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**INTERNAL CORPORATE VENTURING:
A REVIEW OF FIVE DECADES OF LITERATURE**

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ABSTRACT

Despite its centrality to a longstanding literature on corporate entrepreneurship, no systematic review of the internal corporate venturing (ICV) literature has (to our knowledge) been published to date. Given the longevity, complexity and dispersed nature of both the ICV phenomenon and its literature, a review appears timely. Using criterion sampling, supplemented by the ancestry method, to identify relevant articles, we content-analyzed 131 articles published between 1963 and 2013.

While practice-oriented literature, venture-level analyses, and the use of cross-sectional case methods and surveys have dominated, an increasingly diverse and sophisticated set of theoretical perspectives have been brought to bear on a wide range of themes. The extant set of major themes examined in the ICV literature – i.e. managerial guidelines for conducting ICV; forms of ICV; comparisons of ICV and other venturing modes; the role of ICV in parent company strategy; the impact of venture strategy on ICV outcomes; the impact of organizational context on ICV outcomes; debates concerning the structural separation versus integration of ICV; processes of ICV; and temporal dynamics underlying ICV – show room for building enhanced conceptual and empirical rigor, as well as for continued exploration. In addition, considerable scope exists for exploring new research avenues concerning this challenging and strategically important phenomenon.

The continued, and burgeoning, growth of interest in corporate entrepreneurship (CE) amongst scholars and managers makes opportune stock-taking exercises to examine 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 in broad) (Corbett et al., 2013; Ireland & Webb, 2007; Narayanan, Yang, & Zahra, 2009). Recent years have thus evidenced a number of reviews of CE literature.

Multiple facets of CE have been examined in such literature reviews, including: firm-level entrepreneurship (Zahra, Jennings, & Kuratko, 1999); organizational learning, capabilities and CE (Dess et al., 2003; Phan et al., 2009; Sambrook & 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, 2012; 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, 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 & 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 (Garrett, 2010), 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, Block, & Narashima, 1986; Rind, 1981; Sykes, 1986). Thus, a wide-ranging but systematic literature review of the ICV field appears valuable. Accordingly, we content-analyzed 131 articles on ICV, published between 1963 and 2013, 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 we employed to select and analyze the papers included in our review. Thereafter, we present – in two sections - the findings of our review. First, we present a chronological overview of the findings, describing 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. We conclude the chapter 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 & 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 & Chrisman, 1999) i.e. 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 & Ginsberg, 1990). 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 & 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 & 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 (i.e. CV within the boundaries of the firm) or external (i.e. CV outside the boundaries of the firm) (Miles & 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, more typically, CV may be regarded as internal where it develops an idea generated within the parent company and as external where it develops an idea sourced from outside the firm (Hill & 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 results in “activities that reside outside the existing organizational domain” (Sharma

& Chrisman, 1999: 19-20). Where a venturing initiative is internal along one categorization but external along the other, this definitional ambiguity becomes problematic.¹

One further useful distinction for categorizing forms of CV is between its dispersed and focused modes (Birkinshaw, 1997). Dispersed ICV² describes venturing activities originating via employees across different organizational units i.e. 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 i.e. 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, 1983b, 1983c, 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 131 articles published between 1963 (the earliest relevant article surfaced by our search procedures) and 2013. The procedures employed to identify and code these articles are described below, with Appendix A providing further detail.

Sampling Procedure

We used criterion sampling (Patton, 1990) to identify relevant articles through conducting a keyword search (detailed in Appendix A) within the EBSCO Business Source

¹ We excluded articles centered explicitly on ventures either (a) originating externally (e.g. via acquisitions, joint ventures or CVC) and/or (b) residing externally to the originating organization (e.g. in spin-offs) (Keil et al., 2008; Narayanan et al., 2009).

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 & Chrisman, 1999).

Premiere and ProQuest Business Collection databases. 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. Contrary to common practice, we did not restrict our sample to a selection of top management journals or to empirical articles only.

Our initial search yielded 208 articles. Given that keyword searches can yield a broad variety of documents of varying relevance, we took steps to filter this list. After the filtering process outlined in Appendix A, our electronic search resulted in 102 published articles centrally concerned with ICV. We supplemented this set with an additional 29 articles identified through the ‘ancestry’ method (Cooper, 1998), whereby the reference lists of published works are scanned for additional relevant works. Thus, our final sample consisted of a total of 131 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 (cf. Grégoire, Corbett, & McMullen, 2011).

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 independently coded a training sub-sample of seven papers randomly selected from the full sample. Thereafter, we debated any discrepancies between our results; recoded all the training articles independently once more; and then finalized the coding scheme. We then proceeded to independently code all the remaining articles, employing the scheme outlined in Table 1. In addition, both authors summarized the propositions or findings (as appropriate) and identified the primary theoretical anchor(s) of each piece.

 Insert Table 1 about here

Inter-rater reliability was high. Specifically, we obtained the following inter-rater agreement levels: 89% agreement on the level of analysis employed; 97% agreement on whether dispersed or focused modes of ICV were of interest; and complete agreement on the degree to which each article examined ICV exclusively or also included external venturing modes. 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 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, taking cognizance of categories employed in Narayanan et al's (2009) 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 to 4 provide an overview of historical patterns in the articles reviewed; Figures 5a to 5d show features of these articles in cross-section. For greater clarity regarding the historical trends, the 50-year timeframe of the review has been broken into 5-year time periods.³

 Insert Figures 1-5 about here

³ Although the earliest article reviewed was published in 1963 (viz. Peterson, 1963), we code the first 5-year period of our analysis as 1960-1964 to coincide with calendar decades.

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 1985-1990 time period which saw the publication of 23 articles; the second, to the period 2005-2009, which evidenced 27 articles. These peaks appear to correspond fairly well⁴ to the timing of the major ‘waves’ of CVC investment activity over the past few decades (cf. Dushnitsky, 2006). A proportional projection of the 2010-2013 articles suggests that this current (at the time of writing) five year period, once completed, should evidence a similar level of ICV output to that of the first peak.

In terms of publication outlets (see Figure 1), practice-oriented periodicals and entrepreneurship journals have dominated ICV publications. In total, 32 percent of the articles in the review were published in practitioner outlets (see Figure 5a). The early dominance of such outlets has, however, declined somewhat over the review period, to be overtaken by entrepreneurship journals (in particular, the *Journal of Business Venturing*⁵), constituting 37 percent of the review articles. Publications in general management journals trail thereafter, at 11 percent of the sample (with some authors disproportionately represented therein, e.g. Burgelman, 1983a, 1983b, 1983c), and to date show no sign of an upwards trend since 1980-1984.

Consistent with its strong 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 (refer to Figures 2 and 5b). Another strong interest has been in the influence of organizational context on ICV ‘success’, or other outcomes. Other themes have increasingly entered the literature, particularly from the mid-1980s onwards.

⁴ With a lag of around 5 years which may perhaps be accounted for by scholarly publication times.

⁵ Twenty-seven of 49 articles in entrepreneurship journals were in the *Journal of Business Venturing*. This dominance has declined over the past decade or so.

Consistent too with the practice-orientation that has characterized ICV literature, many articles reflect an applied ‘managerial’ orientation, rather than an identifiable strand of theory (see Figures 3 and 5c). Overall however - although this trend is not entirely consistent across all time periods - this orientation is of decreasing significance. Instead, there has been a substantial increase in the variety of theoretical perspectives being brought to bear on ICV. The periods commencing 2005, together with 1985-1989, evidenced the most marked expansions, with multiple management theories appearing in the ICV literature. Strategic management has exerted⁶ the single strongest disciplinary influence over the ICV corpus to date. This discipline, however, demonstrates a marked decline in prevalence over the past decade and a half.

In terms of the research methods employed (see Figures 4 and 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 PIMS database contributed to understanding the impact of strategy on venture performance from the mid-80s to mid-90s.

The ICV literature has thus experienced the simultaneity of constancies and changes. We now briefly describe these by chronological period (refer to Table 2).

 Insert Table 2 about here

Up to 1979: Early Origins

⁶ The sum of the strategy process, strategy content and resource-based (RBV) theory categories represents 23 percent of theories utilized in the review articles. RBV-based ICV articles were classified separately to strategy content and process articles, due to frequently blurring content/process distinctions and to the sheer volume of pertinent articles. While other categories might be added to this set (e.g. organizational learning, organizational ecology, and contingency perspectives), they are most readily identified with the strategic management discipline.

Articles on ICV first appeared during the ‘first wave’ of CV activity (Dushnitsky, 2006), at which time 25% 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 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 & Thompson, 1978), all appeared in practice-oriented outlets. And, accordingly, a strongly normative orientation runs 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, 1963). The need for practices, systems and processes differentiated from those of corporations’ mainstream businesses was emphasized, with authors recommending the emulation of small business or start-up environments (Hanan, 1976; Peterson, 1963). 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 resources and dollars, 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 (1979a, 1979b) findings: his longitudinal case studies highlighted the vulnerability of CV units to closure from 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 research methods all increased. Surveys joined case studies as highly used methods, and PIMS-based archival studies constituted over one-quarter of empirical studies. Even conjoint analysis (DeSarbo, MacMillan, & Day, 1987) made an appearance. By the conclusion of the decade, all the core themes identified in the review were established, and entrepreneurship journals had become the modal outlet for ICV articles.

Within theoretically grounded works, strategy process, strategy content and ecological theories became most prominent. These perspectives evidenced themselves in two principal streams of research. The first, exemplified by the longitudinal case studies of Burgelman (1983a, 1983b, 1983c, 1984, 1988), examined the processes through which ICV activities influence firm-level strategy. The second, using PIMS data⁷ or surveys, examined the influence of a venture's strategic positioning on its performance, measured in financial or market share terms.

The 1990s: Between the Waves

⁷ The corporate start-up component of the PIMS database was utilized in the studies referred to in this chapter. It should be noted, however, that this database did not allow for discrimination between ventures of internal and external origins (Garrett, 2010).

The 1990s saw a slight decline in the volume of ICV publications. This may reflect the (lagged) decline in overall CV activity between the second and third CV waves of the early eighties and late nineties, 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, with substantial growth occurring in the application of (its associated) resource-based view (RBV) (Barney, 1991; Wernerfelt, 1984) and in organizational learning (March, 1991) theories. Some differences from the 1980s, however, were in the pronounced dominance of entrepreneurship journals - at nearly 60 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. Much of this literature probed in more depth than previously the complex challenges embodied in relationships between ventures and other parent company stakeholders (e.g. Kanter et al., 1991; Miller, Spann, & Lerner, 1991) and the importance of championing roles for garnering organizational support for venturing (e.g. Day, 1994; Simon & Houghton, 1999). Next in line were: (a) 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.

2000s onwards: 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 onwards exhibits further

growth in ICV publications. The volume of ICV articles reviewed reaches its highest levels to date. While managerially-oriented articles dominate again at 40 percent in the 2000-2009 decade, the remainder of the articles reflects an increased variety of theoretical perspectives. These include, *inter alia*, international management, institutional, finance, innovation, and mainstream economic and entrepreneurship theories. Practice-oriented publication outlets and entrepreneurship journals nonetheless remain the most common publication outlets.

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 and Asian settings. Another change is towards venturing program analyses (almost 50 percent of empirical studies) as well as a greater proportion of multi-method studies. In addition, notwithstanding the managerial guidelines and the organization context themes to garner considerable attention, the articles show a greater degree of dispersion across the core themes, and a few new topics also make an appearance.

THEMATIC OVERVIEW

We now provide an overview of the literature on each of the themes identified in the review, focusing on the pertinent empirical studies. 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 & Covin, 2002) to alternative structural forms of CV. Nonetheless, the utility of the posited venture-structure contingency relationships have not been verified empirically.⁸

While this first stream addresses both dispersed and focused (Birkinshaw, 1997) modes of venturing, the second stream pertains only to focused modes: viz. formally-established CV units. Empirically-derived taxonomies (Campbell et al., 2003) and theoretically-derived typologies (Hill & Birkinshaw, 2008) are advocated to differentiate between different forms of CV unit. The distinction drawn amongst 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) while others are more ‘exploitive’ (better utilizing parent assets and capabilities) (March, 1991) (Hill & Birkinshaw, 2008). Per the contingency logic running across the first stream, contingent (or configurational;

⁸ 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.

c.f. Hill & Birkinshaw, 2008) 'fit' relationships are posited between CV unit form, their management practices, and their outcomes. These were also subject to empirical validation 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 (i.e. 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 colleagues (1996, 1999) demonstrated a number of configurational 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: while Zahra and colleagues (1996, 1999), consistent with Weiss (1981), find independent ventures to perform significantly better on average, Shrader and Simon (1997) no significant differences between the venturing modalities, proposing instead equifinality in their pathways to performance.

Second, in a rather less directly comparable set of studies, some scholars have tested for differences between the strategies and, especially, the performance of different forms of CV. These studies lend some support for the idea (Birkinshaw, 2005) that ICV may represent a more challenging form of CV to get right than its more externally-oriented counterparts. 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), and may result in greater exploration than do external modes of venturing (Huang, 2009).

Third, the oft-expressed view that VCs are superior investors to their CV counterparts (Chesbrough, 2000; Hamel, 1999) has been subject to limited empirical 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 more tangible 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 relevant empirical studies identified in the review consisted of case studies taking a venture level of analysis. Most 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, 1983b, 1983c, 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, although this is by no means guaranteed, of CV units to radical innovation and, more broadly, to the strategic renewal of the parent company (Kola-Nystrom, 2008; Maine, 2008). More recently, an additional, exploitive (March, 1991) role for ICV has also 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, Miles, & Paul, 2005; Hill & Birkinshaw, 2008; Tidd & Taurins, 1999).

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, McGrath, & Tukiainen, 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 taken advantage of the opportunities for learning that ventures, irrespective of whether they are ultimately abandoned, may offer.

It is worth noting that while literature on this theme is concerned with the relationship between ICV and firm strategy, little attention (the work of Burgelman, 1983, 1985, 1988, being an exception) has explicitly been devoted to the central issue of how strategy and venturing relate to each other. This is an issue 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

The third largest volume of the review articles are concerned with the influence of strategy on ICV outcomes. Unlike the articles described above (which address the relationships between ICV and parent companies' strategic outcomes), authors in this stream have investigated

how the strategic choices concerning ventures influence their 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 subthemes examine the relationships between (a) venture competitive strategy, (b) strategic relatedness, (c) the nature of the ‘opportunity’, and (d) the influence of industry environment, all on venturing outcomes. The first two subthemes constitute the bulk of the studies.

First, on the topic of how ventures’ competitive strategy choices influence their market and economic outcomes, studies have employed two dominant methodologies. These are: (a) archival analysis of the corporate start-ups in the PIMS database; and (b) cross-sectional survey research. In addition, some studies combined both methods (Biggadike, 1979). The greater consistency in methods allows for readier comparison of the findings than in many areas of ICV research. Overall, aggressive venture entry (i.e. large scale, early entry with heavy investment in promotion) is associated with strong market share gains and return on investment (ROI) (Biggadike, 1979; Klavans, Shanley, & Evan, 1985; Lambkin, 1988; MacMillan & Day, 1987; Miller, Gartner, & Wilson, 1989; Tsai, MacMillan, & Low, 1991). These effects appear heightened when parent firms possess strong reputational assets (Williams, Tsai, & Day, 1991). The impact of adopting either a differentiation or low cost strategy (Porter, 1980, 1985) on venture outcomes is less clear though, with relevant studies (e.g. Miller and Camp, 1985; Shrader & Simon, 1997; Tsai et al., 1991; Zahra & George, 1999) yielding a complex set of findings.

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 & Camp, 1985), but it may enhance market share gain where parent companies have strong intangible (brand) assets (Sorrentino & Williams, 1995). Finally, moderate *investment relatedness* (measured as the correspondence of parent- and venture- 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 influences 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); and, probably unsurprisingly, higher market and technical risk are associated with lower venture success (Ohe, Honjo, & Merrifield, 1992; Sykes, 1986). The effects of patent protection are unclear: while Miller and Camp (1985) and Zahra (1996) found protection to, respectively, increase venture ROI and new venture performance in broad; Robinson's (1991) study obtained reverse findings for patenting on ventures' market share growth.

The final – albeit 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 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 has been given to understanding the role of the organizational context that embeds ICV in influencing its outcomes. This constitutes the second largest theme amongst the review articles. 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 (the largest theme we identified) 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, 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?⁹ Furthermore, researchers have long been concerned with identifying contingencies affecting this relationship. Strong resonances exist between literature on this theme, the historical debate on differentiation and integration (Burns & Stalker, 1961; Lawrence & Lorsch, 1967), and the more recent debate on the relationship between exploration and exploitation within organizations (March, 1991). The dominant research method employed is case studies.

⁹ While closely related to the issues and concerns addressed within ‘forms of ICV’ theme, we focus here on studies concerned with the broader relationship between degree of structural separation and venture outcomes.

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 (e.g. 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 & Levesque, 2006; Ginsberg & 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, 1963). However, multiple contingency factors appear to moderate this relationship. These include the size of the parent company, its organizational culture, the presence of an overarching vision, the nature of its coordination mechanisms, and the nature and stage of the ICV activity in question (c.f. Burgers et al., 2009; Johnson, 2012; Shah, Zegveld, & Roodhart, 2008).

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 empirical articles on this sub-theme have investigated whether the autonomy afforded to ICV activities influences its performance. The unit of analysis is typically the venture itself or, less frequently, the CV unit, and the research methods employed include case studies, surveys and/or interviews. Non-overlapping terminology for dimensions of autonomy and the limited consideration of mediating processes between autonomy and performance somewhat obfuscates drawing clear inferences from this stream of research.

For the most part, however, autonomy from the core activities of the parent firm has been shown to have a positive impact on venture outcomes. Attempting to identify more specifically the types of autonomy that may influence ICV outcomes, researchers have verified the value of financial autonomy (i.e. a separate pot of money) and autonomy over investment decisions (Abetti, 1997; Birkinshaw, Hill and colleagues, 2002, 2005; Kuratko et al., 2009; Michalski, Nafe, & Usein, 2006; Shah et al., 2008). The latter appears especially beneficial to CV units' financial performance (Hill et al., 2009). Findings on operational autonomy (i.e. on the degree of independence of ventures or CV units over the ongoing planning and supervision of ICV activities) are more mixed: while Hill et al. (2009) and Hlavacek and Thomson (1978) found operational autonomy to be positively linked to strategic performance, other studies (Briody et al., 2004; Johnson, 2012; Kuratko et al., 2009) found it to be an obstacle to ICV performance.

Yet other scholars have suggested the possibility of inverted U-shaped relationships between autonomy and performance (e.g. Fast, 1979b), although such relationships have been little subject to investigation to date. In addition, the impact of autonomy on venture performance has been indicated to be contingent on venture characteristics, such as their degree of exploration (McGrath, 2001; Yang, Nomoto, & Kurokawa, 2013).

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.

While this literature is not unequivocal and contrarian arguments regarding the importance of shielding ‘under the table’ initiatives from top management provide intrigue (c.f. Abetti, 1997), top management support has frequently 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), Michalski et al. (2006), and Garrett and Neubaum (2013) 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 & Thompson, 1978). Top management support reinforced by strategic asset endowment and close involvement with ventures has been indicated to be beneficial (Garrett & Neubaum, 2013). 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, 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 an appropriate evaluation system, 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 et al., 1999).

Milestone-based evaluation systems are one alternative that has frequently been advocated (Garvin & Levesque, 2006; George & 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 have been recommended (Burgelman & Valikangas, 2005; Garvin & Levesque, 2006; McGrath, Keil, & Tukiainen, 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 they are 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 and advocated principles on which to base such systems, they have shed little direct light on how different evaluation systems might affect ICV behavior and performance.

Human capital. A number of empirical articles address the role of human capital in ICV activities. This literature has principally focused on two issues: (a) identifying the types of managerial human capital (especially knowledge) associated with ICV performance (non-managerial human capital has received less attention; c.f. Guerrero and Peña-legazkue, 2013, for an exception); and (b) investigating how recruitment strategies influence ICV outcomes. Most relevant studies adopted a venture level of analysis, examined focused ICV, and used 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 & Thompson, 1978).

Regarding recruitment, high levels of motivation to engage with ICV activities appear 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 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 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 where a firm lacks experience in the target market (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 regarding whether rewards have a significant effect on ICV performance, as well as which types of rewards (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) can rewards/incentives improve ICV outcomes (or may they in fact cause harm); and (b) the impact of the type of reward on ICV performance.

A number of field studies have found positive associations between ICV performance and the awarding of bonuses and equity-based rewards (e.g. Hill et al., 2009; Hisrich & Peters, 1986; Klavans et al., 1985). The typical line of argumentation employed is that stronger financial incentives are required to offset the career and pay-related risks (and frequently, greater effort) to individuals of internal venturing (Sykes & Block, 1989). A conjoint field experiment by Monsen, Patzelt and Saxton (2010) confirmed such trade-offs - between profit-sharing upside and the risks (to their pay and jobs) – being made by corporate employees when considering internal venture participation. Nonetheless, financial rewards 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 & Ornati, 1987; Hill et al., 2009; Yang et al., 2013).

In a smaller set of studies, non-pecuniary factors other than rewards have also been shown to play a significant role in motivating ICV, with achievement (Block & Ornati, 1987; Peterson, 1963), 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, particularly, by learning and/or behavioral theories of the firm (Cyert & March, 1963; March & 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 & Van de Ven, 1992); championing processes (Abetti, 1997; Day, 1994); and the distinctive roles of managerial levels in ICV processes of variation and selection (Burgelman, 1983a, 1983c, 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 & Valikangas, 2005: 27).

Two main streams of research may be identified within this theme. In one stream, scholars have sought to establish the average time 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 8 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 & Valikangas, 2005; Fast, 1979a, b).

The other stream is concerned with factors influencing the initiation, evolution and abandonment of ICV activities within firms. Within these, evolution is the least researched topic (c.f. Birkinshaw & Hill, 2005, for an exception). Employing a variety of research methods, these 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’¹⁰ – changes in these heralding gains or losses in an organization’s support for CV. Accordingly, Burgelman and Valikangas (2005: 26) identify ‘cycles’ of ICV activity whereby:

¹⁰ Fast (1979a, b) identified 4 factors as influencing ‘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 (viz. diversifying vs. consolidating). He saw CV political posture as depending on 4 factors: strength of sponsorship; supportiveness of relationships with other organizational units; ambitiousness of CV subunit objectives; and perceived CV performance.

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.

The type of CV unit and its managerial practices appear, however, to moderate 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’ (March, 1991) CV units. 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 enhanced the odds of CV unit survival (Hill et al., 2009). Furthermore, some studies have investigated factors influencing specific ICV phases. In respect of early ICV activity, Husted and Vintergaard (2004) emphasize 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.

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 on the generation of venturing ideas, while Hill et al. (2009) and Michalski et al. (2006) investigated the impact of contact with VCs on venturing performance.

Another stream integrates *international business* literature into researching ICV¹¹. This is illustrated empirically in Callaway's (2008) case study of two 'global corporate ventures', ING Direct and HSBC Direct. Finally, a set of articles examine ICV outside of the traditional large company context, within *family businesses* (Greidanus & Märk, 2012; Marchisio et al., 2010) and *SMEs* (Evald & Senderovitz, 2013).

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 (e.g. Dushnitsky, 2006, 2012; 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, by no means intending to be exhaustive, on just a few options for future research on ICV here. 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 (c.f. Garrett, 2010, for challenges of and potential approaches to conducting ICV research, particularly of a quantitative nature). 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.

¹¹ Birkinshaw's (1997) research on the diffusion of subsidiary 'initiatives' (which are more broadly defined than are internal ventures to include, inter alia, initiatives to locate manufacturing within a particular subsidiary) in multinational companies has been highly influential in international business literature.

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 (Garrett, 2010). 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, 2012; 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 (e.g. via 'snow-balling' 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 researching 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. Finally, Narayanan et al. (2009) and Garrett (2010) have called for researchers to employ a broader variety of analytical techniques (including structural equation modeling and hierarchical linear modelling, respectively) 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 (c.f. Doty, Glick, & Huber, 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 over 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, and

perhaps even more worryingly, it was not always clear whether scholars were addressing internal or external forms of CV (or some combination thereof), thus creating the potential for conceptual contamination (Garrett, 2010) across these venturing domains. Indeed, despite our efforts, we could only direct some observations on the articles reviewed towards corporate venturing in general as the purity of the ICV empirical base was frequently not assured. These concerns extend to limited specification of levels of analysis and outcomes of interest too. Given that performance can be conceived in multiple ways and over different time frames (Garrett, 2010; Narayanan et al., 2009) in ICV, we encourage researchers to be explicit regarding the outcomes (e.g. financial, strategic, learning or survival) of concern, and their time periods.

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 call 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. The range of theoretical perspectives (and foundational social science disciplines) with a stake – current or potential – in ICV is considerable. Other authors (e.g. Corbett et al., 2013; Hoskisson et al.,

2011; Narayanan et al., 2009) have put forward compelling cases for greater engagement of CV/CE research with, by way of illustration, RBV, transaction cost economics, real options, organizational learning, and institutional theories. It is not our intention here to enumerate our own list of theoretical perspectives pertinent to ICV research, but we will highlight some theories we consider potentially fruitful in the discussion that follows on further research topics.

Topics for Future Research

Table 3 outlines the avenues we propose for further, or new, exploration. Consistent with the aforementioned recommendations, there are some commonalities across these avenues. They include (represented graphically in Figure 6) greater emphases on: heterogeneity within ICV; multi-level, nested investigations; examining the impact of contextual (including macro) factors on ICV; viewing ICV in terms of configurations of structures, strategies and processes; and attending more to temporality in ICV. Space regrettably does not permit us to explicate all research questions outlined in Table 3; rather, we touch on just some possible directions.

Insert Table 3 about here

Multiple new avenues – many beyond those we can presently begin to imagine – undoubtedly exist for future ICV research. However, we believe that none of the existing or emerging 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 speculative. Accordingly, we use the themes identified in the review as our starting point for proposing future topics (and approaches) for research.

Beginning with 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 ICV units, and (c) alternative forms of CV (such as ICV, CVC, joint ventures and acquisitions). 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. These are issues which are starting to receive attention in CVC literature (e.g. Dushnitsky & Lavie, 2010; Keil et al., 2008; Van de Vrande, 2013), but have not to our knowledge spread to include ICV.

As regards *strategic issues concerning ICV*, we see multiple opportunities for ICV researchers to align their research more closely with contemporary strategic management concerns. From an RBV-perspective, understanding when and how ICV may contribute towards creating sources of firm competitive advantage offers an avenue for further research. For the burgeoning organizational ambidexterity literature, some initial empirical efforts have been made to tie ICV with explorative and exploitative strategic outcomes, but the role ICV may play – for example, by facilitating more distant search (c.f. Corbett et al., 2013) - in enabling a conducive interplay of exploration and exploitation (either over time or simultaneously) at firm level has been little explored. Both these topics suggest the need for probing theoretical development, and are indicative of the limited attention given the theoretically underpinnings of the relationship between ICV and firm strategy (c.f. Burgelman, 1983, 1985, 1988, and Covin and Miles, 2007,

for exceptions). Along with the theories identified above, a micro-foundations perspective (Felin & Foss, 2005) might prove useful towards such efforts.

Considerable scope also exists to develop a much more nuanced understanding of the *strategic and organizational options* within ICV, and their consequences for performance. An approach that we believe may hold promise here is the adoption of a configurational perspective and associated analytical techniques (Fiss, 2007; Miller, 1986, 1996) – i.e. 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 & Birkinshaw, 2008).

Furthermore, research on the role of organizational context in ICV demonstrates many opportunities for integration with organizational behavior literature (and theories from psychology and sociology, more broadly), e.g. in examining factors such as the roles of motivation, personality and creativity, and social diversity on ICV outcomes. From a sociological perspective, *social capital and social network* literatures hold promise for better understanding the influence of organizational context on ICV. These literatures may offer especially fruitful lenses through which to analyze the two (interrelated) sets of relational and resource acquisition challenges commonly encountered in ICV activities. Relationships between venture managers and key internal stakeholders have received attention from the very earliest articles published on ICV, but social connections with external parties – such as VCs (Hill & Birkinshaw, 2014; Michalski et al., 2009), who increasingly have relationships with a diverse

range of CV units – are also pertinent. Research questions might include: Which sources and forms of social capital are most valuable in the different phases of a venture? What is brokered across such social ties (e.g. knowledge, legitimacy, other resources)? How does a venture/CV unit build and maintain social capital with multiple, diverse stakeholders?

Alongside the frequent focus on the micro context embedding ICV, we encourage greater attention to influential *macro contextual* factors. Industry and international context appear ripe for further exploration in this regard. Since the PIMs studies of the 1980s and 1990s, industry setting has been largely neglected in ICV research, but industry competition and boundary changes clearly play an important role in facilitating the recognition and exploitation of new business opportunities (Hoskisson et al., 2011) - and venturing can, in turn, help shape such opportunities. As non-US settings become more common in ICV research and corporate venturing practice (Dushnitsky, 2012; Narayanan et al., 2009), international dimensions of ICV are of increasing relevance (Birkinshaw, 1997; Callaway, 2008).

Research questions might include: Do the manifestations, challenges, dynamics and performance of ICV differ across (a) nations, and (b) industries? If so, what form(s) do such differences take, and what are the underlying drivers of patterns of industry/international divergence and/or convergence? Institutional theories appear particularly germane to such questions. Similar questions might also be pertinent for exploring ICV in non-traditional business settings, such as small and family firms.

The *ICV process and temporal pattern* themes are also, we believe, 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 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.

Finally, while there is considerable room for greater understanding of temporal issues across all phases of ICV, an especially large gap exists in our understanding of its early stages – in particular, *idea generation or opportunity recognition* in ICV. We encourage scholars to look to the burgeoning entrepreneurship literature on opportunity recognition and evaluation (as well as its disciplinary roots, e.g. in theories of cognition and creativity) (Dimov, 2004; Grégoire & Shepherd, 2012) for examining the largely unexplored topic of the origins of ICV ventures. This significant - and indeed tricky to research - component of the ICV process remains at present ‘a black box’ (c.f. De Clercq, Castaner & Belausteguigoitia, 2011, for an exception examining the selling of broadly defined ‘entrepreneurial initiatives’ in firms). Some possible questions include (c.f. Hill & Birkinshaw, 2010): What roles do individual, job, leadership, organizational and environmental factors play in constraining, expanding or directing corporate idea generation (c.f. Hoskisson et al., 2014)? 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 ideas generated and progressed via these modes? Is there systematic variation in the ideas generated and pursued by corporate and independent entrepreneurs?

CONCLUSION

Despite 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 be neither entirely comprehensive, 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.

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APPENDIX A
Keyword Search Procedure

Criteria	Rationale
(1) Published up until (and including) 2013	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 2013 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 (viz. venture, venture unit, venturing program, or other) of our sample, 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 (i.e. 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 (22 articles), editorial commentaries (7 articles), book reviews (6 articles) and a reference work (an encyclopedia of venture management). In addition, following careful reading and discussion by both authors, we eliminated articles that were found to focus exclusively on external forms of venturing (39 articles; refer to Footnote 1) or to make only limited reference to ICV (31 articles).

APPENDIX B

Illustrative Empirical Studies by Theme

Theme	Illustrative empirical studies
Forms of ICV	
Alternative venturing structures and their contingencies	Burgelman, 1984; Kim et al., 2012; MacMillan & George, 1985; Miles & Covin, 2002; Tunstall et al., 2009
Typologies/taxonomies of venture units	Campbell et al., 2003; Hill & Birkinshaw, 2008
Comparison of ICV and other venturing modes	
Comparing the strategy and performance of corporate and independent ventures	Shrader & Simon, 1997; Zahra, 1996; Zahra & George, 1999; Weiss, 1981
Comparing the strategy and performance of different corporate venturing modes	David, 1994; Huang, 2009; 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 & 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; Lambkin, 1988; MacMillan & Day, 1987; Miller & Camp, 1985; Miller et al., 1989; Shrader & Simon, 1997; Tsai et al., 1991; Williams, Tsai, & Day, 1991; Zahra, 1996; Zahra & George, 1999
Relatedness to parent company as antecedent to market and economic outcomes	Miller & Camp, 1985; Miller et al., 1991; Sorrentino & Williams, 1995; Sykes, 1986; Thornhill & Amit, 2001; Von Hippel, 1977
Nature of opportunity as antecedent to venture success	Klavans et al., 1985; Miller & Camp, 1985; Ohe et al., 1992; Robinson, 1991; Sykes, 1986; Von Hippel, 1977
Industry environment as antecedent to market and economic outcomes	Miller & 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, 1969
Contingency factors affecting the value of ICV structural separation	Burgelman, 1984; Burgers et al., 2009; George & MacMillan, 1985; Johnson, 2012; Shah et al., 2008
<i>Autonomy</i>	
Funding autonomy and ICV outcomes	Birkinshaw et al., 2002; Birkinshaw & Hill, 2005; Birkinshaw, 2005; Fast, 1979b; Michalski et al., 2006; Shah et al., 2008
Investment autonomy and ICV outcomes	Abetti, 1997; Hill et al., 2009; Kuratko et al., 2009; Riley et al., 2009
Operational autonomy and ICV outcomes	Abetti, 1997; Hill et al., 2009; Hlavacek & Thompson, 1978; Johnson, 2012; Kuratko et al., 2009; Riley et al., 2009; McGrath, 2001; Yang et al., 2013
<i>Top management support</i>	
Influence of top management support on ICV outcomes	Fast, 1979a; Garrett & Neubaum, 2013; Kuratko et al., 2009;

Theme	Illustrative empirical studies
Factors moderating the impact of top management support on ICV outcomes Actions of top management to enhance ICV outcomes	Michalski et al., 2006 Abetti, 1997; Fast, 1979b; Garvin, 2002; Hlavacek & Thompson, 1978; von Hippel, 1977 Fast, 1979b; MacMillan & George, 1985
<i>Evaluation systems</i>	
Benefits to ICV of an effective evaluation system Guidelines on appropriate evaluation systems for ICV	Burgelman, 1988; Keil et al., 2009; Simon et al., 1999 DeSarbo et al., 1987; Garvin & Levesque, 2006; George & MacMillan, 1985; McGrath et al., 2006; Sathe, 1989
<i>Human capital</i>	
Influence of knowledge and experience of ICV managers on ICV outcomes Influence of recruitment policies on ICV outcomes	Hlavacek & Thompson, 1978; Kuratko et al., 2009; Riley et al., 2009; Sykes, 1986 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 ICV outcomes	Hill et al., 2009; Hisrich & Peters, 1986; Klavans et al., 1985; Kuratko et al., 2009; Monsen et al., 2010; Sykes & Block, 1989; Yang et al., 2013
Influence of non-pecuniary factors on ICV outcomes	Block & Ornati, 1987; Monsen et al., 2010; Peterson, 1963; Sykes, 1992
ICV processes	
Social and psychological processes underlying ICV	Abetti, 1997; Burgelman, 1983a, 1983c, 1988; Day, 1994; DeSarbo et al., 1987; Garud & Van de Ven, 1992
Temporal dynamics of ICV	
Time duration of ICV activities Factors influencing the initiation and longevity of ICV within parent companies	Biggadike, 1979; Burgelman & Valikangas, 2005; Fast, 1979a, b Burgelman & Valikangas, 2005; Campbell & Park, 2004; Fast, 1979a, 1979b; Hill & Birkinshaw, 2008; Hill et al., 2009; Husted & Vintergaard, 2004; Shah et al., 2008
Evolution within ICV	Birkinshaw, 2005; Birkinshaw & Hill, 2005; Burgelman & Valikangas, 2005; Fast, 1979a
Other themes	
Role of social capital in ICV International dimensions of ICV ICV in family business and SME settings	Husted & Vintergaard, 2004; Michalski et al., 2006 Callaway, 2008 Evald & Senderowitz, 2013; Greidanus & Märk, 2012; Marchisio et al., 2010

TABLE 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 (c.f. Birkinshaw, 1997).
Focused	The article focuses on entrepreneurial ventures originating within a semi-autonomous organizational unit mandated with this function (usually a CV unit) (c.f. 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 (e.g. 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.
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 (c.f. 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.

TABLE 2
Chronology of ICV Literature

	To 1979	1980s	1990s	2000-9	2010-13
Total number of articles	8	35	28	41	19
Article type					
Conceptual	2	14	9	12	5
Empirical	6	21	19	29	14
Level of analysis					
Venture	5	21	19	11	9
Venture unit	2	3	3	9*	-
Venturing program	-	8	4	14	7
Multi-level	1	3	2	5	1
Unclear	-	-	-	2	2
Mode of corporate venturing					
Dispersed	1	4	2	-	2
Focused	3	7	3	16	2
Both (dispersed and focused)	2	6	7	14	3
Unclear	2	18	16	11	12

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.

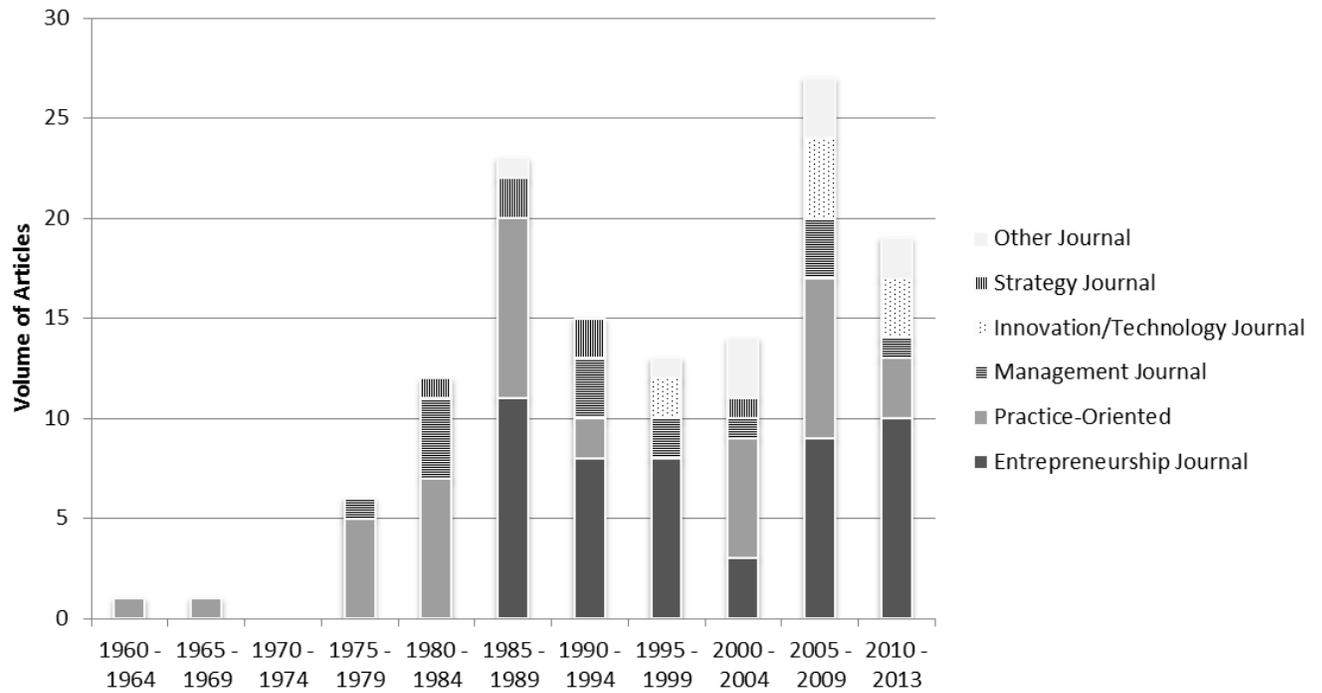
TABLE 3
Directions for Future Research

Themes	Research Questions
Forms of ICV (Note: The questions shown could also apply to research on different types of internal ventures and ICV units)	<p>Do dispersed and focused modes of ICV differ in the organizational challenges they experience? 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 ventures?</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 isomorphic processes influence the forms of ICV adopted by organizations?</p>
Comparison of ICV and other venturing modes	<p>What are the respective roles of different venturing modes in value creation for parent companies? (e.g. 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>
Role of ICV in parent firm strategy	<p>Which model(s) of relationships between ICV and firm strategy is most effective (cf. Covin & 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> <p>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?)</p> <p>Which mechanisms are effective in transferring lessons learned and knowledge from ICV, including failed ventures, to the rest of the parent company?</p>
Impact of strategy on ICV outcomes	<p>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?</p> <p>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?</p> <p>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?</p>
Influence of macro context on ICV	<p>Do the forms, challenges, dynamics and performance of ventures/CV units differ across (a) nations, and (b) industries? If so, what form do such differences take, and what are the underlying drivers of patterns of divergence and/or convergence?</p> <p>What are the antecedents and key moderators of the performance of 'born global' ventures/CV units? How prevalent are such initiatives?</p> <p>To what extent have US/Western practices or models (e.g. 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?</p> <p>To what extent are the forms, challenges, dynamics and performance of ICV influenced by organization type (e.g. family firms versus public corporations; SMEs versus large organizations)?</p>
Impact of organizational context on ICV outcomes (including separation versus integration)	<p>How does the diversity of forms of ICV impact the organizational context characteristics associated with ICV performance?</p> <p>Do adopting 'VC-like' structures, practices and values improve ICV performance, assessed across a range of outcome measures?</p> <p>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?</p> <p>Which, and how do, organizational processes and factors influence the identity developed by a venture/CV unit ? Which form(s) of identity are most associated with perceptions of legitimacy amongst stakeholders, and with other positive outcomes? Does employee diversity (e.g. in their knowledge base) influences ICV</p>

Themes	Research Questions
	<p>outcomes?</p> <p>How does senior management composition affect decision-making on ICV ventures?</p> <p>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)?</p> <p>Which forms of social capital enable positive ICV outcomes, across different levels of analysis (e.g. 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?</p> <p>What are employee motivations for engaging in ICV? What impact does (various forms of) ICV experience have on individuals' career trajectories?</p>
ICV processes	<p>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?</p> <p>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?</p> <p>How do emotions (e.g. passion) on the part of venturing staff and company executives affect ICV processes, decisions and performance?</p> <p>How do cognitive framing processes and heuristics on the part of venturing staff and company executives affect ICV processes, decisions and performance?</p> <p>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?</p>
Temporal dynamics of ICV	<p>What are the typical organizational and social processes underlying the initiation of focused and/or formal dispersed venturing programs?</p> <p>How widespread are IVC 'cycles' (c.f. Burgelman & Valikangas, 2005) within organizations? Which organizational, institutional and environmental factors drive such cycles? Why do some organizations demonstrate longer-term ICV commitment than others?</p> <p>Are there discernable temporal patterns across investment in ICV and other forms of venturing, both within organizations and across economic periods?</p> <p>Are there typical configurations through which ICV evolves (e.g. in terms of capabilities developed, modes of ICV, strategic orientation, and patterns of social norms) within organizations over time?</p> <p>To what extent does the performance, and which particular dimensions/assessments thereof, of ventures/CV units affect decisions regarding their longevity?</p> <p>Under which (if any) circumstances do initial 'skunk-work' activities enhance the performance of ventures?</p> <p>To what extent, and which forms of, internal- and external boundary-spanning social networks enable the success of different phases of ICV?</p>
<i>Origins of ICV</i>	<p>Which dimensions differentiate the venturing ideas ('opportunities') generated by corporate knowledge workers (c.f. Hill & Birkinshaw, 2010)? Which of these are discernable <i>ex ante</i>, and which only <i>ex post</i>?</p> <p>What are the cognitive processes through which ICV ideas are generated? Are there systematic patterns of association (e.g. configurations) between the characteristics of ICV idea generator(s), their contexts, the idea generation processes, and the characteristics of their venturing ideas?</p> <p>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?</p>

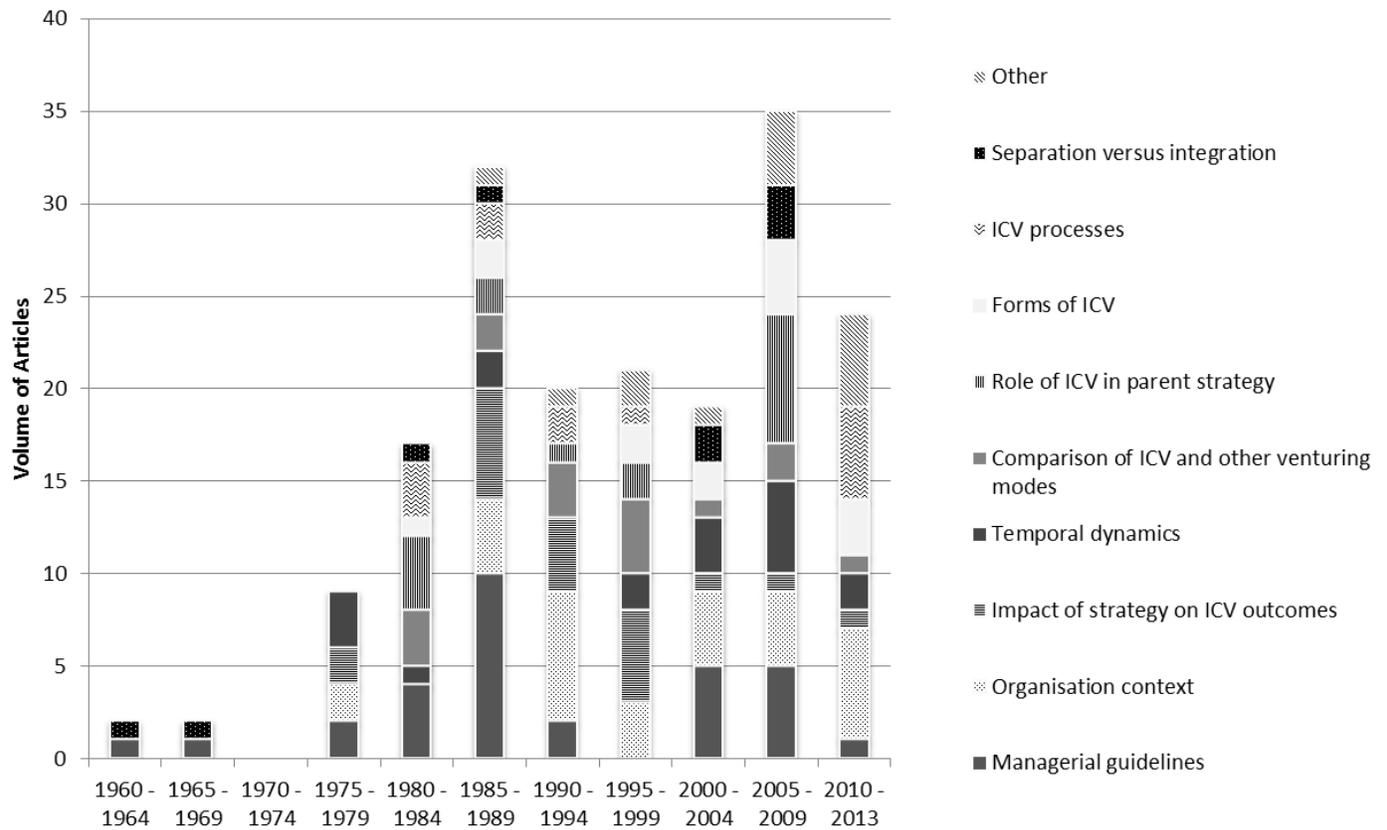
Note: As social capital constructs and theory (identified as an emerging themes in the review) are relevant across multiple themes, we have chosen to integrate these within the table.

FIGURE 1
Chronology of Articles by Type of Publication Outlet



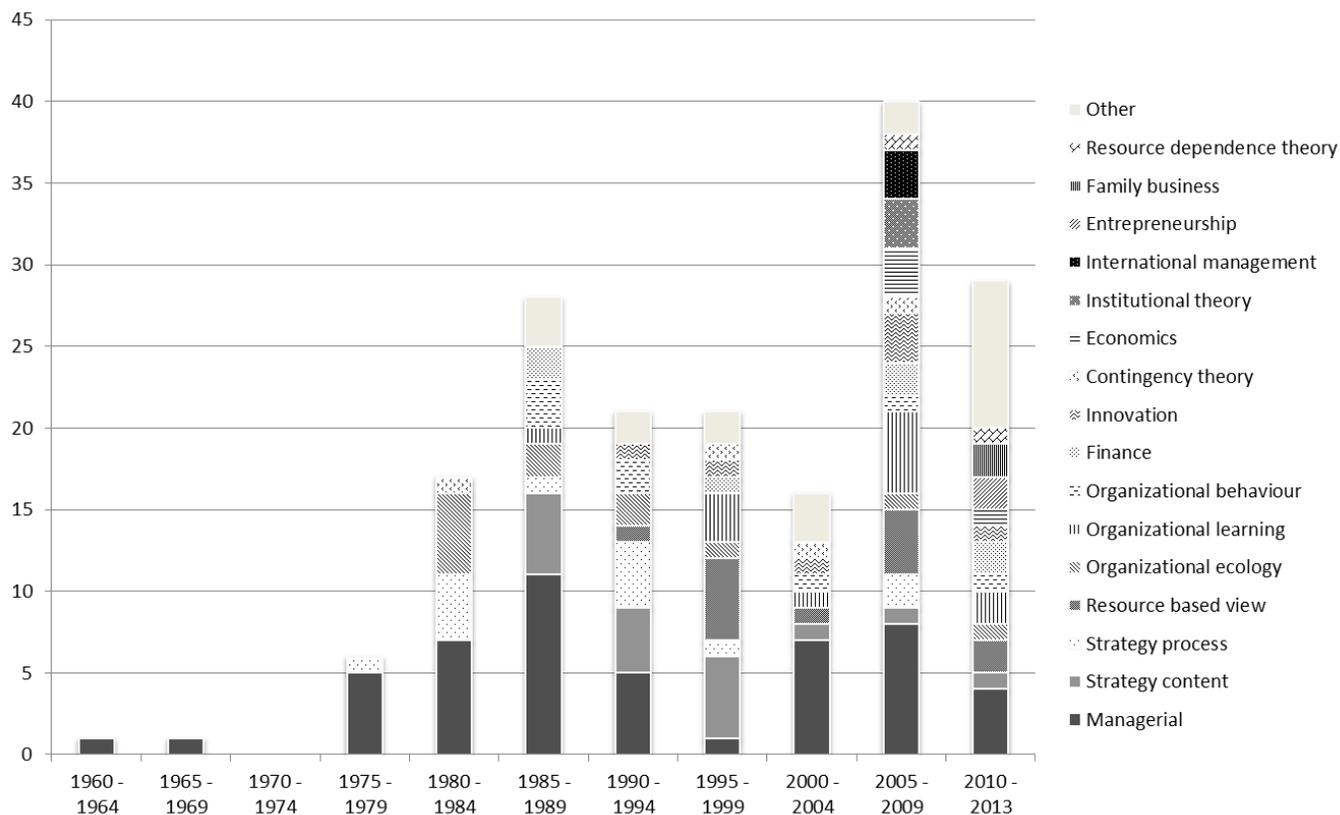
Note: n = 131 (review articles).

FIGURE 2
Chronology of Thematic Areas



Note: As an article may reflect more than one of the identified themes, the sample for this chart consists of all themes ($n = 181$), rather than the total number of articles in the review. Most articles (87) were classified as (strongly) reflecting only one of the themes; 38 articles were identified with 2 themes; and 6 were classified along 3 themes.

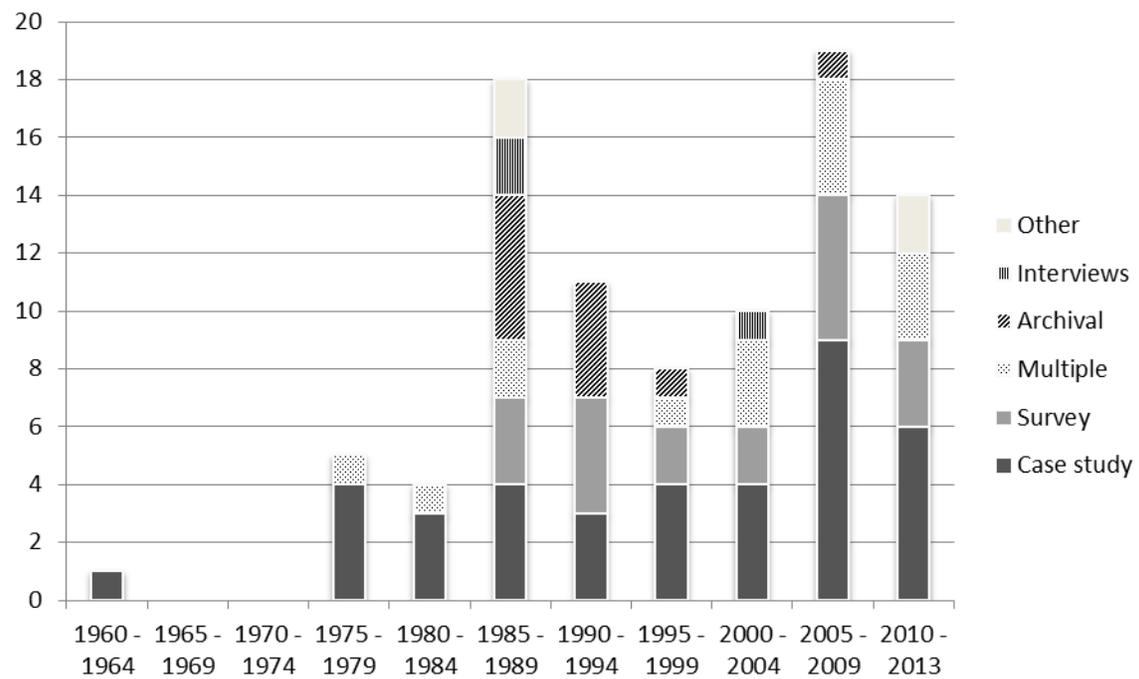
FIGURE 3
Chronology of Theoretical Perspectives



Notes:

- (a) 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 ($n = 180$ observations), rather than the total number of articles in the review. Most articles (92) were classified as reflecting only one theoretical perspective; 30 articles were identified with 2 theories; and 9 were identified with 3 (or more) theories.
- (b) 'Other' includes the following perspectives: behavioral theory of the firm; business history; cognition; design science; human capital; marketing; 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.

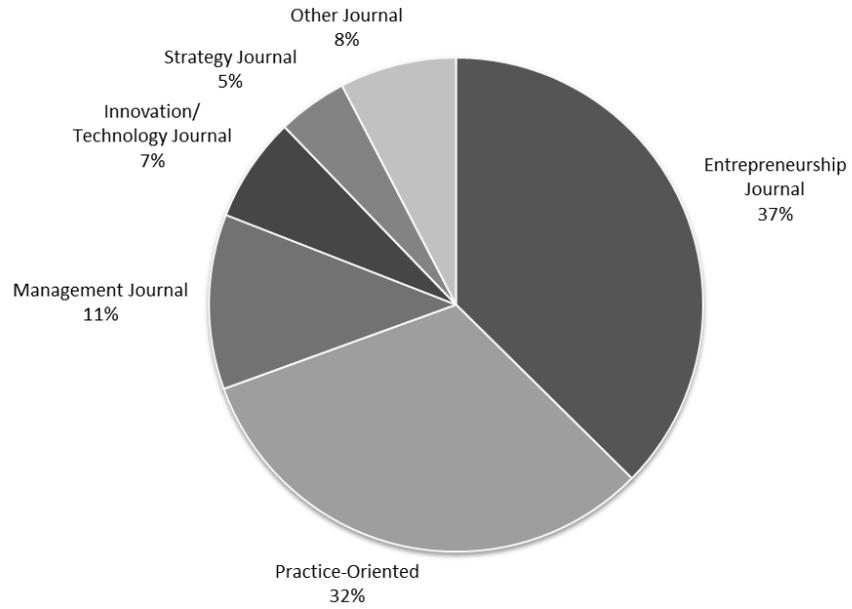
FIGURE 4
Chronology of Research Methods



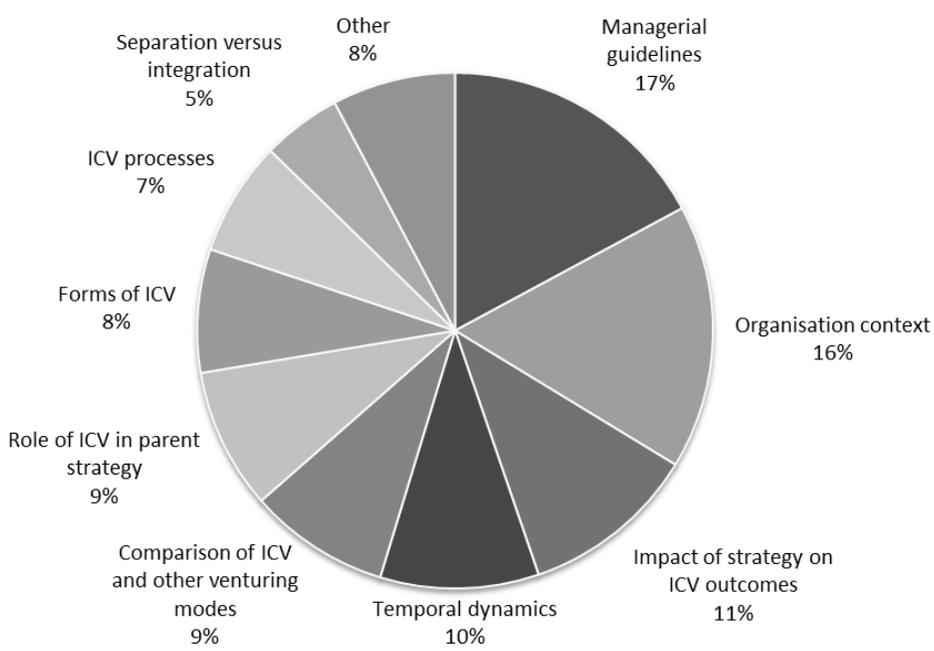
Notes:

- (a) n = 90 (empirical articles).
- (b) All but one of the papers identified as consisting of 'multiple' methods in the 2000-2004 and 2005-2009 period refer to a single, multi-method study conducted by Birkinshaw, Hill and colleagues (2002, 2003, 2005, 2008, 2009).
- (c) The 'other' category refers to: (a) conjoint analysis techniques (DeSarbo et al., 1987; Monsen et al., 2010; Urban & Nikolov, 2013), and (b) longitudinal participant observation (Sykes, 1986).

FIGURES 5a - 5d Profile of ICV Articles

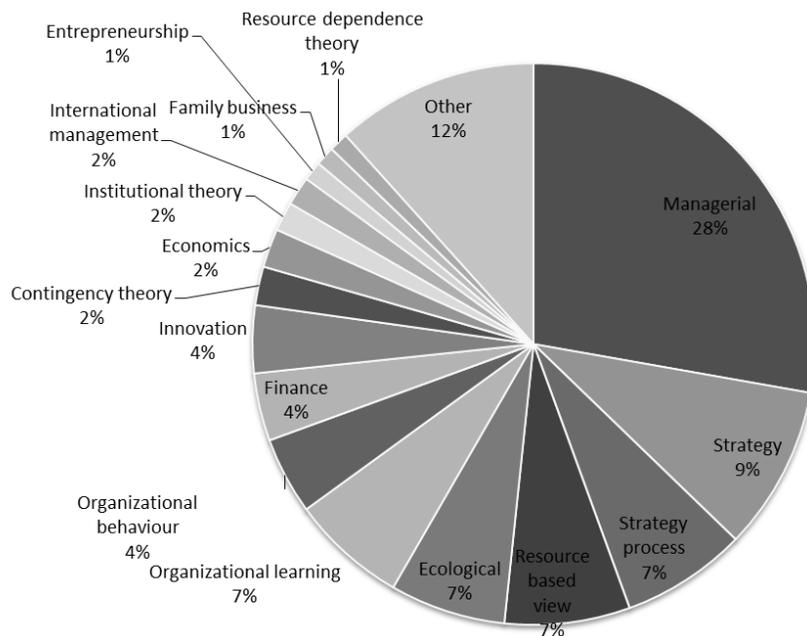


5a. Articles by Type of Publication Outlet



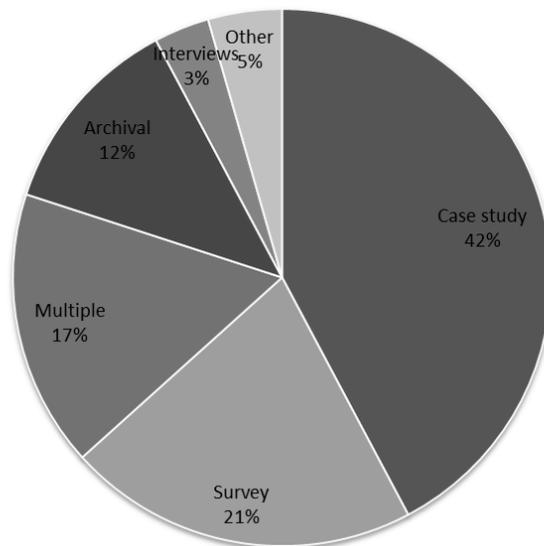
5b. Articles by Theme

Note: Per Figure 2, the sample for this chart consists of all thematic observations across the articles reviewed (n = 181) rather than the number of articles.



5c. Articles by Theoretical Lens

Note: Per Figure 3, the sample for this chart consists of all theoretical lens observations across the articles reviewed (n = 180) rather than the number of articles.



5d. Articles by Research Method

Note: Per Figure 4, n = 90 (empirical articles).

FIGURE 6
Framework Guiding Research Directions in ICV

