; (b) synthesizing empirical findings on the central themes examined; and (c) offering directions and questions to guide and inspire future research on ICV.

Our review is not without limitations, however, both as a consequence of the nature of the ICV literature and due to our own limitations and biases. On the former issue, we regrettably have little doubt that—despite our efforts—this review will not be entirely comprehensive, and nor will our classifications of all articles be entirely accurate. Regrettably, the dispersion of ICV articles across multiple types of publication outlet, and the high levels of ambiguity within articles regarding the precise form of CV to which each relates, mitigate against comprehensiveness and complete accuracy. On the issue of our own shortcomings, we are very conscious that (in addition naturally to our own limitations in processing this complex and diverse literature) our analysis and conclusions are influenced by our own disciplinary training and research interests. We thus strongly encourage the efforts of others to also review this literature: without doubt, this is a substantial enough corpus to benefit from multiple reviews.

Finally, the review indicates that much has been accomplished in this literature; but many opportunities still remain for building a stronger theoretical and empirical foundation within each of the key themes. Enormous scope exists too for pursuing promising new lines of enquiry. We hence encourage scholars not to be deterred by the challenges that this phenomenon poses in either practice or to research, and to creatively and rigorously engage in further understanding this intriguing domain.

NOTES

1. We included articles adopting either of these definitional approaches to ICV in our sampling frame.
2. Dispersed CE corresponds well with Pinchot's (1985) use of the term 'intrapreneurship', although this term has at times also been used to include small units mandated with CE (Sharma and Chrisman, 1999).
3. We drew strongly on Grégoire et al. (2011) in designing our sampling and coding procedures.
4. For ease of exposition, although the earliest article reviewed was published in 1963 (namely, Peterson 1967), we code the first five-year period of our analysis as 1960–64 in order to coincide with calendar decades.
5. With a lag of around five years, which may perhaps be accounted for by scholarly publication times.
6. Twenty-four of the 34 articles in entrepreneurship journals were from the *Journal of Business Venturing*.
7. The percentages cited in this paragraph constitute the sum of the strategy process, strategy content and resource-based theory categories. While others (or a proportion of

- observations thereof) could possibly be added to this set (e.g., organizational learning, organizational ecology and contingency perspectives), these are the most readily identifiable of our categories that reflect the strategic management discipline.
8. The PIMS database proved very influential within strategic management in the 1980s and early 1990s. Its corporate start-up component was utilized in the studies referred to in this chapter.
 9. Multi-continent studies include: Birkinshaw, Hill and colleagues (2002, 2003, 2005, 2008, 2009); Callaway (2008); Covin and Miles (2007); and Darroch et al. (2005). Single-country European studies include: Burgers et al. (2008); Husted and Vintergaard (2004); McGrath et al. (2006); and Riley et al. (2009).
 10. The publications by Birkinshaw, Hill and colleagues (2002, 2003, 2005, 2008, 2009) on a multi-method, longitudinal study skew the distribution of multi-method and ICV temporal dynamics articles for this decade.
 11. In the only test of which we are aware that compares focused and dispersed CV, Hisrich and Peters (1986) surveyed US Fortune 1000 firms, finding that the percentage of sales generated from products introduced over the previous three years by firms with CV units (50 firms) was more than double that of 109 firms without such a unit. No significant differences were detected in the commercial success of the new product introductions.
 12. The parallels between Campbell et al.'s (2003) 'innovation venturing' and 'innovation harvesting' types, Hill and Birkinshaw's (2008) 'internal explorer' and 'internal exploiter' types, and Tidd and Taurins's (1999) 'leveraging' versus 'learning' venturing objectives are worth noting.
 13. Shrader and Simon (1997) employ growth and return on sales, and various subjective measures; Zahra and George (1999) use growth in sales and a multi-item performance satisfaction measure.
 14. We discuss empirical studies classified along the theme of 'separation versus integration' here given their close association with the studies on organizational context dimensions influencing ICV.
 15. Fast identified four factors as determining 'corporate strategic posture': favorability of the industry outlook; top management orientation (entrepreneurial and risk-taking, or conservative and risk-averse); strength of the corporate financial position; and corporate strategy (namely, diversifying versus consolidating). He saw CV political posture as depending on four factors: strength of sponsorship; supportiveness of relationships with other organizational units; ambitiousness of CV subunit objectives; and perceived CV performance.

REFERENCES

- Adams, R.M. (1969). An approach to new business ventures. *Research Management*, **12**: 255–60.
- Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, **17**(1): 99–120.
- Bart, C. (1988). Corporate venture units: Use them wisely to manage innovation. *Sloan Management Review*, **29**(4): 35–43.
- Biggadike, R. (1979). The risky business of corporate diversification. *Harvard Business Review*, **56**(3): 103–11.
- Birkinshaw, J. (1997). Entrepreneurship in multinational corporations: The characteristics of subsidiary initiatives. *Strategic Management Journal*, **18**(3): 207–29.
- Birkinshaw, J. and S.A. Hill (2003). Corporate venturing performance: An investigation into the applicability of venture capital models. *Academy of Management 2003 Proceedings*: B1–B6.
- Birkinshaw, J. (2005). The secret diary of corporate venturing. *Business Strategy Review*, **16**(2): 19–24.

- Birkinshaw, J., and S.A. Hill (2005). Corporate venturing units: Vehicles for strategic success in the new Europe. *Organizational Dynamics*, **34**(3): 247–57.
- Birkinshaw, J., R. van Basten Batenburg, and G. Murray (2002). Venturing to succeed. *Business Strategy Review*, **13**(4): 10–17.
- Block, Z., and O.A. Ornati (1987). Compensating corporate venture managers. *Journal of Business Venturing*, **2**(1): 41–52.
- Brickson, S.L. (2005). Organizational identity orientation: Forging a link between organizational identity and organizations' relations with stakeholders. *Administrative Science Quarterly*, **50**(4): 576–609.
- Briody, E.K., S.T. Cavusgil, and S.R. Miller (2004). Turning three sides into a delta at General Motors: Enhancing partnership integration on corporate ventures. *Long Range Planning*, **37**(5): 421–34.
- Burgelman, R.A. (1983a). A process model of internal corporate venturing in the diversified major firm. *Administrative Science Quarterly*, **28**(2): 223–44.
- Burgelman, R.A. (1983b). A model of the interaction of strategic behavior, corporate context, and the concept of strategy. *Academy of Management Review*, **8**(1): 61–70.
- Burgelman, R.A. (1983c). Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science*, **29**(12): 1349–64.
- Burgelman, R.A. (1984). Managing the internal corporate venturing process. *Sloan Management Review*, **25**(2): 33–48.
- Burgelman, R.A. (1985). Managing the new venture division: Research findings and implications for strategic management. *Strategic Management Journal*, **6**(1): 39–54.
- Burgelman, R.A. (1988). Strategy making as a social learning process: The case of internal corporate venturing. *Interfaces*, **18**(3): 74–85.
- Burgelman, R.A., and L. Valikangas (2005). Managing internal corporate venturing cycles. *Sloan Management Review*, **46**(4): 26–34.
- Burgers, J.H., J.J.P. Jansen, F.A.J. Van den Bosch, and H.W. Volberda (2008). Structural differentiation and corporate venturing: The moderating role of formal and informal integration mechanisms. *Journal of Business Venturing*, **24**(3): 206–20.
- Burns, T., and G.M. Stalker (1961). *The Management of Innovation*. London: Tavistock.
- Callaway, S.K. (2008). Global corporate ventures: A new trend of international corporate entrepreneurship. *Multinational Business Review*, **16**(3): 1–22.
- Campbell, A., J. Birkinshaw, A. Morrison, and R. van Basten Batenburg (2003). The future of corporate venturing. *Sloan Management Review*, **45**(1): 30–37.
- Campbell, A., and R. Park (2004). Stop kissing frogs. *Harvard Business Review*, **82**(7/8): 27–28.
- Chesbrough, H. (2000). Designing corporate ventures in the shadow of private venture capital. *California Management Review*, **42**(3): 31–49.
- Cooper, H. (1998). *Synthesizing Research: A Guide for Literature Reviews*. Thousand Oaks, CA: Sage Publications.
- Covin, J.G., and M.P. Miles (2007). Strategic use of corporate venturing. *Entrepreneurship: Theory and Practice*, **31**(2): 183–207.
- Cyert, R.M., and J.G. March (1963). *A Behavioral Theory of the Firm* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Darroch, J., M.P. Miles and C.W. Paul (2005). Corporate venturing and the rent cycle. *Technovation*, **25**(12): 1437–42.
- David, B.L. (1994). How internal venture groups innovate. *Research Technology Management*, **37**(2): 38–44.
- Day, D.L. (1994). Raising radicals: Different processes for championing innovative corporate ventures. *Organization Science*, **5**(2): 148–72.
- DeSarbo, W., I.C. MacMillan and D.L. Day (1987). Criteria for corporate venturing: Importance assigned by managers. *Journal of Business Venturing*, **2**(4): 329–51.
- Dess, G.G., R.D. Ireland, S.A. Zahra, S.W. Floyd, J.J. Janney, and P.J. Lane (2003). Emerging issues in corporate entrepreneurship. *Journal of Management*, **29**(3): 351–78.
- DiMaggio, P.J., and W.W. Powell (1983). The iron cage revisited: Institutional isomorphism

- and collective rationality in organizational fields. *American Sociological Review*, **48**(2): 147–60.
- Dimov, D.P. (2004). The individuality of opportunity recognition: A critical review and extension. In J. Butler (ed.), *Opportunity Identification and Entrepreneurial Behavior*, pp. 135–61. Greenwich, CT: Information Age.
- Doty, D.H., W.H. Glick, and G.P. Huber (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. *Academy of Management Journal*, **36**(6): 1196–250.
- Dushnitsky, G. (2006). Corporate venture capital: Past evidence and future directions. In M. Casson, B. Yeung, A. Basu and N. Wadeson (eds), *The Oxford Handbook of Entrepreneurship*. Oxford: Oxford University Press.
- Dushnitsky, G., and D. Lavie (2010). How alliance formation shapes corporate venture capital investment: A resource-based perspective. *Strategic Entrepreneurship Journal*, **4**: 22–48.
- Fast, N.D. (1978). *The Rise and Fall of Corporate New Venture Divisions*. Ann Arbor, MI: UMI Research Press.
- Fast, N.D. (1979a). Key managerial factors in new venture departments. *Industrial Marketing Management*, **8**(3): 221–35.
- Fast, N.D. (1979b). The future of industrial new venture departments. *Industrial Marketing Management*, **8**(1): 264–73.
- Fiss, P.C. (2007). A set-theoretic approach to organizational configurations. *Academy of Management Review*, **32**(4): 1180–98.
- Garud, R., and A.H. Van De Ven (1992). An empirical evaluation of the internal corporate venturing process. *Strategic Management Journal*, **13**: 93–109.
- Garvin, D.A. (2002). A note on corporate venturing and new business creation. *Harvard Business School Background Note 302-091*, March, 1–20.
- Garvin, D., and L.C. Levesque (2006). Meeting the challenge of corporate entrepreneurship. *Harvard Business Review*, **84**(10): 102–12.
- George, R., and I.C. MacMillan (1985). Corporate venturing: Venture management challenges. *Journal of Business Strategy*, **6**(2): 85–92.
- Ginsberg, A., and M. Hay (1994). Confronting the challenges of corporate entrepreneurship: Guidelines for venture managers. *European Management Journal*, **12**: 382–9.
- Grégoire, D.A., A.C. Corbett, and J.S. McMullen (2011). The cognitive perspective in entrepreneurship: An agenda for future research. *Journal of Management Studies*, **48**(6): 1443–77.
- Gupta, A.K., K.G. Smith, and C. Shalley (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, **49**: 693–706.
- Guth, W.D., and A. Ginsberg (1990). Guest editors' introduction: Corporate entrepreneurship. *Strategic Management Journal*, **11**: 5–15.
- Hamel, G. (1999). Bringing Silicon Valley inside. *Harvard Business Review*, **77**(5): 70–84.
- Hanan, M. (1976). Venturing corporations: Think small to stay strong. *Harvard Business Review*, **54**(3): 139–48.
- Hill, S.A., and J. Birkinshaw (2008). Strategy-organization configurations in corporate venture units: Impact on performance and survival. *Journal of Business Venturing*, **23**(4): 423–44.
- Hill, S.A., and J. Birkinshaw (2010). Idea sets: Conceptualizing and measuring a new unit of analysis in entrepreneurship research. *Organizational Research Methods*, **13**(1): 85–113.
- Hill, S.A., M.V.J. Maula, J. Birkinshaw, and G. Murray (2009). Transferability of the venture capital model to the corporate context: Implications for the performance of corporate venture units. *Strategic Entrepreneurship Journal*, **3**(1): 3–27.
- Hirsch, R.D., and M.P. Peters (1986). Establishing a new business venture unit within a firm. *Journal of Business Venturing*, **1**(3): 307–22.
- Hlavacek, J.D., and V.A. Thompson (1978). Bureaucracy and venture failures. *Academy of Management Review*, **3**(2), 242–8.

- Husted, K., and C. Vintergaard (2004). Stimulating innovation through corporate venture bases. *Journal of World Business*, **39**(3): 296–306.
- Ireland, R.D., and J.W. Webb (2007). A cross-disciplinary exploration of entrepreneurship research. *Journal of Management*, **33**(6): 891–927.
- Kanter, R.M. (1985). Supporting innovation and venture development in established companies. *Journal of Business Venturing*, **1**(1): 47–60.
- Kanter, R.M., J. North, L. Richardson, C. Ingols, and J. Zolnes (1991). Engines of progress: Designing and running entrepreneurial vehicles in established companies; Raytheon's New Product Center, 1969–1989. *Journal of Business Venturing*, **5**(4): 249–69.
- Keil, T. (2004). Building external corporate venturing capability. *Journal of Management Studies*, **41**(5): 799–826.
- Keil, T., M.V.J. Maula, H.A. Schildt, and S.A. Zahra (2008). The effect of governance modes and relatedness of external business development activities on innovative performance. *Strategic Management Journal*, **29**(8): 895–907.
- Keil, T., R.G. McGrath, and T. Tukiainen (2009). Gems from the ashes: Capability creation and transformation in internal corporate venturing. *Organization Science*, **20**(3): 601–20.
- Klavans, R., M. Shanley, and W.M. Evans (1985). The management of internal corporate ventures: Entrepreneurship and innovation. *Columbia Journal of World Business*, **20**(2): 21–7.
- Kola-Nystrom, S.M. (2008). In search of corporate renewal: Focus on corporate venturing. *International Journal of Entrepreneurship and Innovation Management*, **8**(2): 196–215.
- Krippendorff, K. (2004). *Content Analysis: An Introduction to Its Methodology* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Kuratko, D.F., J.G. Covin, and R.P. Garrett (2009). Corporate venturing: Insights from actual performance. *Business Horizons*, **52**(5): 459–67.
- Lawrence, P.R., and J.W. Lorsch (1967). *Organization and Environment*. Cambridge, MA: Harvard University Press.
- MacMillan, I.C., and D.L. Day (1987). Corporate ventures into industrial markets: Dynamics of aggressive entry. *Journal of Business Venturing*, **2**(1): 29–40.
- MacMillan, I.C., and R. George (1985). Corporate venturing: Challenges for senior managers. *Journal of Business Strategy*, **5**(3): 34–44.
- MacMillan, I.C., Z. Block, and P.N. Narashima (1986). Corporate venturing: Alternatives, obstacles encountered, and experience effects. *Journal of Business Venturing*, **1**(2): 177–92.
- Maine, E. (2008). Radical innovation through internal corporate venturing: Degussa's commercialization of nanomaterials. *R&D Management*, **38**(4): 359–71.
- March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, **2**(1): 71–87.
- March, J.G., and H.A. Simon (1958). *Organizations*. New York: John Wiley and Sons.
- Maula, M. (2007). Corporate venture capital as a strategic tool for corporations. In H. Landström (ed.), *The Handbook of Research on Venture Capital*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- McGrath, R.G. (1995). Advantage from adversity: Learning from disappointment in internal corporate venturing. *Journal of Business Venturing*, **10**(2): 121–42.
- McGrath, R.G. (1999). Falling forward: Real options reasoning and entrepreneurial failure. *Academy of Management Review*, **24**(1): 13–30.
- McGrath, R.G., T. Keil, and T. Tukiainen (2006). Extracting value from corporate venturing. *Sloan Management Review*, **48**(1): 50–56.
- Michalski, T., S. Nafe, and A. Usein (2006). Innovation success through corporate venturing: An empirical analysis of the relevant success factors. *International Journal of Management and Decision Making*, **7**(2/3): 295–312.
- Miles, M.P., and J.G. Covin (2002). Exploring the practice of corporate venturing: Some common forms and their organizational implications. *Entrepreneurship: Theory and Practice*, **26**(3): 21–40.

- Miller, A., and B. Camp (1985). Exploring determinants of success in corporate ventures. *Journal of Business Venturing*, **1**(1): 87–106.
- Miller, A., W. Gartner, and R. Wilson (1989). Entry order, market share, and competitive advantage: A study of their relationships in new corporate ventures. *Journal of Business Venturing*, **4**(3): 197–206.
- Miller, A., M.S. Spann, and L. Lerner (1991). Competitive advantages in new corporate ventures: The impact of resource sharing and reporting level. *Journal of Business Venturing*, **6**(5): 335–51.
- Miller, D. (1986). Configurations of strategy and structure: Towards a synthesis. *Strategic Management Journal*, **7**(3): 233–49.
- Miller, D. (1996). Configurations revisited. *Strategic Management Journal*, **17**(7): 505–12.
- Nahapiet, J. (2009). Capitalizing on connection: Social capital and strategic management. In V. Bartkus and J. Davis (eds), *Social Capital: Reaching Out, Reaching In*. Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing.
- Narayanan, V.K., Y. Yang, and S.A. Zahra (2009). Corporate venturing and value creation: A review and proposed framework. *Research Policy*, **38**(1): 58–76.
- Neuendorf, K.A. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage Publications.
- Ohe, T., S. Honjo, and D.B. Merrifield (1992). Japanese corporate ventures: Success curve. *Journal of Business Venturing*, **7**(3), 171–80.
- Patton, M.Q. (2005). *Qualitative Research*. New York: John Wiley and Sons.
- Peterson, R.W. (1967). New venture management in a large company. *Harvard Business Review*, **45**: 68–76.
- Phan, P.H., M. Wright, D. Ucbasaran, and W.L. Tan (2009). Corporate entrepreneurship: Current research and future directions. *Journal of Business Venturing*, **24**(3): 197–205.
- Pinchot III, G. (1985). Intrapreneuring: Why you don't have to leave the corporation to become an entrepreneur. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- Porter, M.E. (1980). *Competitive Strategy*. New York: Free Press.
- Porter, M.E. (1985). *Competitive Advantage*. New York: Free Press.
- Riley, D., S. Kalafatis, and F. Manoochehri (2009). The impact of entrepreneurial orientation and managerial resources on corporate venture outcomes. *International Journal of Entrepreneurship and Innovation Management*, **9**(3): 242–66.
- Rind, K.W. (1981). The role of venture capital in corporate development. *Strategic Management Journal*, **2**(2): 169–80.
- Sambrook, S., and C. Roberts (2005). Corporate entrepreneurship and organizational learning: A review of the literature and the development of a conceptual framework. *Strategic Change*, **14**(3): 141–55.
- Sathe, V. (1989). Fostering entrepreneurship in the large, diversified firm. *Organizational Dynamics*, **18**(2): 20–32.
- Shah, C.M., M.A. Zegveld, and L. Roodhart (2008). Designing ventures that work. *Research Technology Management*, **51**(2): 17–25.
- Sharma, P., and J.J. Chrisman (1999). Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship. *Entrepreneurship Theory and Practice*, **23**(4): 11–27.
- Shrader, R.C., and M. Simon (1997). Corporate versus independent new ventures: Resource, strategy, and performance differences. *Journal of Business Venturing*, **12**(1): 47–67.
- Simon, M., and S.M. Houghton (1999). Succeeding at internal corporate venturing: Roles needed to balance autonomy and control. *Journal of Applied Management Studies*, **8**(2): 145–60.
- Sorrentino, M., and M.L. Williams (1995). Relatedness and corporate venturing: Does it really matter? *Journal of Business Venturing*, **10**(1): 59–74.
- Sykes, H.B. (1986). The anatomy of a corporate venturing program: Factors influencing success. *Journal of Business Venturing*, **1**(3): 275–94.

- Sykes, H.B. (1992). Incentive compensation for corporate venture personnel. *Journal of Business Venturing*, **7**(4): 253–66.
- Sykes, H.B., and Z. Block (1989). Corporate venturing obstacles: Sources and solutions. *Journal of Business Venturing*, **4**(3): 159–68.
- Thornhill, S., and R. Amit (2001). A dynamic perspective of internal fit in corporate venturing. *Journal of Business Venturing*, **16**(1): 25–50.
- Tidd, J., and S. Taurins (1999). Learn or leverage? Strategic diversification and organizational learning through corporate ventures. *Creativity and Innovation Management*, **8**(2): 122–30.
- Tsai, W., I.C. MacMillan, and M.B. Low (1991). Effects of strategy and environment on corporate venture success in industrial markets. *Journal of Business Venturing*, **6**(1): 9–29.
- Van de Vrande, V., W. Vanhaverbeke, and G. Duysters (2009). External technology sourcing: The effect of uncertainty on governance mode choice. *Journal of Business Venturing*, **24**(1): 62–80.
- Von Hippel, E. (1977). Successful and failing internal corporate ventures: An empirical analysis. *Industrial Marketing Management*, **6**(3): 163–74.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, **5**(2): 171–80.
- Zahra, S.A. (1995). Corporate entrepreneurship and financial performance: The case of management leveraged buyouts. *Journal of Business Venturing*, **10**(3): 225–47.
- Zahra, S.A., and G. George (1999). Manufacturing strategy and new venture performance: A comparison of independent and corporate ventures in the biotechnology industry. *Journal of High Technology Management Research*, **10**(2): 313–46.
- Zahra, S.A., D.F. Jennings, and D.F. Kuratko (1999). The antecedents and consequences of firm-level entrepreneurship: The state of the field. *Entrepreneurship Theory and Practice*, **23**(1): 45–65.

APPENDIX A

Table 1A.1 *Keyword search procedure*

Criteria	Rationale
(1) Published up until (and including) 2009	In order to review the entire ICV literature, starting from its earliest origins, we did not specify a start date for our search. The end date of 2009 was selected in order to obtain the most recent, full year of ICV publications.
(2) Using the following keyword derivatives in the article's abstract and/or title: corporate ventur*) NOT (corporate ventur* capital); or (external corporate ventur*)	As authors studying corporate venturing have frequently not specified whether CV in their study has an internal or external locus, and we did not wish to restrict the level of analysis of our sample (namely venture, venture unit, venturing program or other), we specified the broad 'corporate ventur*' derivative in order to elicit a range of articles on corporate venturing. We did, however, attempt to exclude articles that focused specifically on external forms of corporate venturing through barring those that included the terms derived from 'corporate ventur* capital' and/or 'external corporate ventur*'. Per the logic of criterion sampling, we thus sought to use the authors' own words (that is, how they portrayed their own work) in constructing our sample, rather than relying on our own interpretation (cf. Grégoire et al. 2011).
(3) Publication as an original article that is centrally concerned with ICV	We excluded trade journal reports (17 articles), editorial commentaries (7 articles) and book reviews (5 articles). In addition, following careful reading and discussion by both authors, we eliminated articles that were found to focus exclusively on external venturing (4 articles) or to make only marginal reference to ICV (17 articles). The latter approach, contrary to that taken by Narayanan et al. (2009), resulted in the exclusion of articles focusing on ICV in not-for-profit contexts—especially university spin-offs.

APPENDIX B

Table 1A.2 *Illustrative empirical studies by theme*

Theme	Illustrative Empirical Studies
Forms of ICV	
Alternative venturing structures and their contingencies	Burgelman, 1984; MacMillan and George, 1985; Miles and Covin, 2002
Typologies/taxonomies of venture units	Campbell et al., 2003; Hill and Birkinshaw, 2008
Comparison of ICV and other venturing modes	
Comparing the strategy and performance of corporate and independent ventures	Shrader and Simon, 1997; Zahra and George, 1999
Comparing the strategy and performance of different corporate venturing modes	David, 1994; MacMillan et al., 1986; Sykes, 1986
Comparing corporate venturing and venture capital practices	Hill et al., 2009
Role of ICV in parent firm strategy	
Exploratory role of ICV in parent firm strategy	Burgelman, 1983a, 1985, 1988; Kola-Nystrom, 2008; Maine, 2008
Exploitive role of ICV in parent firm strategy	Darroch et al., 2005; Tidd and Taurins, 1999
Indirect learning benefits from ICV (including from 'failed' ventures)	Keil et al., 2009; McGrath, 1995
Impact of strategy on ICV outcomes	
Venture competitive strategy as antecedent to market and economic outcomes	Biggadike, 1979; MacMillan and Day, 1987; Miller and Camp, 1985; Miller et al., 1989; Shrader and Simon, 1997; Tsai et al., 1991; Zahra and George, 1999
Relatedness to parent company as antecedent to market and economic outcomes	Miller and Camp, 1985; Miller et al., 1991; Sorrentino and Williams, 1995; Sykes, 1986; Thornhill and Amit, 2001; Von Hippel, 1977

Table 1A.2 (continued)

Theme	Illustrative Empirical Studies
Nature of opportunity as antecedent to venture success	Klavans et al., 1985; Miller and Camp, 1985; Ohe et al., 1992; Sykes, 1986; Von Hippel, 1977
Industry environment as antecedent to market and economic outcomes	Miller and Camp, 1985; Tsai et al., 1991
Impact of organizational context on ICV outcomes	
<i>Separation versus integration</i>	
Impact of structural differentiation on ICV outcomes	Burgers et al., 2009; Peterson, 1967
Contingency factors affecting the value of ICV structural separation	Burgelman, 1984; Burgers et al., 2009; George and MacMillan, 1985; Shah et al., 2008
<i>Autonomy</i>	
Funding autonomy and CV outcomes	Birkinshaw et al., 2002; Birkinshaw and Hill, 2005; Birkinshaw, 2005; Fast, 1979b; Michalski et al., 2006; Shah et al., 2008
Investment autonomy and CV outcomes	Hill et al., 2009; Kuratko et al., 2009; Riley et al., 2009
Operational autonomy and CV outcomes	Hill et al., 2009; Hlavacek and Thompson, 1978; Kuratko et al., 2009; Riley et al., 2009
<i>Top management support</i>	
Influence of top management support on ICV outcomes	Fast, 1979a; Kuratko et al., 2009; Michalski et al., 2006
Factors moderating the impact of top management support on ICV outcomes (for example, time horizon, distance from CEO, formality of sponsor role)	Fast, 1979b; Garvin, 2002; Hlavacek and Thompson, 1978; von Hippel, 1977
Actions of top management to enhance CV outcomes	Fast, 1979b; MacMillan and George, 1985
<i>Evaluation systems</i>	
Benefits to ICV of an effective evaluation system	Burgelman, 1988; Keil et al., 2009; Simon et al., 1999

Guidelines on appropriate evaluation systems for ICV	DeSarbo et al., 1987; Garvin and Levesque, 2006; George and MacMillan, 1985; McGrath et al., 2006; Sathe, 1989
<i>Human capital</i>	
Influence of knowledge and experience of ICV managers on ICV outcomes	Hlavacek and Thompson, 1978; Kuratko et al., 2009; Riley et al., 2009; Sykes, 1986
Influence of recruitment policies on ICV outcomes	Bart, 1988; David, 1994; Michalski et al., 2006; Sykes, 1986; von Hippel, 1977
<i>Rewards/incentives</i>	
Influence of bonuses and equity-based incentives on CV outcomes	Hill et al., 2009; Hisrich and Peters, 1986; Klavans et al., 1985; Kuratko et al., 2009; Sykes and Block, 1989
Influence of non-pecuniary factors on CV outcomes	Block and Ornati, 1987; Peterson, 1967; Sykes, 1992
ICV processes	
Social and psychological processes underlying ICV	Burgelman, 1983a, 1983c, 1988; Day, 1994; DeSarbo et al., 1987; Garud and Van de Ven, 1992
Temporal dynamics of ICV	
Time duration of ICV activities	Biggadike, 1979; Burgelman and Välikangas, 2005; Fast, 1979a, b
Factors influencing the initiation and longevity of ICV within parent companies	Burgelman and Välikangas, 2005; Campbell and Park, 2004; Fast, 1979a, 1979b; Hill and Birkinshaw, 2008; Hill et al., 2009; Husted and Vintergaard, 2004; Shah et al., 2008
Evolution within ICV	Birkinshaw, 2005; Birkinshaw and Hill, 2005; Burgelman and Välikangas, 2005; Fast, 1979a
Other themes	
Role of social capital in ICV	Husted and Vintergaard, 2004; Michalski et al., 2006
International dimensions of ICV	Callaway, 2008