

Corporate Venturing: An Overview

ARI BACKHOLM

Helsinki University of Technology
Department of Industrial Engineering and Management
Institute of Strategy and International Business

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Helsinki University of Technology
Department of Industrial Engineering and Management
Institute of Strategy and International Business
P.O.Box 9500
FIN-02015 HUT, Finland

Telephone int 358 9 4 513 098
Facsimile int 358 9 4 513 095
Internet <http://www.tuta.hut.fi/isib>

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Corporate Venturing: An Overview

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Abstract

This report aims at providing an overview on the recent progress in the research of corporate venturing. The overview is provided by conducting an extensive study on existing literature on corporate venturing.

The findings are roughly two-fold. On one hand, in contrast to independent ventures, corporate ventures have two major operating environments. In addition to market environment, corporate ventures operate within the boundaries of the parent organization. Although independent ventures do also strive for resources from capital markets and other stakeholders, their markets are more fragmented than those of corporate ventures. On the other hand, studies on venture performance can be categorized into studies on first-order performance and second-order performance. Studies on first-order performance are characterized by deductive reasoning and large samples, while studies on second-order performance focus more on action-analytic methods and deeper case-studies.

The studies on corporate venturing in organizational environment are characterized by focus on problems caused by routines of the parent firm and the ability to utilize its resources and capabilities. The relationship between a venture and its parent organization are described problematic due to different thought worlds and perceptions. On the other hand, different operating logics and perceptions offer dynamic complementarities, which are seen to lead to emergence of innovations, learning, and inimitable competitive advantage. First-order performance in organizational environment can be assessed by profitability of a venture, which, however, is not available as a measure in the emergent phase of a venture. Second-order performance in organizational environment can be assessed by development of competencies, innovations, learning, and technological and strategic success of a venture. Studies focusing on learning effects tend to have a social perspective, while studies focusing on competence development try to link corporate venturing to expectations of rents. The studies focusing on environmental effects of and to new venture emphasize strategy, venture's organizational structure, and cooperation with external parties. First-order market performance is seen as the growth of the business. Second-order market performance is seen to comprise of the ability to sustain competitive advantage over a period of time. The sustainability of competitive advantage is related to innovativeness of the venture in terms of newness to market and newness of technology. A large number of factors explaining performance of corporate ventures is presented in the report.

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1 Introduction

1.1 Background

Corporate venturing is one of the hot topics in mouths of both academicians and practitioners. The interest is based in the need of the large firms to renew themselves and engage more in creating new opportunities instead of concentrating in exploiting their current competencies.

A fundamental idea behind the venturing is to exploit the complementarities of small firm capabilities to explore new opportunities and large firm capabilities to exploit existing competencies^{1,2,3}. A central paradox of corporate venturing stems from the trade-off between exploiting these complementarities and being able to exploit new opportunities. The flip side of efficiency, developed by organizational routines, specific languages and common interpretive views, is development of rigidities and narrow perspectives^{4,5}. To be able to break out from these rigidities, the development should be made with high degree of autonomy, which, at the same time, inhibits the use of complementary competencies^{6,7}.

This report aims at providing an overview on the recent progress in the research of corporate venturing. One of the main motivations of this report is to address both the direct and indirect effects of corporate venturing efforts by conducting an extensive literature review. Direct impacts include growth and profitability targets, while indirect effects include competence development, innovativeness, and learning in and from ventures. At the moment, the knowledge on indirect effects of corporate venturing is still in its embryonic state, while it is recognized, that corporate venturing might be a tool for corporate renewal⁸.

Renewal effects comprise of evolutionary view of competence development and the self-organizing view on organizations.^{9,10} Internal corporate ventures can be seen to act as catalyzers,

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- ¹ March, J. 1991. Exploration and exploitation in organizational learning. *Organization Science*, 2(1). Pp. 71- 87.
 - ² Quinn, J B. 1985. Managing innovation: Controlled chaos. *Harvard Business Review*, May-June. Pp. 73 – 83.
 - ³ Autio, E, Sapienza, H J & Almeida, J G. 1999. Effects of age at entry, knowledge intensity, and inimitability on international growth. *Academy of Management Review*, forthcoming.
 - ⁴ Nelson, R R & Winter, S G. 1982. *An Evolutionary Theory of Economic Change*. Belknap Press, Cambridge MA.
 - ⁵ Brown, J & Duguid, S. 1991. Organizational learning and communities of practice. *Organizational Science*, 2(1). Pp. 40 – 57.
 - ⁶ Levitt, B & March, J. 1988. Organizational learning. *Annual Review of Sociology*, 14. Pp. 319 – 340.
 - ⁷ Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1). Pp. 14 – 37.
 - ⁸ Mintzberg, H, Ahlstrand, B & Lampel, J. 1998. *Strategy Safari*. The Free Press, New York.
 - ⁹ MacIntosh, R & MacLean D. 1999. Conditioned Emergence: A Dissipative Structures Approach to Transformation. *Strategic Management Journal*, 20(4). Pp. 297 – 316.

which enable firm to reconfigure its resources. Internal entrepreneurs can often weave together pieces of technology and knowledge, which exist in separate parts of the organization and which would otherwise remain unused.^{11,12}

1.2 **Report objectives**

This report addresses the underlying question of how firms behave. On one hand, this report focuses on how companies behave when they internally explore and develop new competencies. On the other hand, this report aims in shedding light on the performance implications of corporate venturing behavior. Identifying factors explaining performance of corporate venturing may shed light on organizational learning and on the opportunities of large firms to innovate and combine the complementary advantages of small and large firms.

Possible explanatory factors for corporate venturing behavior are the characteristics of ventures operating environment and the characteristics of relationship between the venture and its environment.

The objectives of the report are

- to conduct a review of existing literature discussing the characteristics and outcomes of corporate venturing behavior
- to identify common characteristics and outcomes of corporate venturing behavior in existing literature
- to identify factors explaining the characteristics and outcomes of corporate venturing behavior in existing literature

¹⁰ Burgelman, R A. 1983. A Model of the Interaction of Strategic Behavior, Corporate Context, and the Concept of Strategy. *Academy of Management Review*, 8. Pp. 61 – 70.

¹¹ Burgelman, R A. 1983. Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science*, 29(12). Pp. 1349 – 1363.

¹² Pinchot, G III. 1982. *Intrapreneuring – Why you don't have to leave the corporation to become an entrepreneur*. Harper and Row, New York.

2 Setting the stage for corporate venturing

The studies on the effects of corporate venturing, while not great in number, are great in variation. Studies on corporate venturing fit naturally to the studies on corporate entrepreneurship, innovation management, and organizational learning. These can be seen as firm processes, which are in systemic interaction with corporate venturing. Corporate ventures require these processes and promote development of these processes. The studies on diversification, competence development, and new product development fit also naturally to the studies on corporate venturing. These aspects can be seen as outcomes of corporate venturing behavior. Figure 1 summarizes the relationship of corporate venturing and firm development processes and their outcomes.

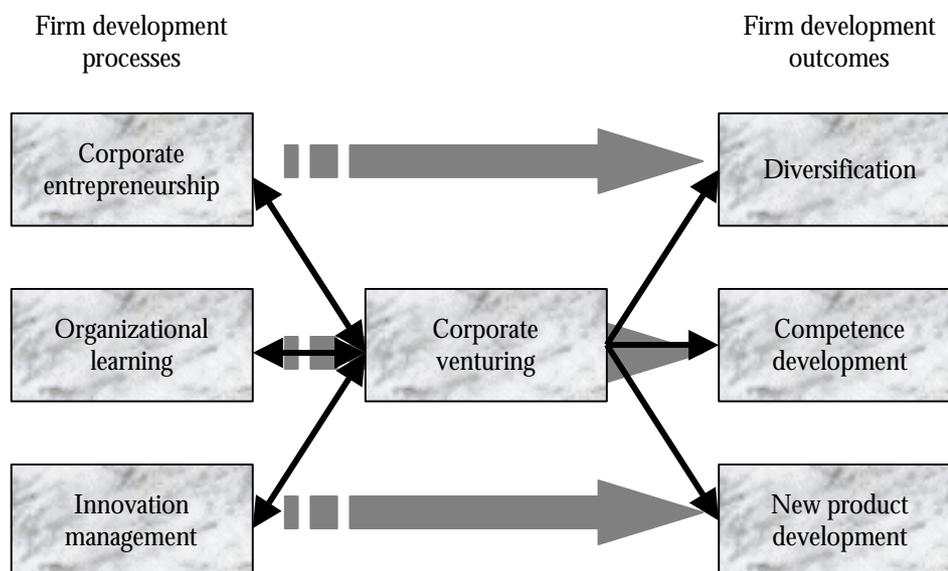


Figure 1 Corporate venturing in relation to firm development processes and their outcomes

The first studies on corporate venturing focused on diversification effects of corporate ventures. Corporate ventures can lower the risk of a lock-in in a declining industry. As the interest in diversification as a corporate strategy diminished, the studies on corporate venturing focused on other, indirect, effects. These effects are result of, for example, systemic nature of corporate venturing in relation to corporate entrepreneurship, organizational learning, and innovation management. Corporate ventures can also be seen as a method for competence development, in relation to research and development activities, competence acquisition or joint development with other firms. Corporate ventures can provide a platform for new product development, es-

pecially in the commercialization phase. Corporate ventures can be seen as a form of organizing new product development teams.

Corporate ventures can provide platform for enabling entrepreneurial persons to exploit their innovative capabilities without leaving the corporation. Also, corporate ventures can not exist without corporate entrepreneurship, which provides the venture with ideas and committed people. In studies of organizational learning, corporate ventures are seen as a method for learning through exploration. They provide organization opportunities for adapting to and understanding the changing environment. Corporate ventures are closely linked to studies on innovation. As innovation is seen as a departure from *status quo*, an opportunity to not face the restricting control of mature operations is a prerequisite¹³. In innovation studies, corporate ventures are forms of separating the new venture from the routinezation of the parent, probably mature, organization.

Some studies compare corporate ventures with independent ventures^{14,15,16}. Corporate ventures compete and cooperate in market environment in similar factor endowments as independent ventures. In some new venture studies corporate environments are separated only by a dummy variable denoting the origin of the venture.

One of the important characteristics of corporate venturing is its operation on two fronts simultaneously. The success in product or service markets and success in establishing legitimacy and exploiting resources of the parent company are very much intertwined. This report provides a review on previous research on corporate venturing, focusing on both environments.

In the third chapter, literature of corporate entrepreneurship is reviewed. Corporate entrepreneurship can be thought as an abstract construct to which corporate venturing as a method belongs. The following chapter reviews the dynamics of corporate venturing. There has been a number of studies categorizing phases of innovation, new product development, and venture development, which are reviewed. In the following chapters, the previous research on operating environment of corporate ventures and on their relation to the environment is reviewed. The

¹³ Schumpeter, J A. 1934. *The Theory of Economic Development*. Harvard University Press, Cambridge, MA.

¹⁴ Zahra, S A. 1996. Technology strategy and new venture performance: A study of corporate sponsored and independent biotechnology ventures. *Journal of Business Venturing* 11. Pp. 289 – 321.

¹⁵ McDougall, PP, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing* 7. Pp. 267 – 289.

¹⁶ Shrader, R C & Simon, M. 1997. Corporate versus independent ventures: Resource, strategy, and performance differences. *Journal of Business Venturing* 12. Pp. 47 – 66.

last chapters review the performance and success factor studies, and provide a summary and discussion on corporate venturing behavior.

3 Overview on corporate entrepreneurship

Corporate venturing is usually discussed in context of corporate entrepreneurship. Corporate venturing can be seen as a method for fostering entrepreneurship in large corporations¹⁷. The concept of innovation has widely been discussed in relation with entrepreneurship. The innovation process can be defined as a process that consists of combined activities leading to an innovation¹⁸. The concept of innovation can be defined as a commercially successful, essentially new system or an essential improvement of a system, process, method, product, or service, which has been widely accepted into use¹⁹.

The conceptual foundation for entrepreneurship has been under continuous debate. Two major streams are Schumpeterian and Austrian entrepreneurship. Schumpeter's conception of entrepreneurship stresses creation of disequilibrium, a change of an existing situation²⁰. In contrast, Austrian entrepreneurship promotes changes within an existing situation. It stems from the discovery of profitable discrepancies, gaps, and mismatches in knowledge and information.²¹

Lumpkin and Dess make a distinction between entrepreneurship and entrepreneurial orientation²². They define entrepreneurship as the new entry, and entrepreneurial orientation the methods, practices and decision making styles managers use to act entrepreneurially, including autonomy, innovativeness, risk taking, proactiveness, and competitive aggressiveness. Gartner claims that the differences between entrepreneurs and nonentrepreneurs are irrelevant compared to the differences between entrepreneurs themselves²³. He proposes a complex model of factors affecting new venture creation, categorized into environmental, organizational, processual, and individual-level factors.

Corporate entrepreneurship is entrepreneurship and entrepreneurial activity in a relative large organization. Many practitioners and researchers alike have noticed the contradiction between

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- ¹⁷ Kanter, R M, North, J, Bernestein A P & Williamson, A. 1990. Engines of progress: Designing and running entrepreneurial vehicles in established companies. *Journal of Business Venturing*, 5. Pp. 415 – 430.
- ¹⁸ Burgelman, R A & Maidique, M A. 1988. *Strategic Management of Technology and Innovation*. Irwin.
- ¹⁹ For a literature study, see Autio, E. 1995. *Symplectic and generative impacts of new, technology-based companies*. Doctoral dissertation. Helsinki University of Technology.
- ²⁰ Schumpeter, J A. 1950. *Capitalism, Socialism and Democracy*. Harper and Brothers, New York.
- ²¹ Kirzner, I M. 1973. *Competition and Entrepreneurship*. University of Chicago Press, Chicago.
- ²² Lumpkin, G T & Dess, G G. 1996. Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1). Pp. 135 – 172.
- ²³ Gartner, W B. 1985. A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4). Pp. 696 – 706.

the management routines of a large corporation and the characteristics of entrepreneurship. If corporate strategy is seen as a guideline setting the scope for where the company should be involved in²⁴, and that entrepreneurial activities provokes these predefined strategies²⁵, some kind of conflict in the mutual influence between the strategy design and entrepreneurial output should be expected. Entrepreneurship is characterized by high uncertainty and low predictability. It is claimed to be more effective to manage by personal communication and negotiation, in part because of the sheer inability to issue enough commands to cover every contingency. Thus entrepreneurship requires a system of management by mutual adjustment instead of a system of management by command.²⁶ The study of Jennings and Lumpkin suggest that in entrepreneurial organizations decision making was more participative, decision-making relies more on specialized people, performance objectives are developed from shared participation, and managers are not be penalized if risky projects fail²⁷.

Burgelman has proposed an inductively derived model of the dynamic interactions between different categories of strategic behavior, corporate context processes, and firm's concept of strategy²⁸. The model, represented in Figure 2, can be used to illustrate the nature and role of corporate entrepreneurship. Current concept of strategy represents shared frame of reference for strategic actors in the organization, similar to Mintzberg's realized strategy²⁹. Induced strategic behavior fits in the existing categories used in the firm's strategic planning. Induced strategic behavior refers to Mintzberg's deliberate strategy. To the current concept of strategy corresponds a structural context aimed at keeping strategic behavior at operational levels in line with the current concept of strategy. Autonomous strategic behavior does not fit in the existing categories used in strategic planning of the firm. Autonomous strategic behavior refers to what Mintzberg calls emergent strategy. From the perspective of the firm, autonomous strategic behavior provides the requisite diversity for strategic renewal. As such, autonomous strategic behavior is conceptually equivalent to entrepreneurial activity in the firm. Strategic context refers to the political mechanisms through which middle managers question the current concept of strategy, and pro-

²⁴ Ansoff, H I. 1965. *Corporate Strategy*. McGraw-Hill, New York.

²⁵ Burgelman, R A. 1984. Managing the internal corporate venturing process. *Sloan Management Review*, Winter. Pp. 33 – 48.

²⁶ Kanter, R. 1985. Supporting innovation and venture development in established firms. *Journal of Business Venturing* 1. Pp. 47 – 60.

²⁷ Jennings, D F & Lumpkin, J R. 1989. Functioning modeling corporate entrepreneurship: An empirical integrative analysis. *Journal of Management*, 15(3). Pp. 485 - 502.

²⁸ Burgelman, R A. 1983. A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28. Pp. 223 – 244.

²⁹ Mintzberg, H. 1987. Five Ps for strategy. *California Management Review*, Fall. Pp. 11 – 24.

vide top management the opportunity to rationalize, retroactively, successful autonomous strategic behavior.

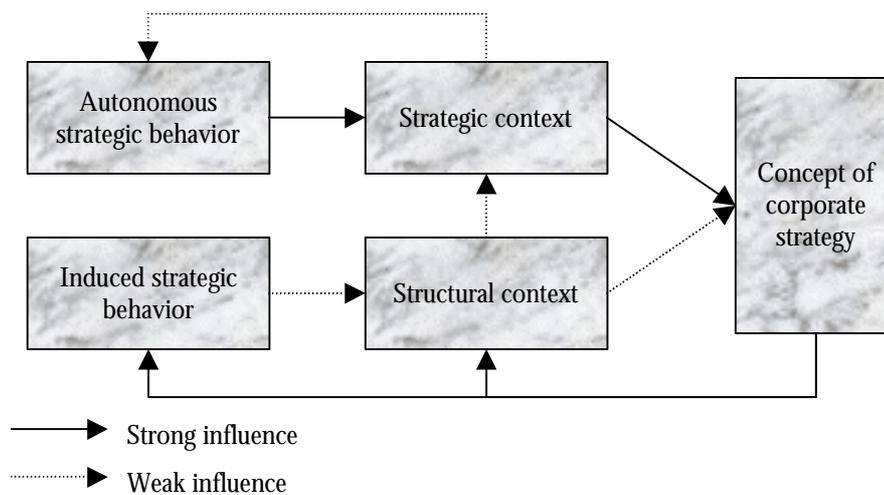


Figure 2 A model of the interaction of strategic behavior, corporate context, and the concept of strategy³⁰

Due to the evident difficulties and failures in corporate venturing process, there has risen an concern whether innovativeness should be left to small firms, which could then be acquired by larger corporations^{31,32}. From evolutionary perspective transacting over new competencies would not lead to sustainable competitive advantage, unless the competitive advantage is based on competencies in venture acquisition. In addition, the low success ratio of mergers and acquisitions, especially in post-acquisition integration phase, suggests that acquisition of competencies by company acquisitions is not without problems. Acquisitions and internal development have been found complementary in developing sustainable competitive advantage³³. Stopford and Baden-Fuller identified an emergent three-stage process of corporate entrepreneurship creation, starting from individual entrepreneurship and resulting in breaking industry reference frames through embedded renewal³⁴.

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- ³⁰ Burgelman, R A. 1983. A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28. Pp. 223 – 244.
- ³¹ Duncan, W J, Ginger, P M, Racks, A C & Jacob, T D. 1988. Entrepreneurship and the reinvention of the corporation. *Business Horizons*, 31(3). Pp. 16 – 19.
- ³² Schumpeter, J A. 1934. *The Theory of Economic Development*. Harvard University Press, Cambridge, MA.
- ³³ Klavans, R, Shanley, M & Evan, W M. 1985. The management of internal corporate ventures: Entrepreneurship and innovation. *Columbia Journal of World Business*, Summer 1985. Pp. 21 – 27.
- ³⁴ Stopford, J M & Baden-Fuller, C W F. 1994. Creating corporate entrepreneurship. *Strategic Management Journal*, 15. Pp. 521 – 536.

4 Motives for corporate venturing

The motives for corporate venturing are roughly two-fold. The direct motivations include new business creation, growth, and diversification through new ventures. The indirect motives include strategic renewal, development of new competencies and technologies, promoting diversity, promotion of an innovative corporate culture, and learning through exploration. In general, indirect motives all include learning from ventures in one way or another. Many of the direct motives are clearly market-oriented economic goals, requiring return on investment. Kanter simplifies the direct economic motives to the creation of new sources of revenue regardless of the impact on the mainstream organization³⁵. Research on direct motives tend to de-emphasize the organizational proximity of the venture to its parent organization, and its possible benefits. Research on indirect motives emphasizes cultural impacts, in showing the mainstream organization how to be more innovative regardless of the magnitude of immediate economic payoff of the venturing activities³⁶. Taking innovations to market place, entering new businesses, regenerate through time, and to change the pool of competencies to increase long term viability are some of the focuses of previous research on indirect impacts of corporate venturing^{37,38}.

In 20 Japanese companies studied by Jolly and Kayama the main reasons for adopting venture management methods are in the need to diversify out of mature industries, to foster innovation, to speed up new product development, and to create an organizational vehicle permitting creative young employees to develop their ideas³⁹.

The motives for creating a separate venturing entities inside the firm instead of a corporate-wide entrepreneurship lie in the need for autonomy in uncertain situations, need for different organizational structure for different technologies⁴⁰, and the self-reinforcing cycle of emphasizing ex-

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- ³⁵ Kanter, R M, North, J, Bernestein A P & Williamson, A. 1990. Engines of progress: Designing and running entrepreneurial vehicles in established companies. *Journal of Business Venturing* 5. Pp. 415 – 430.
- ³⁶ Guth, W & Ginsberg, A. 1990. Guest editor's introduction: Corporate entrepreneurship. *Strategic Management Journal*, 11(2). Pp. 5 – 16.
- ³⁷ Ellis, R J & Taylor, N T. 1988. Success and failure in internal venture strategy: An exploratory study. *Frontiers of Entrepreneurship Research*. Babson College. Pp. 518 – 533.
- ³⁸ McGrath, R G, Venkataraman, S, MacMillan, I C & Boulind, O. 1992. Desirable disappointments: Capitalizing on failures in new corporate ventures. *Frontiers of Entrepreneurship Research*. Babson College. Pp. 537 – 551.
- ³⁹ Jolly, V K & Kayama, H. 1990. Venture management in Japanese companies. *Journal of Business Venturing* 5. Pp. 249 – 269.
- ⁴⁰ Leonard-Barton, D. 1988. Implementation as mutual adaptation of technology and organization. *Research Policy*, 17. Pp. 251 - 267.

ploitation of existing competencies over exploitation of new ones⁴¹. Quinn has listed various barriers for innovativeness in large firms, including top management isolation, intolerance of fanatics, short time horizons, accounting practices, excessive rationalism, excessive bureaucracy, and inappropriate incentives⁴².

Most of the focus on previous studies has been on general economic success and success factors, and competence development as a general issue. The previous studies have not focused on the specific types of competencies being developed, probably because innovative projects are highly uncertain and deciding on the specific type of competence development could actually inhibit the development process. Corporate venturing activity may also be a reactive behavior of the top management to retrospectively rationalize autonomous strategic behavior.

It seems that corporate venturing behavior is mostly observed in companies with strong financial situation. The ownership structure seems to be a significant factor in determining motive for corporate venturing. According to Zahra, outside directors on a board and short term institutional ownership are negatively and executive stock ownership positively correlated with corporate venturing activity⁴³. In his previous study, Zahra found that several environmental, governance and organizational factors are related to corporate entrepreneurship, as summarized in Table 1⁴⁴.

Table 1 Empirical findings of effects on corporate entrepreneurship and parent firm performance

Dependent variable	Independent variable	Author	Relationship	Comment
Parent performance				
Profitability	Corporate entrepreneurship	Zahra 1991	Positive	
Parent organization				
Corporate entrepreneurship	Growth strategy	Zahra 1991	Positive	
	Person-related values	Zahra 1991	Positive	
	Competition-related values	Zahra 1991	Positive	
	Environment scanning	Zahra 1991	Positive	
	Formal control	Zahra 1991	Negative	
	Executive ownership	Zahra 1996	Positive	
Parent environment				
	Hostility	Zahra 1991	Positive	
	Dynamism	Zahra 1991	Positive	

⁴¹ March, J. 1991. Exploration and exploitation in organizational learning. *Organization Science*, 2(1). Pp. 71- 87.

⁴² Quinn, J B. 1985. Managing innovation: Controlled chaos. *Harvard Business Review*, May-June. Pp. 73 – 83.

⁴³ Zahra, S A. 1996. Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6). Pp. 1713 – 1735.

⁴⁴ Zahra, S A. 1991. Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6. Pp. 259 – 285.

5 Dynamics of corporate venturing

Corporate venturing behavior is generally related to innovative activities. Many attempts have been made to define a sequential or linear process of innovation, but with varying success. Innovation process is seen to be characterized by uncertainty, knowledge-intensity, competition with alternate courses of action, non-linear dynamics, stochasticity, and boundary crossing^{45,46}. Some scholars propose that innovation simply cannot be systematized or administered mechanically, creating a paradox between management of innovation and management of repeated operations^{47,48}.

New venture development has typically been conceptualized as separate phases, which describe the evolution and organization development of a venture as a separate business. For example, Galbraith distinguishes between five phases of venture development: (1) proof of principle, prototype, (2) model shop, (3) start-up volume production, (4) natural growth, and (5) strategic maneuvering⁴⁹. Gartner categorizes the process of new venture creation to (1) the founding of a business opportunity, (2) the accumulation of resources, (3) the marketing of products and services, (4) the production of the product, (5) the building of an organization, and (6) responding to government and society⁵⁰. The different phases of development seem to be characterized by distinctive dynamics. In the first phases of innovation development, random and chaotic nature has been observed. An orderly periodic pattern has been found to prevail during the ending of development period.⁵¹

Corporate context brings in numerous new parameters, and generally requires focusing on multiple levels of venture development. Burgelman makes a distinction between three levels of corporate management in which corporate venturing process occurs simultaneously⁵². The role of

⁴⁵ Kanter, R M. 1985. Supporting innovation and venture development in established companies. *Journal of Business Venturing*, 1. Pp. 47 – 60.

⁴⁶ Maidique, M A & Zirger, B J. 1985. The new product learning cycle. *Research Policy*, 14. Pp. 299 – 313.

⁴⁷ Abernathy, W J & Clark, K B. 1985. Innovation: Mapping the winds of creative destruction. *Research Policy*, 14. Pp. 3- 22.

⁴⁸ Rice, M P, O'Connor G C, Peters, L S & Morone, J 1998 Managing discontinuous innovation. *Research Technology Management*, May-June. Pp. 52 – 58.

⁴⁹ Galbraith, J L. 1983. The stages of growth. *Journal of Business Strategy*, 4. Pp. 70 – 79.

⁵⁰ Gartner, W B. 1985. A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4). Pp. 696 – 706.

⁵¹ Cheng, Y-T & Van de Ven, A H. 1996. Learning the innovation journey: Order out of chaos? *Organization Science*, 7(6). Pp. 593 – 614.

⁵² Burgelman, R A. 1983. A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28. Pp. 223 – 244.

corporate management is to set the directions to which the innovation process should proceed, monitor the process, and authorize successes. The role of middle management is to manage the ventures on a portfolio level and to provide organizational championing for the ventures. The venture leaders focus on technological and market development of individual ventures, generating ideas, and to question the structural context set by corporate management. Burgelman distinguishes two core phases of corporate venture development. Business idea and new product is created in the definition phase. Market is built in the impetus phase. The distinction between phases of definition and impetus, or definition and momentum building, are also proposed in other studies^{53,54}. In addition to core processes, Burgelman proposes two processes related specifically to corporate context. Structural context defines and sets boundaries for venture activities, and strategic context is affected by corporate venturing activities, making corporate venturing a systemic component in corporate operations. The process model proposed by Burgelman is presented in Figure 3.

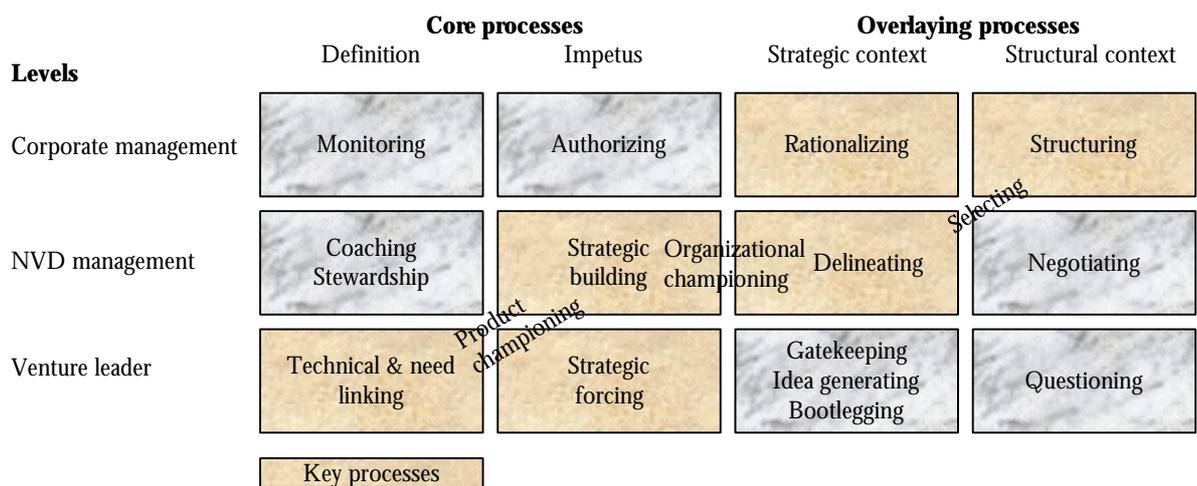


Figure 3 Activities in a process model of corporate venturing⁵⁵

Venkataraman et alii have further categorized the core processes of corporate venturing, and distinguish between definition stage, penetration stage, contagion stage, and institutionalization stage⁵⁶. The dualism of parent organization and market needs is very clear in their division be-

⁵³ George, R & MacMillan, I C. 1985. Corporate venturing: Venture management challenges. *The Journal of Business Strategy*, 6(2). Pp. 85 – 91.

⁵⁴ Bower, J L. 1970. *Managing the Resource Allocation Process*. Harvard University Press, Boston.

⁵⁵ Burgelman, R A. 1983. A Process Model of Internal Corporate Venturing in the Diversified Major Firm. *Administrative Science Quarterly*, 28. Pp. 223 – 244.

⁵⁶ Venkataraman, S, McGrath, R G & MacMillan, I C. 1992. Progress in research on corporate venturing. In: Sexton, D L & Kasarda, J D (editors). 1992. *The State of the Art of Entrepreneurship*. PWS Kent, Boston.

tween venture management and hierarchical management. The need for hierarchical management has generally been conceptualized as organizational championing and the need for venture management as product championing⁵⁷. The necessity of two roles of championing has also confirmed by some empirical studies^{58,59}. The need for champions with connections and organizational power implicitly emphasizes the importance of social capital and embeddedness of economic action, especially in the emergent businesses. The model proposed by Venkataraman et alii is presented in Figure 4.

	Definition Define the it fits with corporation	Penetration Enter the market, achieve	Manage growth	Incorporation the corporation
Venture management	Ideating - the concept business	Forcing Create initial competenes transactions	Rollercoasting Cope with exploding demand	Balance with innovation
Hierarchy management	Championing ideas	change	Championing resources	incorporation

Figure 4 Phases of corporate venture development⁶⁰

To decide on the organizational structure of the corporate venturing activity, Burgelman suggests two-dimensional assessment with strategic importance and operational relatedness of the venture⁶¹. The more related and more important strategically, the more directly the venture should be integrated. If the venture is operationally unrelated and strategically unimportant, it should be spun off. The structures falling between the extremes include, as presented in Figure 5, independent business units, new venture division, contracting, special business units, nurturing and contracting, new product or business department, and micro new ventures department. Roberts suggests similar range of alternative structures for launching new ventures, distinguishing between venture capital investments, venture nurturing, venture spin-off, new-style joint

⁵⁷ Day, D L. 1994. Raising radicals: Different processes for championing innovative corporate ventures. *Organizational Science*, 5(2). Pp. 148 – 172.

⁵⁸ Souder, W. 1981. Encouraging entrepreneurship in large corporations. *Research Management*, 55. Pp. 18 – 22.

⁵⁹ Witte, E. 1977. Power and innovation: A two center theory. *International Studies of Management Organization*, (Spring). Pp. 47 – 70.

⁶⁰ Venkataraman, S, McGrath, R G & MacMillan, I C. 1992. Progress in research on corporate venturing. In: Sexton, D L & Kasarda, J D (editors). 1992. *The State of the Art of Entrepreneurship*. PWS Kent, Boston.

⁶¹ Burgelman, R A. 1984. Designs for corporate entrepreneurship in established firms. *California Management Review*, Spring 1984. Pp. 154 – 167.

ventures, venture merging and melding, and internal ventures⁶² structures on two dimensions and Roberts on one dimension. Both the resulting models have internal contradictions. An explanation might be the dismissal of time as a dimension and oversimplification of organizational relatedness. The staticness leads into lack of consideration of the factors that are partly determined during the venturing process. Operational relatedness is a multi-dimensional construct, comprising of at least technological, production, and marketing relatedness⁶³

		Strategic importance		
		Very important	Uncertain	Not important
Operational relatedness	Unrelated	Special business units	Independent business units	Complete spin-off
	Partly related	New product/business department	New venture division	Contracting
	Strongly related	Direct integration	Micro new ventures department	Nurturing and contracting

Figure 5 Organizational designs for corporate venturing⁶⁴

To address the inherent uncertainty associated with new ventures, Block and MacMillan⁶⁵ suggest that management of new ventures should be based on articulation of the assumptions underlying venture's expected future success, and to use and to test these assumptions, rather than financial figures, in management of the venture. Because of the differences in organizational forms of ventures and parents, Ginsberg and Hay⁶⁶ suggest that to retain autonomy, venture managers should build momentum slowly, and not making noise out of the venture.

⁶² Roberts, E B. 1980. New Ventures for Corporate Growth. *Harvard Business Review*, July-August. Pp. 134 – 142.

⁶³ Autio, E, Parhankangas, A & Sapienza, H. 1999. Knowledge relatedness, learning, and growth of industrial spin-off firms. *Journal of Engineering and Technology Management*, Forthcoming.

⁶⁴ Burgelman, R A. 1984. Designs for corporate entrepreneurship in established firms. *California Management Review*, Spring 1984. Pp. 154 – 167.

⁶⁵ Block, Z & MacMillan, I C. 1985. Milestones for Successful Venture Planning. *Harvard Business Review*, September-October. Pp. 184 – 196.

⁶⁶ Ginsberg, A & Hay, M. 1994. Confronting the challenges of corporate entrepreneurship: Guidelines for venture managers. *European Management Journal*, 12(4). Pp. 382 – 389.

In some of the studies, the definition of corporate venturing includes only those activities that are planned to integrate to the parent organization at some stage⁶⁷. This may lead to excessive top-down strategy inducing and reduced autonomy of the venture. Some studies have focused into disintegration of unwanted ventures by spin-off arrangements⁶⁸.

To summarize, the dynamics of corporate venturing on the level of individual ventures resembles that of independent ventures. As a corporate venture is not a stand-alone entity its interfaces with external environment are more complex than those of independent ventures. The resources available through the complex interfaces with the parent firm may provide an advantage for the corporate venture, but institutional pressure exerted by the parent firm may partially counterweigh this advantage. On corporate level the management of corporate ventures provides the dilemma of a need for control over the investments and the uncontrollability of autonomous strategic behavior.

⁶⁷ Burgelman, R A. 1980. Managing innovating systems: A study of the process of internal corporate venturing. Doctoral dissertation, Columbia University.

⁶⁸ Parhankangas, A. 1999. Disintegration of technological competencies: An empirical study of divestments through spin-off arrangements. *Acta Polytechnica Scandinavica*, 99.

6 Venture operating environment

All firms operate in many environments simultaneously. The most fundamental environment is the nature of demand among the firm's customers: "[a] necessary condition for the survival of an innovation is that after a trial it will be perceived as a worthwhile by the organizations that directly determine whether it is used or not"⁶⁹. In the context of corporate venturing, another critical environment arises. Corporate ventures compete and cooperate in corporate context, where issues on resource sharing, budgets, and plans are processed. On both environments, new ventures strive to achieve legitimacy and to gain from exchange. The research approach differs radically at the two environments. Much of work on effects of market environment is characterized by a strive to find factors explaining the first-order performance in market terms. Work on corporate environments focus on finding causes and explanations of organizational behavior and perceptions of strategic success. This subchapter reviews previous literature relevant to the two

Aldrich and Fiol propose four levels of social context within which founding entrepreneurs build trust, reliability, reputation, and finally, institutional legitimacy: organizational, intraindustry, interindustry, and institutional level⁷⁰. They argue that trust is a critical determinant of success of founding entrepreneurs. Trust is defined as a belief, in absence of any evidence, that things will "work out"⁷¹. In new venture formation there is, by definition, an absence of information and evidence.

Aldrich and Fiol define two forms of legitimacy affecting the development of trust⁷². Cognitive legitimization refers to the spread of knowledge about a new venture. Hannan and Freeman noted that when an activity becomes so familiar and well known that it is taken for granted, time and other organizing resources are conserved⁷³. Sociopolitical legitimization refers to the process by which key stakeholders accept a venture as appropriate and right, given existing norms and rights.

⁶⁹ Nelson, R R & Winter, S G. 1982. *An Evolutionary Theory of Economic Change*. Belknap Press, Cambridge MA. P. 264.

⁷⁰ Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.

⁷¹ Gambetta, D. 1988. Can we trust? In: Gambetta, D. 1988. *Trust: Making and breaking cooperative relations*. Blackwell, New York. Pp. 213 – 238.

⁷² Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.

⁷³ Hannan, M T & Freeman, J H. 1986. Where do organizational forms come from? *Sociological Forum*, 1. Pp. 50 – 72.

Some of the recent work on industry creation provides insight into dynamics of corporate venturing not only on the market context of the venture, but also on the corporate context⁷⁴. Hannan, an organization ecologist, identified increasing numbers of organizations as the primary force raising the legitimacy of population⁷⁵. The small number of corporate ventures can result in same behavior inside the venturing firm. In new industries, when number of organizations is small, new organizations are thought to have lower chance of survival because they must learn new roles without having role models, and they must establish ties with an environment that does not understand or acknowledge their existence⁷⁶. Aldrich and Fiol propose, that creating a meaning for a new activity to outside parties, use third-party actors to promote the new activities, and emphasize mutual gains may be significant factors for gaining legitimacy among “outsiders”.

6.1 Parent organization

The organizational factors relevant to corporate venturing fall into two broad categories: tangible and intangible. Studies on tangible factors focus primarily on formal organizational structure, formal communication, integration components, and organizational controls. Intangible variables include dominant organizational values and routines. While some over-routineization can hinder exploration of new competencies, clearly articulated organizational values that are employee supportive and competition-oriented have been found to be positively associated with an explorative corporate culture⁷⁷. Burgelman has summarized some of the important differences between the operational system of the corporation and the new venture entities⁷⁸. The categorization presents the differences as extremes. While the contrast is smaller in the reality and the increased turbulence of many industries since the article was published in 1985 has forced firms to move towards the innovative direction, the summary, as presented in Table 2, illustrates the dimensions where the operating logic might differ.

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- ⁷⁴ Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.
- ⁷⁵ Hannan, M T. 1986. *Competitive and institutional processes in organizational ecology*. Tech. Report 86-13. Cornell University.
- ⁷⁶ Hannan, M T & Carroll, G R. 1992. *Dynamics of organizational populations: Density, legitimization, and competition*. Oxford University Press, New York.
- ⁷⁷ Zahra, S A. 1991. Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing* 6. Pp. 259 – 285.
- ⁷⁸ Burgelman, R A. 1985. Managing the New Venture Division: Research Findings and Implications for Strategic Management. *Strategic Management Journal*, 6. Pp. 39 – 54.

Table 2 A comparison of operating system and new venture entities⁷⁹

Characteristics	Operating system	New venture entities
Historical perspective	Established	None
Size	Large	Small
Environments	Complex and relatively stable	Simple and very dynamic
Coordination mechanisms	Formalized and mutual adjustment and standardization of skills	Real-time mutual adjustment and direct supervision
Strategic behavior	Induced	Autonomous
Strategy-making mode	Strategic planning	Experimentation-and-selection
Objectives	Relatively stable	Rapidly changing
Innovating activity	Incremental improvements	Radical newness
Managerial personnel	Homogeneous	Heterogeneous
Individual orientations and behavior	Corporate and rule oriented	Individualistic and opportunistically oriented
Emphasis in performance	Solidity and reliability: meet the plans	Initiative and risk taking: exceed expectations

The tangible organizational factors exist to exploit synergies between and to control organizational entities. The means of control are different in different transaction settings. In the extreme cases of market and hierarchy, control is implemented through cost minimization and administrative monitoring, respectively⁸⁰. In structures between these extremes, control and governance emphasize reciprocity norms, personal relationships, reputation, and trust as important factors explaining the duration and stability of the structure⁸¹. In reality, these three modes of control are frequently combined. Uncertainty and a need for reliance on more embedded control mechanisms characterize new ventures.

Institutional approach provides a more in-depth answer to why large firms have difficulties in carrying out entrepreneurial activities. Institutionalized practices provide a common understanding of appropriate behavior, facilitate coordination, make behavior understandable and predictable, and can be repeated with a minimum effort. Policies, procedures and practices reflect the accumulated learning of a corporation⁸². External actors, who expect the organization to “act right”, enforce these practices, so managers conform to standards to signal their legitimacy⁸³. Internally, at the level of day-to-day thought and action, people infuse these practices

⁷⁹ Modified from Burgelman, R A. 1985. Managing the New Venture Division: Research Findings and Implications for Strategic Management. *Strategic Management Journal*, 6. Pp. 39 – 54.

⁸⁰ Williamson, O E. 1975. *Markets and Hierarchies*. The Free Press, New York.

⁸¹ Larson, A. 1992. Network dyads in entrepreneurial settings: A study of governance of exchange relationships. *Administrative Science Quarterly*, 37. Pp. 76 – 104.

⁸² Sykes, H B & Block, Z. 1989. Corporate Venturing Obstacles: Sources and Solutions. *Journal on Business Venturing* 4(3). Pp. 159 – 167.

⁸³ DiMaggio, P J & Powell, W W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(April). Pp. 147 – 160.

with value beyond technical requirements of the task, making them "the right thing to do"^{84,85}. Utilitarian theories say much about how product innovation ought to be carried out, but they underestimate the taken-for-granted nature of much of organizational life and the intractability and opacity of organizational systems^{86,87}. This suggests that some activities related to innovation processes do not fit into institutionalized thoughts and actions. They either violate prevailing practice inside and outside the firm, or require ways of thinking and acting that are illegitimate, albeit in intractable or opaque ways⁸⁸. Studies of entrepreneurship have same conclusions. While some studies suggest that entrepreneurs are social misfits who do not fit into most organizations⁸⁹, some studies suggest that successful entrepreneurs are good team players⁹⁰. Entrepreneurial persons seem not to be social misfits in the sense that they could not cooperate, but that they challenge the taken-for-granted practices of mature organizations.

Empirical evidence supports the general hostility of mature corporations against innovative exploration. Dougherty and Heller found that the product development time is positively correlated with the number of accruing illegitimacies⁹¹. The hostility is also evident in the numerous studies calling for the need of a organizational champion⁹².

Dougherty proposes three modes of institutional change that can legitimate innovative activities⁹³. First, new activities can be made to conform to existing institutional practices, as elaborated theoretically by DiMaggio and Powell's⁹⁴ discussion of institutional isomorphism. Second, new activities can be legitimated "ceremonially", by associating an innovation with a legitimate practice, but continuing to behave in the old way. Ceremonial legitimization provides external legitimization, but does not alter innovator's day-to-day practices. Third, legitimate practices can

⁸⁴ Selznick, P. 1957. *Leadership in administration: A sociological view*. Harper and Row, New York.

⁸⁵ Scott, W R. 1987. The adolescence of institutional theory. *Administrative Science Quarterly*, 32. Pp. 493 – 511.

⁸⁶ DiMaggio, P. 1988. Interest and agency in institutional theory. In: Zucker, L (editor). 1988. *Institutional Patterns and Organizations*. Ballinger, Cambridge.

⁸⁷ Dougherty, D. 1992. Interpretive barriers to successful product innovation in large firms. *Organizational Science*, 3. Pp. 179 - 202.

⁸⁸ Dougherty, D & Heller, T. 1994 The illegitimacy of successful product innovation in established firms. *Organizational Science*, 5(2). Pp. 200 - 218.

⁸⁹ Collins, O F & Moore, D G. 1970. *The Organization Makers*. Appleton-Century-Crofts, New York.

⁹⁰ Cooper, A C. 1970. The Palo Alto experience. *Industrial Research*, 12(5). Pp. 58 – 61.

⁹¹ Dougherty, D & Heller, T. 1994. The illegitimacy of successful product innovation in established firms. *Organizational Science*, 5(2). Pp. 200 - 218.

⁹² Day, D L. 1994. Raising radicals: Different processes for championing innovative corporate ventures. *Organizational Science*, 5(2). Pp. 148 – 172.

⁹³ Dougherty, D & Heller, T. 1994. The illegitimacy of successful product innovation in established firms. *Organizational Science*, 5(2). Pp. 200 - 218.

be used to reframe new activities, which is to reconceive them so people can now understand how to carry them out. New venture organizations can be considered as reframing the new activities. Dougherty found that reframing was negatively associated with failures.

The findings of Stopford and Baden-Fuller on 10 European firms suggest that the creation of an entrepreneurship-friendly corporate environment and to break the existing frame of reference is a relatively long emergent process, which might require internal or external crises to evolve⁹⁵.

To summarize, new ventures are clearly complementary to the established organization. The organizational design of corporate venturing must take into account the differences and complementarities of emerging and more mature entities. The taken-for-granted nature of many institutional routines and beliefs must be admitted and reflected in the design.

6.2 Market environment

Market environment is the primary selection and operating environment of a new venture. Focusing on market environment is important, because it is found to have a significant impact on the strategy^{96,97}, the organization^{98,99}, and performance of a venture¹⁰⁰. The choice of an attractive market position may also explain why some firms survive despite their evident inefficiency¹⁰¹. The market environment of new ventures has gathered a large amount of attention in explaining the performance of new ventures. Evolutionary and ecological theories on organizations argue that the environment selects fit firms. Institutional theory is concerned with gradual legitimization of a new firm. For new firms, the chances of getting selected are low and the liabilities of newness result in low legitimization^{102,103}. In comparison to studies on parent corporation as an

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- ⁹⁴ DiMaggio, P J & Powell, W W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(April). Pp. 147 – 160.
- ⁹⁵ Stopford, J M & Baden-Fuller, C W F. 1994. Creating corporate entrepreneurship. *Strategic Management Journal*, 15. Pp. 521 – 536.
- ⁹⁶ Block, Z & MacMillan, I C. 1994. Market entry strategies for new corporate ventures. In: Hills, G E (editor). *Marketing and Entrepreneurship – Research Ideas and Opportunities*. Quorum Books, Westport, CT. Pp. 217 – 233.
- ⁹⁷ McDougall, P P, Robinson, R B Jr, Covin, J G & Herron, L. 1990. The effects of industry growth and strategic breadth on the content of new venture strategies. *Strategic Management Journal*, 15. Pp. 537 – 554.
- ⁹⁸ Covin, J G & Slevin, D P. 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing* 5. Pp. 123 – 135.
- ⁹⁹ Duncan, R. 1973. Multiple decision making structure in adapting to environmental uncertainty. *Human Relations*, 26. Pp. 273 – 291.
- ¹⁰⁰ McDougall, PP, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing* 7. Pp. 267 – 289.
- ¹⁰¹ Meyer, M M & Zucker, L. 1989. *Permanently Failing Organizations*. Sage, Newbury Park
- ¹⁰² Stinchcombe, A L. 1965. Social structure and organizations. In: March, JG (editor). *Handbook of organizations*. Rand McNally, Chicago. Pp. 142 – 193.

operating environment, the empirical research on market environment of corporate ventures is more quantitatively and economically oriented, and focuses on deductive rather than inductive reasoning.

Market environments have been classified using multiple dimensions. Lumme simplifies the relevant dimensions to demand munificence and competitive hostility, labeling them as the nurturativeness of the local selection environment¹⁰⁴. Demand munificence is a measure of attractiveness of the product-markets. According to Stuart and Abetti, an attractive market is “*reasonably large, quantifiable, in the early stage of its life cycle, growing rapidly, and is part of a favorable socio-political environment. The customer identity and needs are clear, gross margins are high, competitors are few and entry barriers low*”¹⁰⁵. The definition is inline with other’s view of munificent environment as rich and resourceful¹⁰⁶, which supports sustained growth¹⁰⁷. It also comprises of some important factors such as industry stage of evolution¹⁰⁸ and industry disequilibrium¹⁰⁹. Demand munificence is one of the key explanations of high performance of new ventures. High munificence in terms of market growth decreases inter-organizational hostility and competitive pressures¹¹⁰. Market growth decreases the incentives for incumbents to attack new entrants, enabling long-term contracts with customers and suppliers¹¹¹. Similarly, low market growth intensifies competition¹¹².

Competitive hostility is typically associated with the intensity of competition in the firm’s environment. Miller and Friesen define hostility as “*the degree of threat to the firm posed by the multifaceted-*

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- ¹⁰³ McGrath, R G. 1996. Options and the entrepreneur: Toward a strategic theory of entrepreneurial behavior. *Academy of Management Best Papers Proceedings*. Pp. 101 – 105.
- ¹⁰⁴ Lumme, A. 1998. Local selection environment nurturativeness in determining the fitness of new, technology-based firms: Derivation and validation of a model. *Acta Polytechnica Scandinavica*, 94.
- ¹⁰⁵ Stuart, R W & Abetti, P A. 1986. Field study of start-up ventures – part II: Predicting initial success. In: Ronstadt, R, Hornaday, J A, Peterson, R & Vesper, K H (editors). *Frontiers of Entrepreneurship Research 1986*. Babson College. Pp. 27 – 30.
- ¹⁰⁶ Aldrich, H E. 1979. *Organizations and Environments*. Prentice Hall, Eaglewood Cliffs, NJ.
- ¹⁰⁷ Staw, B & Sz wajjowski, E. 1975. The scarcity-munificence component of organizational environment and the commission of illegal acts. *Administrative Science Quarterly*, 26. Pp. 501 – 524.
- ¹⁰⁸ Sandberg, W R & Hofer, C W. 1987. Improving new venture performance: The role of strategy, industry structure, and the entrepreneur. *Journal of Business Venturing* 2. Pp. 5 – 28.
- ¹⁰⁹ Porter, M E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The Free Press, New York.
- ¹¹⁰ Miller, A & Camp, B. 1985. Exploring determinants of success in corporate ventures. *Journal of Business Venturing* 1(1). Pp. 87 – 105.
- ¹¹¹ Porter, M E. 1980. *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. The Free Press, New York.
- ¹¹² Castrogiovanni, G J. 1991. Environmental munificence: A theoretical assessment. *Academy of Management Review*, 16(3). Pp. 542 – 565.

ness, vigor and intensity of the competition and the downswings and upswings of the firm's principal industry"¹¹³. This is in line with the definition of Covin and Slevin: "precarious industry settings, intense competition, harsh, overwhelming business climates, and the relative lack of exploitable opportunities"¹¹⁴. Competitive hostility is closely related with market munificence, as market growth or decline influences number of competitors, further affecting competitive hostility¹¹⁵. Competitive hostility has also been influenced by decline of product prices¹¹⁶, concentration of competition, industry capacity in relation to market size, and government regulation¹¹⁷. In empirical studies, hostility has been found to make sustaining of firm performance more difficult¹¹⁸.

Demand munificence and competitive hostility affect similarly all firms. In contrast to incumbents, new ventures confront the liability of newness, and liability of smallness¹¹⁹. The liability of newness argument proposes that firms face problems in internal learning as well as in establishing relationships and building trust with their external environment^{120,121}. Small organizations are seen to suffer from resource scarcity, lack of organizational slack, and face crucial skill gaps^{122,123}. In the market environment, the liabilities of newness and smallness may be less important for corporate ventures than independent ventures, as corporate ventures are able to exploit skills, image, and slack of the parent organization^{124,125}. As the flip side of the coin, new companies are

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- ¹¹³ Miller, D & Friesen, P. 1983. Strategy making and environment: The third link. *Strategic Management Journal*, 4. Pp. 221 – 235.
- ¹¹⁴ Covin, J G & Slevin, D P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10. Pp. 75 – 87.
- ¹¹⁵ Miller, A & Camp, B. 1985. Exploring determinants of success in corporate ventures. *Journal of Business Venturing*, 1(1). Pp. 87 – 105.
- ¹¹⁶ Miller, D & Friesen, P. 1983. Strategy making and environment: The third link. *Strategic Management Journal*, 4. Pp. 221 – 235.
- ¹¹⁷ Block, Z & MacMillan, I C. 1994. Market entry strategies for new corporate ventures. In: Hills, G E (editor). *Marketing and Entrepreneurship – Research Ideas and Opportunities*. Quorum Books, Westport, CT. Pp. 217 – 233.
- ¹¹⁸ Covin, J G & Slevin, D P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10. Pp. 75 – 87.
- ¹¹⁹ Aldrich, H & Auster, E R. 1986. Even dwarfs started small: Liabilities of age and size and their strategic implications. *Research in Organizational Behavior*, 8. Pp. 165 - 198.
- ¹²⁰ Singh, J V, Tucker, D J & House, R J. 1986. Organizational legitimacy and the liability of newness. *Administrative Science Quarterly*, 31. Pp. 171 – 193.
- ¹²¹ Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.
- ¹²² Aldrich, H & Auster, E R. 1986. Even dwarfs started small: Liabilities of age and size and their strategic implications. *Research in Organizational Behavior*, 8. Pp. 165 - 198.
- ¹²³ Venkataraman, S & Low, M B. 1994. The effects of liabilities of age and size on autonomous sub-units of established firms in the steel distribution industry. *Journal of Business Venturing* 9. Pp. 189 – 204.
- ¹²⁴ Williams, M I, Tsai, M. & Day, D. 1991. Intangible assets, entry strategies, and venture success in industrial markets. *Journal of Business Venturing* 6. Pp. 315 – 333.
- ¹²⁵ Garud, R & Van de Ven, A H. 1992. An empirical evaluation of the internal corporate venturing process. *Strategic Management Journal*, Summer 1992. Pp. 93 -

seen to possess a learning advantage of newness, as their internal frame of reference is not routinized¹²⁶.

The existence of liability of newness has been explained by two partially alternative, but essentially complementary interpretations. On one hand, institutional theory argues that liability of newness is mainly a reflection of the firm's deficient socio-political legitimacy¹²⁷. On the other hand, evolutionary economics suggests that the liability of newness reflects lack of skills and capabilities in new ventures, rather than lack of external legitimacy¹²⁸.

To summarize, the organizational design and strategy of corporate ventures should reflect the nature of the business environment. Two major determinants seem to be munificence of demand and competitive hostility. The means of responding to environmental and parent firm characteristics are covered in the next chapter.

¹²⁶ Autio, E, Sapienza, H J & Almeida, J G. 1999. Effects of age at entry, knowledge intensity, and inimitability on international growth. *Academy of Management Review*, forthcoming.

¹²⁷ Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.

¹²⁸ Winter, S. 1990. Survival, selection, and inheritance in evolutionary theories on organization. In: Singh, J V (editor). *Organizational Evolution, New Directions*. Sage Publications, Newbury Park, CA.

7 Relational attributes

7.1 Parent-venture relationship

The major difference between individual venture and corporate venture is the proximity of the corporate venture to its parent organization. The proximity offers both advantages and disadvantages. According to various scholars, new products should relate to the firm's capacities and resources^{129,130,131}. Strategic linkages to firm's capabilities and resources are found to enhance the likelihood of new product's success^{132,133}. From the resource-based view of the firm the proximity offers access to resources, which might be difficult to imitate or substitute by outside ventures. Legitimacy provided by parent's brand, opportunities for synergy exploitation, and financial backup are examples of such benefits. Transaction cost economics explains the benefits by lower transaction costs while inside the parent firm's hierarchy. The disadvantages are explained foremost by institutional theory. By the time managers reach the top management level, they have developed a highly reliable frame of reference to evaluate business strategies and resource allocation proposals pertaining to the main lines of business of the corporation. By the same token, their substantive knowledge of new technologies and markets is limited, and their ability to manage a venture with fundamentally different needs from mainstream units may be limited.¹³⁴

Conflicts between new ventures and mainstream operations are seen to include strategic conflicts, administrative conflicts, culture clashes, and measurement and reward issues. In a large firm studied by Burgelman, strategic conflicts, including domain and synergy issues, seemed to emerge whenever the new business activities had the potential to overlap with the business of the division¹³⁵. The administrative processes of the corporation facilitate the functioning of the complex workflows in the operating system, but at the same time hinder the functioning of the new venture division. Similarly, Dougherty and Heller found in their study of 134 internal cor-

¹²⁹ Ansoff, H I. 1965. *Corporate Strategy*. McGraw-Hill, New York.

¹³⁰ Rumelt, R. 1974. *Strategy, Structure, and Economic Performance*. Doctoral dissertation, Harvard University, Graduate School of Business.

¹³¹ Prahalad, C K & Hamel, G. 1990. The core competence of the corporation. *Harvard Business Review*, May-June 1990. Pp. 79 - 90.

¹³² Nord, W & Tuchker, S. 1987. *Implementing routine and radical innovations*. Lexington Books, Lexington.

¹³³ Cooper, R & Kleinschmidt, E. 1990. New product success factors: A comparison of kills vs. successes and failures. *R&D Management*, 20. Pp. 47 - 63.

¹³⁴ Burgelman, R A. 1984. Designs for corporate entrepreneurship in established firms. *California Management Review*, Spring 1984. Pp. 154 - 167.

¹³⁵ Burgelman, R A. 1985. Managing the New Venture Division: Research Findings and Implications for Strategic Management. *Strategic Management Journal*, 6. Pp. 39 - 54.

porate innovations that in addition to the general problems of inability to get resources and inability to follow emergent or discontinuous development process, the most cited barriers in innovation process were conflicts between departments from thought world differences and the lack of structural fit in organizational terms¹³⁶. These problems stress the emphasis in innovation process on the need for cooperation and common language, and the notion that new market-technology linkage may require a new organizational structure.

Burgelman observed, that at the corporate level, rules and regulations, and reward systems led to frictions with important aspects of the corporate structural context. Administrative conflicts also include the unwillingness of other departments to share resources with the new venture or the unwillingness of the new venture to use the policies and systems of the established organizations. Culture clashes are seen to be caused by the more chaotic nature of innovation in comparison to exploiting existing competencies. Measurement and reward issues arise, because it is often misleading to measure new venture performance in the same way an established business is measured.^{137,138,139,140,141,142,143}

On middle manager level, the managers of mainstream units may feel uncomfortable, if venture is evaluated with fundamentally different criteria. The lack of legitimacy inside the organization results from the same reason why the venture exists: promoting divergence. Abernathy and Clark propose that new innovations should be specifically assessed in terms of how they require new linkages to customers and more generally, to markets, and how they require new competencies to emerge¹⁴⁴.

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- ¹³⁶ Dougherty, D & Heller, T. 1994. The illegitimacy of successful product innovation in established firms. *Organization Science*, 5(2). Pp. 200 - 218.
- ¹³⁷ Burgelman, R A & Sayles L R. 1986. *Inside Corporate Innovation – Strategy, Structure, and Managerial Skills*. The Free Press, New York.
- ¹³⁸ Kanter, R M. 1985. Supporting innovation and venture development in established companies. *Journal of Business Venturing*, 1. Pp. 47 – 60.
- ¹³⁹ Kanter, R M. 1988. When a thousand flowers bloom: Structural, social, and collective conditions for innovation in organizations. *Research in Organizational Behavior*, 10.
- ¹⁴⁰ Kanter, R M. 1989. *When Giants Learn to Dance: Mastering the Challenges of Strategy, Management, and Careers in the 1990s*. Simon and Schuster, New York.
- ¹⁴¹ Quinn, J B. 1985. Managing innovation: Controlled Chaos. *Harvard Business Review*, May-June 1985. Pp. 73 – 84.
- ¹⁴² Miller, A, Wilson, B & Adams, M. 1988. Financial patterns of new corporate ventures: An alternative to traditional measures. *Journal of Business Venturing*, 4. Pp. 287- 298.
- ¹⁴³ Sykes, H B & Block, Z. 1989. Corporate Venturing Obstacles: Sources and Solutions. *Journal on Business Venturing*, 4(3). Pp. 159 – 167.
- ¹⁴⁴ Abernathy, W J & Clark, K B. 1985. Innovation: Mapping the winds of creative destruction. *Research Policy*, 14. Pp. 3- 22.

There appears to be a significant potential for exploiting complementarities between small ventures and parent firm. Table 3 summarizes some of the complementarities put together by Laamanen, mainly from the work of Rothwell^{145,146,147}. Teece has expanded the pioneering work of Rothwell on complementarities between small and large firms¹⁴⁸.

Table 3 Complementarities between small and large companies in innovation

Area	Small companies: functional	Large companies: resource-based
Marketing	Ability to react quickly to keep abreast of fast changing market requirements	Comprehensive distribution and servicing facilities. High degree of market power with existing products
Management	Lack of bureaucracy. Dynamic managers react quickly to take advantage of new opportunities	Professional managers are able to control complex organizations. Can suffer from extensive bureaucracy.
Internal communication	Efficient and informal internal communication networks. Fast response to internal problem solving	Internal communications sometimes cumbersome
Qualified technical manpower	Often unable to support a formal and sustained research and development activity	Can support the establishment of large research and development laboratories
External communication	Often lack the time and resources to identify and use external sources of information and expertise	Able to plug in to external sources of information and expertise. Can subcontract research and development projects to specialized organizations
Finance	Often have difficulty in attracting capital	Ability to effectively use a broad range of financial instruments and the financial market
Economies of scale and the systems approach	In some areas economies of scale can constitute a preventive barrier to entry. Inability to offer integrated product lines or systems	Ability to gain scale economies in production and marketing. Ability to maintain systemic products
Growth	Can experience difficulty in financing rapid growth. Entrepreneurial management can experience difficulty in coping with a growing organization	Ability to finance expansion of production base. Ability to fund growth via diversification and acquisition
Patents	Can experience problems in coping with the patent system. Cannot afford to litigate	Ability to employ patent specialists. Can afford to litigate
Government regulations	Often cannot cope with complex regulations. Limited chances of influencing the regulatory process	Ability to fund legal services to cope with complex regulations. Often good chances of influencing the regulatory process

In their study of 15 large mature U.S. corporations, Dougherty and Hardy found that the relationship between the parent organization and the new venture is characterized by three key ac-

¹⁴⁵ Laamanen, T. 1997. *The acquisition of technological competencies through acquisition of new, technology-based companies*. Doctoral dissertation, Helsinki University of Technology.

¹⁴⁶ Rothwell, R. 1983. Innovation and firm size: The case of dynamic complementarity. *Journal of General Management*, 8(6). Pp. 5 – 25.

¹⁴⁷ Rothwell, R. 1989. Inter-firm relationships and technological change. *Entrepreneurship & Regional Development*, 1. Pp. 275 – 291.

¹⁴⁸ Teece, D J . 1986. Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15. Pp. 285 – 305.

tivities: resource availability, collaboration to solve problems and to connect innovations with existing businesses, and fusing innovation with meaning in corporate strategic context. Further, they found that the innovation is very rarely fused with meaning in the strategic context of the parent firm.¹⁴⁹

Resource acquisition constitutes a major theme in entrepreneurship¹⁵⁰. In distinction to external ventures, corporate ventures have access to competencies of the corporation, which can give ventures a competitive advantage^{151,152}. Internal entrepreneurs can often weave together pieces of technology and knowledge, which exist in separate parts of the organization and which would otherwise remain unused.^{153,154} Kanter argues that the best innovations are often interdisciplinary or interfunctional in origin¹⁵⁵. The venture manager has usually a limited formal access to sources of power, influence, or authority, and the creation of informal social network is a way to obtain resources. Svendsen suggests that the venture staff has to have an ability to build and utilize informal networks to be able to gain access to parent organization's competencies¹⁵⁶. Legitimacy is one of the key regulators of resource accumulation in young firms. The unfortunate paradox is, that firms resources to be legitimate and to accumulate more resources¹⁵⁷. A key strategy that new firms use to break out from this trap is to use the human and social capital¹⁵⁸ of their founders as the basis for establishing firm's legitimacy and for building exchange relationships¹⁵⁹. A mechanism for resource acquisition can be to co-opt resources that are currently

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- 149 Dougherty, D & Hardy, C. 1996. Sustained product innovation in large, mature organizations: Overcoming innovation-to-organization problems. *Academy of Management Journal*, 39(5). Pp. 1120 – 1153.
- 150 Starr, J & MacMillan, I. 1990. Resource cooptation via social contracting: Resource acquisition strategies for new ventures. *Strategic Management Journal*, 11 (Special issue). Pp. 79 – 92.
- 151 Barney, J. 1991. Firm resources and sustained competitive advantage. *Journal of Management*, 17(1). Pp. 99 – 120.
- 152 McGrath, R G, Venkataraman, S & MacMillan, I C. 1994. The advantage chain: Antecedents to rents from internal corporate ventures. *Journal of Business Venturing*, 9. Pp. 351 – 369.
- 153 Burgelman, R A. 1983. Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science*, 29(12). Pp. 1349 – 1363.
- 154 Pinchot, G III. 1982. *Intrapreneuring – Why you don't have to leave the corporation to become an entrepreneur*. Harper and Row, New York.
- 155 Kanter, R. 1985. Supporting innovation and venture development in established firms. *Journal of Business Venturing*, 1. Pp. 47 – 60.
- 156 Svendsen, J E. 1998. *Tailoring Strategy – Designing Intrapreneurship Strategies that reshape Corporate Strategy*. Research Paper, Norwegian School of Management.
- 157 Eisenhardt, K M & Schoonhoven, C B. 1996. Resource-based view of strategic alliance formation: Strategic and social effects in entrepreneurial firms. *Organization Science*, 7(2). Pp. 137 – 150.
- 158 Coleman, J. 1990. Social capital and the creation of human capital. *American Journal of Sociology*, 94(Supplement). Pp. S95 - S120.
- 159 Ostgaard, T A & Birley, S. 1994. Personal networks and firm competitive strategy: A strategic or coincidental match? *Journal of Business Venturing*, 9(4). Pp. 281 – 305.

being underutilized. This might be the most flexible and easiest way to gain access to resources^{160,161,162}.

It appears that two-way relatedness in terms of potential for mutual economic gains is a necessary condition to build stable network structures¹⁶³. Some of the problems associated with corporate venturing activities may result from mainstream units not recognizing any significant potential gains to their part. Most of the studies on corporate venturing have neglected the need for mutual gains and focused on potential economic gains on relatedness for venture and for the firm overall.

Many scholars have found that critical to discontinuous innovation, entrepreneurial activity, and new venture success is often a high degree of internal and external partnering^{164,165,166}. Benefits from cooperation include acquiring knowledge about markets and technology, as well as to gain visibility and legitimacy. Cooperation may aid in monitoring the environment and provided access to technologies, which could provide entrance into new markets. Any entrance in a market, if the innovation is not completely appropriable, or is easily imitable or substitutable, is likely to require access to complementary assets in order to retain profit potential. Parent firm is likely to own some of the required complementary assets, thereby increasing the appropriability of the innovation.¹⁶⁷

Rice et alii found that informal networking was critical in all the 11 cases they observed. Network contacts included R&D, business units, customers, suppliers, and governmental agencies. They helped to give early validation to the value of the technology, generate political and finan-

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- ¹⁶⁰ Pfeffer, J & Salanick, G. 1978. *The External Control of Organizations: A Resource Dependence Perspective*. Harper & Row, New York.
- ¹⁶¹ Burt, R. 1980. *Toward a Structural Theory of Action: Network Models of Social Structure, Perception, and Action*. Academic Press, New York.
- ¹⁶² Burt, R. 1983. *Corporate Profits and Cooptation*. Academic Press, New York.
- ¹⁶³ Larson, A. 1992. Network dyads in entrepreneurial settings: A study of governance of exchange relationships. *Administrative Science Quarterly*, 37. Pp. 76 – 104.
- ¹⁶⁴ Rice, M P, O'Connor G C, Peters, L S & Morone, J 1998. Managing discontinuous innovation. *Research Technology Management*, May-June. Pp. 52 – 58.
- ¹⁶⁵ Yli-Renko, H, Autio, E, Sapienza, H & Hay, M. 1999. Social capital, relational learning, and knowledge distinctiveness in technology-based new firms. *Babson-Kauffman Conference in Entrepreneurship Research*. Columbia, SC.
- ¹⁶⁶ Tsai, W & Ghoshal, S. 1998. Social capital and value creation: An empirical study of intrafirm networks. *Academy of Management Journal*, 41(4). Pp. 464 – 476.
- ¹⁶⁷ Teece, D J . 1986. Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy*, 15. Pp. 285 – 305.

cial support, and to provide access to scarce resources, friendly customers, and government funding.¹⁶⁸

The effects of formal and informal networks may not be solely positive. Yli-Renko et alii found in their study of new, technology-based companies a negative association with customer relationship quality, in terms of cognitive and relational social capital, and learning in the relationship¹⁶⁹. They suggest that the negative effect is a result of overembeddedness¹⁷⁰. Concentrated network ties may lead to a reduced ability to alter venture strategies and thus reducing the ability to follow opportunities in changing market conditions. Studied by Sedaitis on corporate spin-offs, this effect is likely to be relevant in corporate venturing context¹⁷¹.

The relationship between the parent and the venture seems to have various effects on the venture during its life cycle. The resource exchange and combination has found to have an effect on value creation by enhancing innovation.¹⁷² Too close cooperation in the definition phase, however, can result in lower innovativeness of the venture¹⁷³. In the growth phase close cooperation can help in resource acquisition¹⁷⁴. In the integration phase close cooperation can help to overcome the reject reaction^{175,176}. If the venture is spun off the relatedness with the parent has been found to have a curvilinear impact on growth of the spin-off firm. According to Autio, Parhankangas, and Sapienza, especially production and technological knowledge relatedness exhibits the curvilinear pattern, while marketing knowledge relatedness was also exhibits this pattern but the relationship was not significant in their study¹⁷⁷. Doutriaux, and Doutriaux and Simzar found that the relatedness between technologies of a new firm and of the entrepreneurs

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- ¹⁶⁸ Rice, M P, O'Connor G C, Peters, L S & Morone, J 1998 Managing discontinuous innovation. *Research Technology Management*, May-June. Pp. 52 – 58.
- ¹⁶⁹ Yli-Renko, H, Autio, E, Sapienza, H & Hay, M. 1999. Social capital, relational learning, and knowledge distinctiveness in technology-based new firms. *Babson-Kauffman Conference in Entrepreneurship Research*. Columbia, SC.
- ¹⁷⁰ Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42. Pp. 35 – 67.
- ¹⁷¹ Sedaitis, E. 1991. The alliances of spin-offs versus start-ups: Social ties in the genesis of post soviet alliances. *Organization Science*, 9(3). Pp. 368 – 381.
- ¹⁷² Tsai, W & Ghoshal, S. 1998. Social capital and value creation: An empirical study of intrafirm networks. *Academy of Management Journal*, 41(4). Pp. 464 – 476.
- ¹⁷³ Quinn, J B. 1985. Managing innovation: Controlled Chaos. *Harvard Business Review*, May-June 1985. Pp. 73 – 84.
- ¹⁷⁴ Sykes, H B & Block, Z. 1989. Corporate Venturing Obstacles: Sources and Solutions. *Journal on Business Venturing*, 4(3). Pp. 159 – 167.
- ¹⁷⁵ Kanter, R M. 1988. When a thousand flowers bloom: Structural, social, and collective conditions for innovation in organizations. *Research in Organizational Behavior*, 10.
- ¹⁷⁶ Kanter, R M, North, J, Richardson, L, Ingols, C & Zolner, J. 1991. Engines of progress: Designing and running entrepreneurial vehicles in established companies; Raytheon's New Product Center, 1969 – 1989. *Journal of Business Venturing*, 6. Pp. 145 – 163.

previous employer, the higher was the sales growth of the new firm^{178,179}. Similar findings were reported by Cooper and Bruno, and Feeser and Willard^{180,181}.

Resource combinations and operational routines are relatively idiosyncratic, the new combinations of resources may help firms develop enduring differences in resource profiles, and consequently a sustainable competitive advantage. So a substantive and desirable outcome of close parent-venture relationship is the generation of valuable new resource combinations, specific to firm, which it alone may exploit.¹⁸²

Studies exploring the antecedents to venture-parent relationship attributes are rare. Tsai and Ghoshal found an positive relationship between social interaction ties, trust, and resource sharing and combination in the studied business unit, as summarized in Table 4¹⁸³. While the study was conducted for operational units, it can be assumed to be applicable for venturing units as well.

Table 4 Empirical findings of effects on venture-parent relationship attributes

Dependent variable	Independent variable	Author	Relation-ship	Comment
Venture-parent relationship				
Resource sharing	Internal relations	Tsai & Ghoshal 1998	Positive	For operational units

To summarize, the major characteristics of relationship between the parent and the corporate venture seem to consist of knowledge relatedness, complementary resource acquisition, insitu-tional pressure, and social networks. Recently, especially the outcomes of social networks in in-novative settings have been in the focus.

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- ¹⁷⁷ Autio, E, Parhankangas, A & Sapienza, H. 1999. Knowledge relatedness, learning, and growth of industrial spin-off firms. *Journal of Engineering and Technology Management*, Forthcoming.
- ¹⁷⁸ Doutriaux, J. 1992. Emerging high-technology firms: How durable are their competitive start-up advantages? *Journal of Business Venturing* 7(4). Pp. 303 – 322.
- ¹⁷⁹ Doutriaux, J & Simzar, F. 1987. Duration of the comparative advantage accruing from some start-up factors in high-tech entrepreneurial firms. In: Churchill, N C, Hornadaz, J A, Kirchoff, B A, Krasner, O J & Vesper, K H (editors). *Frontiers of Entrepreneurship Research 1987*. Babson College. Pp. 436 – 451.
- ¹⁸⁰ Cooper, A C & Bruno, A V. 1977. Success among high-technology firms. *Business Horizons*, 20. Pp. 16 – 22.
- ¹⁸¹ Feeser, H R & Willard, G E. 1989. Incubators and performance: A comparison of low high and low growth high tech firms. *Journal of Business Venturing* 4(6). Pp. 429 – 442.
- ¹⁸² McGrath, R G, Venkataraman, S & MacMillan, I C. 1994. The advantage chain: Antecedents to rents from internal corporate ventures. *Journal of Business Venturing*, 9. Pp. 351 – 369.
- ¹⁸³ Tsai, W & Ghoshal, S. 1998. Social capital and value creation: An empirical study of intrafirm networks. *Academy of Management Journal*, 41(4). Pp. 464 – 476.

7.2 *Environment-venture relationship*

The market environment seems to be the major operating environment of new ventures, independent of their origin¹⁸⁴. This suggestion is confirmed by empirical studies of McDougall, Robinson, and DeNisi¹⁸⁵. Similarly, in their comparative study of corporate versus independent new ventures in computer and communications equipment manufacturing industry, Shrader and Simon¹⁸⁶ did not find any significant performance differences among venture types. This is contrary to the findings of Zahra in ventures in biotechnology industry¹⁸⁷. The results of the study suggest that managers of corporate ventures and independent ventures emphasized different resources and strategies, resulting in different outcomes. Corporate ventures were seen to emphasize internal capital sources, proprietary knowledge, and marketing experience, as internal ventures emphasized external capital sources, technical experience, and development of brand identification. The corporate venture emphasis on marketing experience is consistent with the findings of Knight¹⁸⁸. The finding that corporate ventures emphasize proprietary knowledge is not surprising, given that many corporate ventures are established to create new resource combinations¹⁸⁹. Corporate ventures were found to pursue less strategic breath, which may be a result of being afraid of infringing upon someone else's turf within the corporation. It may also be explained by cognitive and socio-political legitimization of institutional theory¹⁹⁰.

It seems that new ventures react to and proactively attempt to change the environment by the choice of a strategic posture, the choice of an organizational structure, and the use of formal and informal external relations.

The market environment possesses a tremendous impact on the strategy chosen for entry of a new product¹⁹¹. The choice of an entry strategy has a significant impact on the subsequent per-

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- ¹⁸⁴ Nelson, R R & Winter, S G. 1982. *An Evolutionary Theory of Economic Change*. Belknap Press, Cambridge MA. P. 264.
- ¹⁸⁵ McDougall, PP, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing*, 7. Pp. 267 – 289.
- ¹⁸⁶ Shrader, R C & Simon, M. 1997. Corporate versus independent ventures: Resource, strategy, and performance differences. *Journal of Business Venturing*, 12. Pp. 47 – 66.
- ¹⁸⁷ Zahra, S A. 1996. Technology strategy and new venture performance: A study of corporate sponsored and independent biotechnology ventures. *Journal of Business Venturing*, 11. Pp. 289 – 321.
- ¹⁸⁸ Knight, R M. 1989. Technological innovation in Canada: A comparison of independent entrepreneurs and corporate innovators. *Journal of Business Venturing*, 4(4). Pp. 281 – 288.
- ¹⁸⁹ McGrath, R G, Venkataraman, S & MacMillan, I C. 1994. The advantage chain: Antecedents to rents from internal corporate ventures. *Journal of Business Venturing*, 9. Pp. 351 – 369.
- ¹⁹⁰ Aldrich, H E & Fiol, C M. 1994. Fools rush in? The institutional context of industry creation. *Academy of Management Review*, 19(4). Pp. 645 – 670.
- ¹⁹¹ Block, Z & MacMillan, I C. 1994. Market entry strategies for new corporate ventures. In: Hills, G E (editor). *Marketing and Entrepreneurship – Research Ideas and Opportunities*. Quorum Books, Westport, CT. Pp. 217 – 233.

formance of the venture. The strategy, once chosen, is not easily changed, providing a sustainable competitive advantage or disadvantage^{192,193}.

The categorization of different strategies is diverse. Strategies can be categorized by their level of analysis. Three such levels are corporate, business, and functional strategies. Corporate strategies relate to product and market portfolio choices, business strategy relates to choices of how to compete within a give product and market, and functional strategies relate to choices of marketing, finance, and manufacturing strategies, among others.¹⁹⁴ The distinction between corporate and business level strategies in the context of an emergent venture is not clear. The choice of products and markets where to compete is an essential determinant of explorativeness of entry strategy. Explorativeness of an entry strategy relates to the newness of technology and market.¹⁹⁵ In the context of corporate ventures, the explorativeness is a negation of relatedness of technological, production, and administrative competencies, and of customer bases and marketing competencies between the venture and the parent organization. The findings of Geletkanycz and Hambrick suggest that explorativeness, in terms of nonconformity of strategy compared to industry norms, is negatively associated with performance in a highly uncertain industry¹⁹⁶. They suggest, that in an ambiguous and turbulent situation, a deviant, or explorative, strategy, has a higher probability of being wrong. The need to reduce ambiguity and attain legitimacy may overweigh the need to provide divergence.

One of the issues on entry strategies that has received much attention is whether the entry should be narrowly focused or broadly based. Narrow and focused strategies target on limited customer groups and small niches, whereas broad strategies aim to serve large markets and many different types of customers. The early literature on new venture strategies proposed narrow and focused strategies, because a narrow focus helps new firms to concentrate their limited resources on a homogenous marketplace^{197,198,199}. Recent literature has provided more support for broad

¹⁹² Boeker, W. 1989. Strategic change: The effects of founding and history. *Academy of Management Journal*, 32(3). Pp. 489 – 515.

¹⁹³ Woo, C Z, Cooper, A C & Nicholls-Nixon, C L. 1991. Experimentation and performance in start-up firms. In: Churchill, N C, Bygrave, W D, Covin, J G, Sexton, D L, Slevin, D P, Vesper, K H & Wetzel, W E Jr (editors). *Frontiers of Entrepreneurship Research 1991*. Babson College. Pp. 306 – 319.

¹⁹⁴ Hofer, C W & Schendel, D E. 1978. *Strategy Formulation: Analytical Concepts*. West, St. Paul, MN.

¹⁹⁵ Lumme, A. 1998. Local selection environment nurturativeness in determining the fitness of new, technology-based firms: Derivation and validation of a model. *Acta Polytechnica Scandinavica*, 94.

¹⁹⁶ Geletkanycz, M A & Hambrick, D C. 1997. The external ties of top executives: implications for strategic choice and performance. *Administrative Science Quarterly*, 42. Pp. 654 – 681.

¹⁹⁷ Cohn, T & Lindberg, R A. 1978. *Survival & Growth: Management Strategies for the Small Firm*. American Management Association, New York.

strategies^{200,201}, despite the fact that a new venture may lack resources²⁰². The environment may be an important moderator for strategy-performance relationship. For example, McDougall et alii demonstrated how companies in high-growth environments succeeded with broad strategies, while their counterparts in low-growth environments performed with focus strategies²⁰³.

The competitive aspect of a strategy relates to the extent to which venture team is inclined to take business-related risks, to favor change and innovation in order to obtain a competitive advantage, and to aggressively compete with other firms. On a more abstract level, aggressiveness relates to the intensity, power, force, and velocity with which markets are entered and to the amount of resources used for entry. Covin and Slevin define the continuum to range from conservative to entrepreneurial²⁰⁴. Definition of entrepreneurial strategy is in line with the aggressiveness dimension of strategy²⁰⁵. Covin and Slevin found that new ventures in emerging industries have the most entrepreneurial strategic postures²⁰⁶.

In addition to environment-strategy relationship, the relationship between the market environment and the venture organization has received a lot of research attention. Miller distinguishes between formalization, centralization, and complexity of the structure²⁰⁷. These are much intertwined and the single dimension of deterministic has received most of the attention. The deterministic is seen to range from highly mechanistic to highly organic. Mechanistic structures are typically highly formalized, nonparticipative, hierarchical, tightly controlled, and inflexible. Organic structures, on the other hand, are characterized by informality, decentralization of

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- 198 Romanelli, E. 1989. Environments and strategies of organization start-up: Effects on early survival. *Administrative Science Quarterly*, 34. Pp. 369 – 387.
- 199 Roure, J B & Keeley, R H. 1989. The influence of strategic choices on the success of new firms financed with venture capital. In: Dean, B V & Cassidy, J C (editors). *Strategic Management: Methods and Studies*. North-Holland/Elsevier, Amsterdam.
- 200 Kunkel, S W. 1991. *The Impact of Strategize and Industries Structure on New Venture Performance*. Unpublished doctoral dissertation. Nova Universities.
- 201 McDougall, P P, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing*, 7. Pp. 267 – 289.
- 202 McDougall, P P, Robinson, R B Jr, Covin, J G & Herron, L. 1990. The effects of industry growth and strategic breadth on the content of new venture strategies. *Strategic Management Journal*, 15. Pp. 537 – 554.
- 203 McDougall, P P, Robinson, R B Jr, Covin, J G & Herron, L. 1990. The effects of industry growth and strategic breadth on the content of new venture strategies. *Strategic Management Journal*, 15. Pp. 537 – 554.
- 204 Covin, J G & Slevin, D P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10. Pp. 75 – 87.
- 205 MacMillan, I C & Day, D L. 1987. Corporate ventures into industrial markets: Dynamics of aggressive entry. *Journal of Business Venturing* 2(1). Pp. 29 – 39.
- 206 Covin, J G & Slevin, D P. 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing*, 5. Pp. 123 – 135.
- 207 Miller, D. 1987. Strategy making and structure: Analysis and implications for performance. *Academy of Management Journal*, 30. Pp. 7 – 32.

authority, open channels of communication, and flexibility.²⁰⁸ The level of uncertainty and dynamism in an environment is seen to drive organization structures toward the organic end of the spectrum²⁰⁹. Reasons for the phenomenon may be that organic structures are generally seen to have higher information-processing capabilities and capability to conduct discontinuous innovation, which are seen to be important competencies in dynamic and unpredictable environments^{210,211,212,213,214}. In more stable environments the intensity of innovation diminishes while the need for efficiency grows²¹⁵. Even in complex but stable environments, complex coordination and control mechanisms are not effective, which suggests that issues of complexity simply cannot be approached mechanistically²¹⁶. Researchers of organizational ecology suggest that to cope with environmental dynamism, the internal variety in an organization must correspond to external turbulence²¹⁷. Covin and Slevin found that new ventures in emerging industries have the most organic organization structures, and that organic structure is related to higher performance in hostile environments and in industries in the emerging stage of their life cycle^{218,219}. This is in line with prior research by Khandwalla²²⁰.

The previous literature on formal and informal networks was covered in the previous subchapter in the context of parent-venture relationship. It was concluded, that networks can be used to acquire resources, to gain legitimacy, and to learn^{221,222,223}. Especially in terms of learning, external

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- 208 Khandwalla, P N. 1977. Some top management styles, their context and performance. *Organization and Administrative Sciences*, 7(4). Pp. 21 – 51.
- 209 Mintzberg, H. 1979. *The Structuring of Organizations: A Synthesis of the Research*. Prentice-Hall, Eaglewood Cliffs, NJ.
- 210 Burns, T & Stalker, G M. 1961. *The Management of Innovation*. Tavistock, London.
- 211 Strebel, P. 1987. Organizing for innovation over an industry life cycle. *Strategic Management Journal*, 8. Pp. 117 – 124.
- 212 Tushman, M L & Nadler, D A. 1978. Information processing as an integrating concept in organizational design. *Academy of Management Review*, 3(3). Pp. 613 – 624.
- 213 Utterback, J. 1971. The process of technological innovation within the firm. *Academy of Management Journal*, 14. Pp. 75 – 88.
- 214 Utterback, J. 1974. Innovation in industry and the diffusion of technology. *Science*, 183. Pp. 620 – 626.
- 215 Abernathy, W J. 1978. *The Productivity Dilemma*. The Johns Hopkins University Press, Baltimore, MD.
- 216 Tushman, M L & Nadler, D A. 1978. Information processing as an integrating concept in organizational design. *Academy of Management Review*, 3(3). Pp. 613 – 624.
- 217 McGrath, R G. 1998. Real options: The strategic equivalent of requisite variety. Working paper, Columbia University Graduate School of Business.
- 218 Covin, J G & Slevin, D P. 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing*, 5. Pp. 123 – 135.
- 219 Covin, J G & Slevin, D P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10. Pp. 75 – 87.
- 220 Khandwalla, P N. 1977. Some top management styles, their context and performance. *Organization and Administrative Sciences*, 7(4). Pp. 21 – 51.
- 221 Svendsen, J E. 1998. *Tailoring Strategy – Designing Intrapreneurship Strategies that Reshape Corporate Strategy*. Research Paper, Norwegian School of Management.
- 222 Ostgaard, T A & Birley, S. 1994. Personal networks and firm competitive strategy: A strategic or coincidental match? *Journal of Business Venturing*, 9(4). Pp. 281 – 305.

social networks can be beneficial. The emphasis on firm-internal resources and routines may result in overembeddedness and overreliance on existing practices²²⁴. These might hinder innovation processes, as suggested by institutional theory²²⁵. Geletkanycz and Hambrick found that intraindustry ties are related to strategic conformity, and extraindustry ties with the adoption of deviant, or innovative, strategies²²⁶. These findings might be extended to intrafirm and extrafirm relationships. The findings of Geletkanycz and Hambrick further suggest, that the fit between strategy and social ties is related to performance. Ramachandran and Ramnayan found empirical evidence for supporting environment-strategy-external relations link. They found that in pioneering ventures interpersonal networking was used to raise resources more than in other ventures²²⁷.

Most important external networks may be those involving users. Especially in the latter parts of innovation process, cooperation with users is seen beneficial. Many of the valuable innovations and learning are seen to emerge in the implementation phase by using the product. Users may be able to combine atomistic innovations to effective problem solutions. This phenomenon can be seen as a recursive loop between markets and technologies. These two are seen to evolve by interactions in mutual adaptive cycles, also described as the interaction between market-pull and technology-push.^{228,229} The importance of relationships to customers from the learning perspective was also studied by Yli-Renko et alii²³⁰. The relationships with customers were found to relate to learning in the relationship and growth of the venture.

According to Romanelli, market demand and competitive concentration jointly influence the extent to which new ventures can acquire resources for growth and development²³¹.

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- ²²³ Liebeskind, J P, Oliver, A L, Zucker, L & Brewer, M. 1996. Social networks, learning, and flexibility: Sourcing scientific knowledge in new biotechnology firms. *Organization Science*, 7(4). Pp. 428 – 443.
- ²²⁴ Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42. Pp. 35 – 67.
- ²²⁵ Meyer, J & Rowan, B. 1977. Institutional organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83. Pp. 340 – 363.
- ²²⁶ Geletkanycz, M A & Hambrick, D C. 1997. The external ties of top executives: implications for strategic choice and performance. *Administrative Science Quarterly*, 42. Pp. 654 – 681.
- ²²⁷ Ramachandran, K & Ramnarayan, S. 1993. Entrepreneurial orientation and networking: Some Indian evidence. *Journal of Business Venturing* 8(6). Pp. 513 – 524.
- ²²⁸ Leonard-Barton, D. 1988. Implementation as mutual adaptation of technology and organization. *Research Policy*, 17. Pp. 251 - 267.
- ²²⁹ Slaughter, S. 1993. Innovation and learning during implementation: a comparison of user and manufacturer implementation. *Research Policy*, 22(1). Pp. 81 – 97.
- ²³⁰ Yli-Renko, H, Autio, E, Sapienza, H & Hay, M. 1999. Social capital, relational learning, and knowledge distinctiveness in technology-based new firms. *Babson-Kauffman Conference in Entrepreneurship Research*. Columbia, SC.
- ²³¹ Romanelli, E. 1987. New venture strategies in the microcomputer industry. *California Management Review*, 30(1). Pp. 160 – 175.

The empirical studies of effects on venture-environment relationship attributes include those of Geletkanycz and Hamrick²³², Miller²³³, Covin and Slevin²³⁴, and McDougall, Covin, Robinson, and Herron²³⁵, as summarized in Table 5. While the unit of analysis in some of the studies is on company level, the result can be, with some restrictions, applied to corporate ventures.

Table 5 Empirical findings of effects on venture-environment relationship attributes

Dependent variable	Independent variable	Author	Relationship	Comment
Venture-environment relationship				
Strategic conformance	External relations	Geletkanycz & Hamrick 1997	Negative	Conformance to industry norms, extraindustry relations
	Organicity of structure	Miller 1987	Negative	Aggressivity as negative conformance, centralization as negative organicity
	Market environment			
	Industry life-cycle	Covin & Slevin 1990	Positive	Entrepreneurial strategy as negative conformance
Explorativeness of strategy	Nurturativeness	Lumme 1998	Positive	Nurturativeness as a combination of munificence and lack of hostility; in independent ventures
Breadth of strategy	Munificence	McDougall, Covin, Robinson & Herron 1994	Positive	
Organicity of structure	Industry life-cycle	Covin & Slevin 1990	Positive	

To summarize, the major means for dealing with the market environment consist of choice of a strategic posture, the choice of an organizational structure, and the use of formal and informal external relations. Strategic posture is characterized by aggressiveness, breadth, or explorativeness. Organizational structure is characterized in terms of organicity.

²³² Geletkanycz, M A & Hambrick, D C. 1997. The external ties of top executives: implications for strategic choice and performance. *Administrative Science Quarterly*, 42. Pp. 654 – 681.

²³³ Miller, D. 1987. Strategy making and structure: Analysis and implications for performance. *Academy of Management Journal*, 30. Pp. 7 – 32.

²³⁴ Covin, J G & Slevin, D P. 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing* 5. Pp. 123 – 135.

²³⁵ McDougall, P P, Robinson, R B Jr, Covin, J G & Herron, L. 1990. The effects of industry growth and strategic breadth on the content of new venture strategies. *Strategic Management Journal*, 15. Pp. 537 – 554.

8 Performance attributes

The most interesting area for academicians and practitioners alike is the impact of various characteristics to the outcomes of corporate venturing process. The dual role of corporate ventures in market and parent firm contexts suggests that performance of the venture should be assessed on both contexts. Many researchers of corporate venturing seem to suggest this distinction^{236,237}. For example, McGrath suggests that performance of a corporate venture should be evaluated in three areas: market worth, firm worth, and competitive isolation.²³⁸ In this study competitive isolation is considered as part of second-order performance in market environment.

Shortell and Zajac consider financial profitability and institutionalization as the two performance criteria²³⁹. They found that firm's prior experience in venturing has a negative impact on profitability, but positive impact on institutionalization. Previous research has pointed out the importance of corporate venturing as a tool for corporate renewal and learning-by-doing. Even ventures that fail in a market sense may offer the firm valuable indirect effects in terms of market, technology, or organization development²⁴⁰. In addition to technological success, market success, and financial success, Sweeting proposes an evaluation of social performance in terms of impact of the venture on society and possible social reactions on the organization²⁴¹. The inclusion of societal performance is out of the scope of this report, but social effects on the organization are considered as second-order performance effects. The categorization of performance attributes into first- and second-order performance reflects the duality of motives for corporate venturing. In this report, second-order performance is defined as the factors that are assumed to foster first-order performance in the future.

8.1 First-order performance

The most basic measure for a new venture success is its survival, which is in focus of many of population ecology studies. Such studies frequently use probability of death, or lack of fitness, as

²³⁶ McGrath, R G. 1995. Advantage from adversity: Learning from disappointment in internal corporate ventures. *Journal of Business Venturing*, 10. Pp. 121 - 142.

²³⁷ Shortell, S M & Zajac E J. 1988. Internal corporate joint ventures: Development processes and performance outcomes. *Strategic Management Journal*, 9. Pp. 527 - 542.

²³⁸ McGrath, R G. 1995. Advantage from adversity: Learning from disappointment in internal corporate ventures. *Journal of Business Venturing*, 10. Pp. 121 - 142.

²³⁹ Shortell, S M & Zajac E J. 1988. Internal corporate joint ventures: Development processes and performance outcomes. *Strategic Management Journal*, 9. Pp. 527 - 542.

²⁴⁰ Maidique, M A & Zirger, B J. 1985. The new product learning cycle. *Research Policy*, 14. Pp. 299 - 313.

²⁴¹ Sweeting, R. 1981. Internal venture management: Analytical aspects. *Journal of General Management*, 7(1). Pp. 34 - 45.

a dependent variable. It provides no information of performance differences between surviving ventures and it ignores that survival and performance may have different antecedents²⁴². Traditional accounting measures such as return on investment or net profits are problematic since even successful start-ups often do not reach profitability for a considerable period of time²⁴³. Miller, Wilson, and Adams found supporting evidence for using relative improvement on year-on-year return on investment to assess new venture performance²⁴⁴. Zahra has suggested that the importance of alternate financial and non-financial performance measures change at during the life of an organization or a new venture²⁴⁵. The first-order performance of corporate ventures in market terms are primarily growth and secondarily profitability, as new ventures rarely break even during their first years²⁴⁶. Several studies on independent ventures have also focused on venture performance in stock markets^{247,248}. Similar studies on corporate venturing have not been reported, as attributing stock price movements of the parent corporation to individual ventures is difficult at best.

The success factor studies of corporate entrepreneurship, new product innovation, and corporate venturing are difficult and somewhat irrelevant to distinguish. Numerous studies on success factors include those of Biggadike²⁴⁹, Block and Ruff²⁵⁰, Block and Subba Narasimha²⁵¹, Cooper^{252,253}, Cooper, Willard and Woo²⁵⁴, David²⁵⁵, Dougherty^{256,257}, Dougherty and Hardy²⁵⁸,

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- 242 Meyer, M M & Zucker, L. 1989. *Permanently Failing Organizations*. Sage, Newbury Park.
- 243 Biggadike, R. 1979. The risky business of diversification. *Harvard Business Review*. May-June 1979. Pp. 103 – 111.
- 244 Miller, A, Wilson, B & Adams, M. 1988. Financial performance patterns of new corporate ventures: An alternative to traditional measures. *Journal of Business Venturing*, 3. Pp. 287 – 300.
- 245 Zahra, S A. 1993. A conceptual model of entrepreneurship as firm behavior: A critique and extension. *Entrepreneurship: Theory & Practice*, 17(4). Pp. 5 – 21.
- 246 Biggadike, R. 1979. The risky business of diversification. *Harvard Business Review*. May-June 1979. Pp. 103 – 111.
- 247 Ahopelto, T. 1999. *Developing A Method for Evaluation of New, Technology-Based Companies*. Master's thesis. Helsinki University of Technology.
- 248 Rääkkönen, T. 1999. *Asset Pricing of Technology-Based Companies*. Master's thesis. Helsinki School of Economics and Business Administration.
- 249 Biggadike, R. 1979. The risky business of diversification. *Harvard Business Review*. May-June 1979. Pp. 103 – 111.
- 250 Block, Z & Ruff, G. 1986. Corporate venturing in Sweden: A survey of practices, attitudes, obstacles and performance. *Frontiers of Entrepreneurship Research*. Babson College. Pp. 701 – 707.
- 251 Block, Z & Subba Narasimha, P N. 1989. *Corporate Venturing: Practices and Performance in the U.S. and Japan*. Working Paper, New York University
- 252 Cooper, R G. 1981. An empirically derived new product selection model. *IEEE Transactions on Engineering Management*, 28. Pp. 54 – 61.
- 253 Cooper, R G. 1979. The dimensions of industrial new product success and failure. *Journal of Marketing*, 43. Pp. 93 – 103.
- 254 Cooper, A C, Willard, G E & Woo, C Y. 1986. Strategies of high-performing new firms: A reexamination of the niche concept. *Journal of Business Venturing*, 1(3). Pp. 247 – 260.
- 255 David, B L. 1994. How internal venture groups innovate. *Research Technology Management*, March-April. Pp. 38 – 43.
- 256 Dougherty, D. 1995. Managing your core incompetencies for corporate venturing. *Entrepreneurship Theory and Practice*, Spring 1995. Pp. 113 – 135.

Dougherty and Heller²⁵⁹, Ellis and Taylor²⁶⁰, Galbraith²⁶¹, Geletkonych and Hambrick²⁶², Hobson and Morrison²⁶³, Klavans, Shanley and Evan²⁶⁴, MacMillan²⁶⁵, Maidique and Zirger²⁶⁶, Marquis²⁶⁷, McGrath, Tsai, Venkataraman, and MacMillan²⁶⁸, Miller and Camp²⁶⁹, Miller, Gartner and Wilson²⁷⁰, Nerkar, McGrath and MacMillan²⁷¹, Roberts and Berry²⁷², Romanelli²⁷³, Rothwell²⁷⁴, Shortell and Zajac²⁷⁵, Shrader and Simon²⁷⁶, Siegel, Siegel and MacMillan²⁷⁷, Souder²⁷⁸, Stuart and Abetti²⁷⁹, Svendsen²⁸⁰, Sykes²⁸¹, Tsai, MacMillan and Low²⁸², Von Hippel²⁸³, Williams, Tsai and

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- 257 Dougherty, D. 1992. Interpretive barriers to successful product innovation in large firms. *Organizational Science*, 3. Pp. 179 - 202.
- 258 Dougherty, D & Hardy, C. 1996. Sustained product innovation in large, mature organizations: Overcoming innovation-to-organization problems. *Academy of Management Journal*, 39(5). Pp. 1120 – 1153.
- 259 Dougherty, D & Heller, T. 1994. The illegitimacy of successful product innovation in established firms. *Organizational Science*, 5(2). Pp. 200 - 218.
- 260 Ellis, R J & Taylor, N T. 1988. Success and failure in internal venture strategy: An exploratory study. *Frontiers of Entrepreneurship Research*. Babson College. Pp. 518 – 533.
- 261 Galbraith, J. 1982. Designing the innovating organization. *Organizational Dynamics*, 10(Summer). Pp. 5 – 25.
- 262 Geletkanych, M A & Hambrick, D C. 1997. The external ties of top executives: implications for strategic choice and performance. *Administrative Science Quarterly*, 42. Pp. 654 – 681.
- 263 Hobson, E L & Morrison, R M. 1982. How do corporate start-up ventures fare? *Frontiers of Entrepreneurship Research*. Babson College. Pp. 390 – 410.
- 264 Klavans, R, Shanley, M & Evan, W M. 1985. The management of internal corporate ventures: Entrepreneurship and innovation. *Columbia Journal of World Business*, Summer 1985. Pp. 21 – 27.
- 265 MacMillan, I C. 1987. New Business Development Challenges for Transformational Leadership. *Human Resource Management*, 26(4). Pp. 439 – 454.
- 266 Maidique, M A & Zirger, B J. 1985. The new product learning cycle. *Research Policy*, 14. Pp. 299 – 313.
- 267 Marquis, D G. 1969. The anatomy of successful innovations. *Innovation*, 1. Pp. 28 – 37.
- 268 McGrath, R G, Tsai, M, Venkataraman, S & MacMillan, I C. 1996. Innovation, competitive advantage and rent: A model and test. *Management Science*, 42(3). Pp. 389 – 403.
- 269 Miller, A & Camp, B. 1985. Exploring determinants of success in corporate ventures. *Journal of Business Venturing*, 1. Pp. 87 – 105.
- 270 Miller, A, Gartner, W B & Wilson, R. 1989. Entry order, market share, and competitive advantage: A study of their relationships in new corporate ventures. *Journal of Business Venturing*, 4. Pp. 197 – 209.
- 271 Nerkar, A A, McGrath, R G & MacMillan, I C. 1996. Three facets of satisfaction and their influence on the performance of innovation teams. *Journal of Business Venturing*, 11. Pp. 167 – 188.
- 272 Roberts, E B & Berry, C A. 1985. Entering new businesses: Selecting strategies for success. *Sloan Management Review*, Spring. Pp. 3 – 17.
- 273 Romanelli, E. 1987. New venture strategies in the microcomputer industry. *California Management Review*, 30(1). Pp. 160 – 175.
- 274 Rothwell, R. 1977. The characteristics of successful innovators and technically progressive firms (with some comments on innovation research). *R&D Management*, 7(3).
- 275 Shortell, S M & Zajac E J. 1988. Internal corporate joint ventures: Development processes and performance outcomes. *Strategic Management Journal*, 9. Pp. 527 – 542.
- 276 Shrader, R C & Simon, M. 1997. Corporate versus independent ventures: Resource, strategy, and performance differences. *Journal of Business Venturing*, 12. Pp. 47 – 66.
- 277 Siegel, R, Siegel, E & MacMillan, I. 1988. Corporate venture capitalists: Autonomy, obstacles, and performance. *Journal of Business Venturing*, 3. Pp. 233 – 248.
- 278 Souder, W. 1981. Encouraging entrepreneurship in large corporations. *Research Management*, 55. Pp. 18 – 22.
- 279 Stuart, R & Abetti, P. 1990. Impact of entrepreneurial and management experience on early performance. *Journal of Business Venturing*, 5. Pp. 151 – 162.
- 280 Svendsen, J E. 1998. *Tailoring Strategy – Designing Intrapreneurship Strategies that Reshape Corporate Strategy*. Research Paper, Norwegian School of Management.

Day²⁸⁴, Zirger and Maidique²⁸⁵, and Zahra²⁸⁶. Studied success factors can be categorized generally to factors related to parent firm, to parent-venture relationship, to market environment, to venture-market relationship, and to venture as an organizational entity. The dependent variables can be classified to factors of generic success, market worth and firm worth, as summarized in Table 6, Table 7, Table 8, respectively. Table 9 and Table 10 summarize the miscellaneous factors not either fitting to the classifications or performed by inductive reasoning.

The effect of venture origin on performance is mixed. Zahra found that independent ventures outperform corporate originated ventures in biotechnology industry²⁸⁷. Findings of McDougall, Robinson, and DeNisi suggest that new venture strategy and industry structure are essential to understanding performance, while inclusion of origin did not improve model significantly²⁸⁸. This is in line with findings of Simon and Shrader in computer and communications manufacturing industry²⁸⁹. Some most relevant studies on performance of independent ventures, including those of Chandler and Hanks²⁹⁰, Covin and Herron²⁹¹, Covin and Slevin^{292,293,294}, Dowlin and

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- 281 Sykes, H B. 1986. The anatomy of a corporate venturing program: Factors influencing success. *Journal of Business Venturing* 1. Pp. 275 – 293.
- 282 Tsai, W M, MacMillan, I C & Low, M B. 1991. Effects of strategy and environment on corporate venture success in industrial markets. *Journal of Business Venturing* 6(1). Pp. 9 – 28.
- 283 Hippel, E von. 1977. Successful and failing internal corporate ventures: an empirical analysis. *Industrial Marketing Management*, 6. Pp. 163 – 174.
- 284 Williams, M I, Tsai, M. & Day, D. 1991. Intangible assets, entry strategies, and venture success in industrial markets. *Journal of Business Venturing* 6. Pp. 315 – 333.
- 285 Zirger, B & Maidique, M. 1990. A model of new product development: An empirical test. *Management Science*, 36. Pp. 867 - 883.
- 286 Zahra, S A. 1996. Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6). Pp. 1713 – 1735.
- 287 Zahra, S A. 1996. Technology strategy and new venture performance: A study of corporate sponsored and independent biotechnology ventures. *Journal of Business Venturing* 11. Pp. 289 – 321.
- 288 McDougall, PP, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing* 7. Pp. 267 – 289.
- 289 Shrader, R C & Simon, M. 1997. Corporate versus independent ventures: Resource, strategy, and performance differences. *Journal of Business Venturing* 12. Pp. 47 – 66.
- 290 Chandler, G N & Hanks, S H. 1994. Market attractiveness, resource-based capabilities, venture strategies, and venture performance. *Journal of Business Venturing* 9. Pp. 331 – 349.
- 291 McDougall, P P, Robinson, R B Jr, Covin, J G & Herron, L. 1990. The effects of industry growth and strategic breadth on the content of new venture strategies. *Strategic Management Journal*, 15. Pp. 537 – 554.
- 292 Covin, J G & Slevin, D P. 1990. New venture strategic posture, structure, and performance: an industry life cycle analysis. *Journal of Business Venturing* 5. Pp. 123 – 135.
- 293 Covin, J G & Slevin, D P. 1989. Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10. Pp. 75 – 87.
- 294 Covin, J G & Slevin, D P. 1988. New venture competitive strategy: An industry life-cycle analysis. In: Kirchoff, B A, Long, W A, McMullan, W E, Vesper, K H & Wetzel, W Jr (editors). *Frontiers of Entrepreneurship Research 1988*. Babson College. Pp. 446 – 460.

McGee²⁹⁵, Lawless and Anderson²⁹⁶, and McDougall, Robinson, Block and MacMillan²⁹⁷ are included in the success factor tables.

Dougherty and Heller found that solving problems with illegitimacy by reframing the organizational norms was associated with both success and cancellation, but not failure, of new product development. Reframing seems to help to assess the possibilities of the innovation better. Better understanding can help to either solve the occurring problems, or to end the unprofitable project.²⁹⁸

Table 6 Empirical findings on the effects on generic success measures

Dependent variable	Independent variable	Author	Relationship	Comment
Generic success				
Environment and venture-environment relationship				
Perceived performance on growth and profitability	Industry life-cycle Strategic conformance	Covin & Slevin 1990	Positive interaction	More positive correlation between performance and conformity (non-entrepreneuriality) in emergent industries
	Industry life-cycle Organicity of structure	Covin & Slevin 1990	Negative interaction	More positive correlation between performance and organicity in emergent industries
	Environment hostility Strategic conformance	Covin & Slevin 1989	Negative interaction	
	Environment hostility Organicity of structure	Covin & Slevin 1989	Positive interaction	
Perceived overall success	Hostility	Zirger & Maidique 1990	Negative	
	Munificence	Zirger & Maidique 1990	Positive	

²⁹⁵ Dowling, M J & McGee, J E. 1994. Business and technology strategies and new venture performance: A study of the telecommunications equipment industry. *Management Science*, 40(12). Pp. 1663 – 1677.

²⁹⁶ Lawless, M W & Anderson, P C. 1996. Generational technological change: Effects of innovation and local rivalry on performance. *Academy of Management Journal*, 39(5). Pp. 1185 – 1217.

²⁹⁷ Block, Z & MacMillan, I C. 1985. Milestones for Successful Venture Planning. *Harvard Business Review*, September-October. Pp. 184 – 196.

²⁹⁸ Dougherty, D & Heller, T. 1994. The illegitimacy of successful product innovation in established firms. *Organizational Science*, 5(2). Pp. 200 - 218.

Table 6 Empirical findings on the effects on generic success measures; table continues

Dependent variable	Independent variable	Author	Relationship	Comment
	Venture			
Perceived performance	Management proficiency	Block & Ruff 1986	Not found	
Expectations for future rent	Management proficiency	McGrath, Tsai, Venkataraman, Mac-Millan 1996	Positive	
Success vs. failure based on breaking even	Previous positions of venture managers	Von Hippel 1977	Negative	In corporate venturing
	Experience in venturing	Von Hippel 1977	Positive	Experience of both parent organization and venture managers with customers addressed by the venture
Composite performance	Previous positions of venture managers	Stuart & Abetti 1990	Positive	In independent ventures
Meeting expectations	Production-originated	Block & Ruff 1986	Negative	
Perceived overall success	Solving venture-internal problems of resource allocation, collaboration, and strategy	Dougherty & Hardy 1997	Positive	Percentage of problems solved
	Marketing competence	Zirger & Maidique 1990	Positive	
	Manufacturing competence	Zirger & Maidique 1990	Positive	
	Venture-parent relationship			
	Parent hostility	Zirger & Maidique 1990	Negative	Hostility as opposite of management support
	Solving venture-to-parent problems of resources, collaboration, and strategy	Dougherty & Hardy 1997	Not found	Percentage of problems solved
	Institutionalization and profitability	Parent hostility	Shortell & Zajac 1988	Not found
Institutionalization and survival	Experience in venturing	Shortell & Zajac 1988	Positive	Experience of parent organization
Success vs. failure based on breaking even	Resource relatedness	Von Hippel 1977	Positive	

Table 6 Empirical findings on the effects on generic success measures; table continues

Dependent variable	Independent variable	Author	Relationship	Comment
	Second-order market performance			
Perceived overall success	Technical performance	Zirger & Maidique 1990	Positive	
Expectations for rent	Value advantage	McGrath, Tsai, Venkataraman & MacMillan 1996	Positive	
Expectations for rent	Cost advantage	McGrath, Tsai, Venkataraman & MacMillan 1996	Positive	Efficiency as cost advantage
Perceived performance	Existence of venturing organization	Block & Ruff 1986	Not found	

Table 7 Empirical findings of effects on first-order market worth

Dependent variable	Independent variable	Author	Relationship	Comment
	First-order market worth			
	Parent firm			
Market share	Corporate image	Williams, Tsai & Day 1991	Positive	
	Environment			
Growth	Environment munificence	Tsai, MacMillan & Low 1991	Positive	

Table 7 Empirical findings of effects on first-order market worth; table continues

Dependent variable	Independent variable	Author	Relationship	Comment
	Venture-environment relationship			
Growth	Early entry	Miller & Camp 1985, Miller, Gartner & Wilson 1989, Zahra 1996, Lawless and Anderson 1996	Positive	
	Strategy conformance	Lawless and Anderson 1996	Negative	Growth as difference between predicted and realized market share; conformance as opposite to differentiation
	Relative promotion	Tsai, Mac-Millan & Low 1991	Positive	Growth as market share growth
	Relative price	Tsai, Mac-Millan & Low 1991	Negative	
	Relative quality	Tsai, Mac-Millan & Low 1991	Positive	
	Breadth of strategy	McDougall, Covin, Robinson & Herron 1994	Not found	Growth as sales growth
	Breadth of strategy Environment munificence	McDougall, Covin, Robinson & Herron 1994	Positive interaction	

Table 7 Empirical findings of effects on first-order market worth; table continues

Dependent variable	Independent variable	Author	Relationship	Comment
	Venture			
Growth	R&D competence	Zahra 1996	Positive	Growth as both sales and market share growth; R&D competence as R&D spending
	R&D competence	Dowling & McGee 1994	Positive	Growth as sales growth
	R&D competence Age of venture	Dowling & McGee 1994	Positive interaction	
	Age of venture	Zahra 1996	Positive	Growth as both sales and market share growth
	Age of venture	Lawless and Anderson 1996	Positive	Growth as difference between predicted and realized market share
	Resource-based capabilities	Chandler & Hanks 1994	Positive	Capabilities a composite of marketing, product development, technical, production capabilities
	R&D competence Breadth of strategy	Dowling & McGee 1994	Positive interaction	Growth as sales growth
	Size of venture	Tsai, Mac-Millan & Low 1991	Positive	Size as capacity per market
Business volume	Resource-based capabilities	Chandler & Hanks 1994	Positive	
	Venture-parent relationship			
Growth	Patenting	Zahra 1996	Positive	Growth as both sales and market share growth; R&D competence as R&D spending
	Resource relatedness	Hobson & Morrison 1983	Negative	
	Resource relatedness	Miller & Camp 1985, Roberts & Berry 1985, Sykes 1986, Von Hippel 1977, Ellis & Taylor 1986	Positive	

Table 8 Empirical findings of effects on first-order firm worth

Dependent variable	Independent variable	Author	Relation-ship	Comment	
First-order firm worth					
Environment					
Profitability	Environment munificence	Shortell & Zajac 1988	Positive		
	Venture-environment relationship				
	Relative quality	Tsai, Mac-Millan & Low 1991	Negative	Profitability as ROI	
	Relative price	Tsai, Mac-Millan & Low 1991	Negative	Profitability as ROI	
	Relative promotion	Tsai, Mac-Millan & Low 1991	Positive	Profitability as ROI	
	Strategy conformance External relations	Geletkonycz & Hambrick 1997	Positive interaction	Extraindustry relations and conformance to industry norms	
	Environment munificence Breadth of strategy	McDougall, Covin, Robinson & Herron 1994	Interaction not found	Profitability as ROS	
	Environment dynamism Strategy conformance	Geletkonycz & Hambrick 1997	Positive interaction	Dynamism as market heterogeneity; conformance to industry norms	
	Breadth of strategy	McDougall, Covin, Robinson & Herron 1994	Not found	Profitability as ROS	
	Venture				
	Marketing-originated	Block & Ruff 1986	Positive		
	Age of venture	Zahra 1996	Positive	Profitability as ROE	
	Size of venture	Tsai, Mac-Millan & Low 1991	Not found	Profitability as ROI ; size as capacity per market	
	Venture-parent relationship				
	Resource relatedness	Block & Ruff 1986	Positive		
Rule violation and rule reframing	Dougherty 1992, Dougherty 1995, Dougherty & Heller 1994	Positive	Violation of established rules		
Parent firm					
Prior experience of parent	Shortell & Zajac 1988	Negative			

Table 9 Summary of miscellaneous findings on factors having positive effect on venturing

Factors positively related to venture success		Author
Parent firm attributes		
Previous failures		Maidique & Zirger 1985
Parent-venture relationship		
Constant, visible, long-term management support		Von Hippel 1977, Zirger & Maidique 1990
Consistent organizational location during the life-time of the venture		Souder 1981
Autonomy of venture		Souder 1981, Von Hippel 1977
Autonomy until self-sufficiency		Galbraith 1982, Siegel, Siegel & MacMillan 1988
Formal authorization of corporate entrepreneur		Souder 1981
Solving problems of resource acquisition		Dougherty & Hardy 1997
Solving problems of understanding the meaning of the venture to the corporation and to customers		Dougherty & Hardy 1997
Organizational communication		Marquis 1969
Building upon the firm's existing market, technology, and product competencies		Zirger & Maidique 1990
Environment attributes		
Munificence of market environment		Cooper, Willard & Woo 1986, Cooper 1981, McDougall, Robinson, Covin & Herron 1990, Cooper 1979, Chandler & Hanks 1994
Relative number of customers		Ellis & Taylor 1988
Large-scale entry		Biggadike 1979
Product designed to satisfy a perceived user need [in contrast to taking advantage of a new technology]		Marquis 1969
Growth-stage markets [in contrast to emerging or mature stage markets]		Covin & Slevin 1988
Environment-venture relationship		
Frequent product introductions [in biotech ventures]		Zahra 1996
Venture attributes		
Existence of venture champion		Souder 1981
Entrepreneurial venture manager		Von Hippel 1977, Svendsen 1998
Existence of high-level sponsor		Souder 1981
Informal network of corporate entrepreneur [inside the corporation]		Souder 1981
Champions having more power, responsibility, and experience		Rothwell 1977
Focus on long term capital investments, long term profitability, high relative price, and concern for predicting industry trends [in hostile environments]		Covin & Slevin 1989
Focus on immediate profitability and refinement of existing products [in benign environments]		Covin & Slevin 1989
Instrumental and social satisfaction of the venture team		Nerkar, McGrath & MacMillan 1996

Table 9 Summary of miscellaneous findings on factors having positive effect on venturing; table continues

Factors positively related to venture success	Author
Venturing process attributes	
Focus on risk-reward ratio [in selecting ventures]	Block & Subba Narasimha 1989
Focus on potential sales [in selecting ventures]	Block & Subba Narasimha 1989
Limited criteria in screening ventures, handing down done personally	MacMillan 1987
Redirecting the venture [in contrast to go or no-go decision]	Block & MacMillan 1985
Ideas for ventures from inside the firm [in contrast to suppliers and customers]	Klavans, Shanley & Evan 1985
Compensation linked to venture performance	Klavans, Shanley & Evan 1985

Table 10 Summary of miscellaneous factors having negative effect on venturing

Factors positively related to venture success	Author
Product concept originating from R&D function	David 1994
Inability to connect new products with organizational resources, processes, and strategy	Dougherty & Hardy 1996
Low cost strategy	Shrader & Simon 1997
Wide strategic breadth; contrary in independent ventures	Shrader & Simon 1997
Focus on existence of venture champion [in selecting ventures]	Block & Subba Narasimha 1989
Requirement of fully developed business plan	MacMillan 1987
Highly leveraged financial position [in benign environments]	Covin & Slevin 1989
Focus on minimizing dependence on any single customer [in benign environments]	Covin & Slevin 1989
Conservative generalist strategy	Romanelli 1987

To summarize, the measurement of first-order performance of corporate venturing, or other non-public emerging entities in general, is not without challenges. Growth, relative profitability, and perceptual measures constitute the performance measurement space. The market and environment characteristics identified in the previous chapters, as well as characteristics of venture management seem to have significant impact on venture performance. These, in addition to the fit between various elements of the environment and characteristics of the relationship between environment and the venture, seem to explain a large portion of venture performance.

8.2 Second-order performance

Studies on second-order performance of corporate ventures differ significantly from the studies of first-order performance. Most of the studies build models of high performance inductively or identify problems in corporate venturing, innovation, or corporate entrepreneurship processes. The dependent variables or output factors include such difficult-to-operationalize concepts like organizational learning and innovativeness, which further lead to technological and strategic suc-

cess. By developing new firm-specific capabilities, corporate ventures may help create and sustain advantage by providing better insight and access to make superior resource investments and allocations, because other players are less well informed about the nature of such investments²⁹⁹. In addition, venturing can lead to a stock of specific competencies, which are difficult to imitate quickly by others³⁰⁰. Some studies have established links between these concepts and first-order performance, but they generally neglect two essential parameters related to learning and innovations: The length of the delay from second-order performance as well as the distribution of the length is unknown, making it difficult to use simple regression models³⁰¹.

The learning effects of corporate venturing are often cited in the literature. According to Zirger and Maidique, first-order financial failures of new product innovations can result in second-order byproducts³⁰². In their study of 158 innovations, majority of failures were important milestones for the organization in terms of organizational, technological, and market development. Second-order performance is often related to learning. The concept of learning curve effect can be seen as one of the first quantitative conceptualizations of the distinction between first and second-order performance^{303,304}. The concept of learning curve effect propose a relationship between increasing production skills by manufacturing a product, and the subsequent efficiency of production. More generally, organizational learning literature refers to experimentation as the medium of effective development^{305,306,307}. Experimentation and hands-on practice provides not only opportunities for development of causal understanding, but it provides the context of "purposeful activity" within which knowing and understanding occur^{308,309}.

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- 299 Alchian, A A & Demsetz, H. 1972. Production, information costs and economic organization. *American Economic Review*, 62. Pp. 777 – 794.
- 300 Dierickx, I & Cool, K. 1989. Asset stock accumulation and sustainability of competitive advantage. *Management Science*, 35. Pp. 1504 – 1513.
- 301 Zahra, S A. 1991. Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6. Pp. 259 – 285.
- 302 Maidique, M A & Zirger, B J. 1985. The new product learning cycle. *Research Policy*, 14. Pp. 299 – 313.
- 303 Abernathy, W J & Wayne, K. 1974. Limits of the learning curve. *Harvard Business Review*, September-October. Pp. 109 – 119.
- 304 Epple, D, Argote, L & Devdas, R. 1991. Organizational learning curves: A method for investigating intra-plant transfer of knowledge acquisition through learning by doing. *Organization Science*, 2. Pp. 58 – 70.
- 305 Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1). Pp. 14 – 37.
- 306 Brown, J & Duguid, S. 1991. Organizational learning and communities of practice. *Organizational Science*, 2(1). Pp. 40 – 57.
- 307 Dougherty, D. 1995. Managing your core incompetencies for corporate venturing. *Entrepreneurship Theory and Practice*, Spring 1995. Pp. 113 – 135.
- 308 Kogut, B & Zander, U. 1992. Knowledge of the firm, combinatory capabilities, and the replication of technology. *Organization Science*, 3(3). Pp. 383 – 397.
- 309 Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1). Pp. 14 – 37.

Maidique and Zirger propose that the causal understanding is developed by three distinct learning processes conducted by distinct actors³¹⁰. First, efficiency and causal understanding of operations like, for example, marketing, manufacturing, and engineering, is developed by hands-on-practice, learning-by-doing. A generally accepted example is the learning curve effect in manufacturing. On more general level, any market can be seen best learned by entering it³¹¹. In some studies, the significance of learning-by-doing has only been found during the end of development periods, when product is already in market³¹². The beginning of the development period, characterized by ambiguity, is found to be associated with action persistence, rather than learning from negative outcomes.³¹³ Second, the actual effectiveness and value of the offering is learned by using the product or service³¹⁴. The learning occurs inside customer boundaries, which makes the relationship between the company and its customer critical of knowledge transfer. Third, learning-by-failure is both implicitly and explicitly stated as the most demanding learning activities of the company management, as failure is often fused with overly negative associations³¹⁵. Failing may act as a probe into user space to capture market information, and help to identify weak links in the organization. The knowledge gained from failures is often instrumental in achieving subsequent successes, while success in turn results in unlearning the very process that led to the original success^{316,317}. The notion of successes following failures and failures following successes have already surfaced in the early literature on warfare³¹⁸.

Drawing on the resource-based theory of the firm, McGrath, Venkataraman and MacMillan argue that the rents from corporate venturing arise from the idiosyncratic development of causal understanding³¹⁹. The ability to beat competitors with heterogeneous resources requires not only having better resources or utilizing them more efficiently, but in knowing more accurately the

³¹⁰ Maidique, M A & Zirger, B J. 1985. The new product learning cycle. *Research Policy*, 14. Pp. 299 – 313.

³¹¹ Block, Z & MacMillan, I C. 1993. *Corporate Venturing – Creating New Businesses within the Firm*. Harvard Business School Press, Boston.

³¹² Van de Ven, A & Polley, D. 1992. Learning while innovating. *Organization Science*, 3. Pp. 92 – 116.

³¹³ Cheng, Y-T & Van de Ven, A H. 1996. Learning the innovation journey: Order out of chaos? *Organization Science*, 7(6). Pp. 593 – 614.

³¹⁴ See, for example, Rosenberg, N. 1982. *Inside the Black Box, Technology and Economics*. Cambridge University Press, Cambridge.

³¹⁵ McGrath, R G, Venkataraman, S, MacMillan, I C & Boulind, O. 1992. Desirable disappointments: Capitalizing on failures in new corporate ventures. *Frontiers of Entrepreneurship Research*. Babson College. Pp. 537 – 551.

³¹⁶ Garud, R & Van de Ven, A H. 1992. An empirical evaluation of the internal corporate venturing process. *Strategic Management Journal*, Summer 1992. Pp. 93 -

³¹⁷ Burgelman, R. 1988. Strategy making as a social learning process: the case of internal corporate venturing. *Interfaces*, 18(3). Pp. 74 – 85.

³¹⁸ Sun Tzu. 500 B.C. *Bingfa (The Art of War)*. Various translations available.

³¹⁹ McGrath, R G, Venkataraman, S & MacMillan, I C. 1994. The advantage chain: Antecedents to rents from internal corporate ventures. *Journal of Business Venturing*, 9. Pp. 351 – 369.

relative productive performance of those resources, idiosyncratically reducing causal ambiguity³²⁰. Absent information asymmetry and imperfect imitability, competitors will bid up the prices of the valuable factors of production³²¹. Based on path dependency of firm development, corporate ventures may be able to reduce uncertainty in ways that are specific to the firm, while the uncertainty remains for its competitors, promoting development of a sustainable competitive advantage³²².

McGrath, Venkataraman and MacMillan found support for causal understanding and innovation team proficiency as antecedents of new competence development in their study of 58 innovation projects³²³. Zander and Kogut found that the speed of transfer of knowledge is positively correlated with simplicity, codifiability, and teachability of a competence³²⁴. This suggests that sustainability of a competitive advantage provided by an innovation is dependent its complexity and requirements of previous causal understanding.

Besides continuous learning, discontinuous innovations are seen as a second-order performance effect of corporate ventures. The emergence of innovations bases on the two operating environments of the venture. Abernathy and Clark categorize innovations on whether they need new market linkages and whether they are based on existing technological competencies³²⁵. The same notion is made also by Utterback³²⁶ and Mensch³²⁷, when they define radical innovation as one that needs a new factory and or market for its exploitation. Similarly, Day defines venture's innovativeness as the degree to which a venture is first to create a new market relative to other firms through commercialization of a product based on new technology³²⁸. She measured innovativeness as an index of three characteristics of innovativeness: (1) the timing of entry of the venture (first, pioneer, early follower, late entrant), (2) the life-cycle stage of the market at the

³²⁰ Alchian, A A & Demsetz, H. 1972. Production, information costs and economic organization. *American Economic Review*, 62. Pp. 777 – 794.

³²¹ Rumelt, R P. 1987. Theory, strategy, and entrepreneurship. In: Teece, D J (editor). 1987. *The Competitive Challenge: Strategies for Industrial Innovation and Renewal*. Harper & Row, New York.

³²² Amit, R & Schoemaker, P. 1993. Strategic assets and organizational rent. *Strategic Management Journal*, 14(1). Pp. 33 - 46.

³²³ McGrath, R G, Tsai, M-H, Venkataraman, S & MacMillan, I C. 1996. Innovation, competitive advantage and rent: A model and test. *Management Science*, 42(3). Pp. 389 – 403.

³²⁴ Zander, U & Kogut, B. 1995. Knowledge and the speed of the transfer and imitation of organizational capabilities: An empirical test. *Organization Science*, 6(1). Pp. 76 – 92.

³²⁵ Abernathy, W J & Clark, K B. 1985. Innovation: Mapping the winds of creative destruction. *Research Policy*, 14. Pp. 3- 22.

³²⁶ Utterback, J M. 1993. *Mastering the Dynamics of Innovation*. Harvard Business School Press, Boston.

³²⁷ Mensch, G. 1975. *Das Technologische Patt*. Umschau, Frankfurt.

³²⁸ Day, D L. 1994. Raising radicals: Different processes for championing innovative corporate ventures. *Organizational Science*, 5(2). Pp. 148 – 172.

time of entry, and (3) the technological newness of the offering. Maidique and Zirger separate organizational and technological newness of innovations. The degree of innovativeness of the venture may make the imitation of factors providing the competitive advantage more difficult, thus providing sustainable competitive position.

The community where innovative venture operates plays a major role in innovation emergence. Van de Ven proposes that innovations do not emerge by few discrete events by a few key entrepreneurs, but rather through many interrelated communal events involving many actors³²⁹. Similarly, according to Howells novelty arises as new combinations of cognitions are drawn from existing techniques and artifacts. The socio-cognitive context is critical in enabling the discontinuous event of new combinations to take place.³³⁰ These suggest that the capability to innovate is dependent on outside sources of knowledge. Cohen and Levinthal have suggested that entities possess various levels of absorptive capacity, which determines the entity's capability to exploit outside sources of knowledge³³¹. In their study of 1719 business units they found that previous product development, even if the created products spill out into the public domain, creates innovative capacity, thus providing opportunities for subsequent high performance.

The number of quantitative studies on antecedents to second-order performance is smaller than that of similar studies on first-order performance. Majority of the studies has focused on antecedents to innovation on firm side and various types of competitive advantages on market side. These studies include those of Damanpour³³², Day³³³, Ettlie, Bridges and O'Keefe³³⁴, Koberg, Uhlenbruck and Sarason³³⁵, Liebeskind, Oliver, Zucker & Brewer³³⁶, Lumme³³⁷, McGrath, Tsai,

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- ³²⁹ Van de Ven, A H. 1993. A community perspective on the emergence of innovations. *Journal of Engineering and Technology Management*, 10. Pp. 23 – 51.
- ³³⁰ Howells, J. 1995. A socio-cognitive approach to innovation. *Research Policy*, 24. Pp. 883 – 894.
- ³³¹ Cohen, W M & Levinthal, D A. 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35. Pp. 128 – 152.
- ³³² Damanpour, F. 1996. Organizational complexity and innovation: Developing and testing multiple contingency models. *Management Science*, 42(5). Pp. 693 – 715.
- ³³³ Day, D L. 1994. Raising radicals: Different processes for championing innovative corporate ventures. *Organizational Science*, 5(2). Pp. 148 – 172.
- ³³⁴ Ettlie, J E, Bridges, P & O'Keefe, R D. 1984. Organization strategy and structural differences for radical versus incremental innovation. *Management Science*, 30. Pp. 682 – 695.
- ³³⁵ Koberg, C S, Uhlenbruck, N & Sarason, Y. 1996. Facilitators of organizational innovation: The role of life-cycle stage. *Journal of Business Venturing* 11. Pp. 133 – 149.
- ³³⁶ Liebeskind, J P, Oliver, A L, Zucker, L & Brewer, M. 1996. Social networks, learning, and flexibility: Sourcing scientific knowledge in new biotechnology firms. *Organization Science*, 7(4). Pp. 428 – 443.
- ³³⁷ Lumme, A. 1998. Local selection environment nurturativeness in determining the fitness of new, technology-based firms: Derivation and validation of a model. *Acta Polytechnica Scandinavica*, 94.

Venkataraman, and MacMillan³³⁸, Miller, Gartner and Wilson³³⁹, Miller, Spann & Lerner³⁴⁰, Tsai and Ghoshal³⁴¹, and Zajac, Golden and Shortell³⁴². The studies are summarized in Table 11 and Table 12. The factors having an impact on competitive advantage seem to comprise of strategy and environment related variables. The factors having positive impact to innovativeness seem to comprise mainly issues related to complexity and organicity of the organization. The factors having negative impact to innovativeness seem to comprise mainly issues related to organizational level of the principal champion and the age of the company. Many factors seem to have different effects depending on the age and size of the company. Centralization is found generally good for innovativeness in new firms, but not in old firms. Diversification is found to be negatively correlated with innovativeness in large firms, but might have positive effect in small entities.

One of the most comprehensive studies on corporate venture innovativeness has been conducted by Day. She found that corporate size does not significantly correlate with venture's innovativeness³⁴³. However, the age of company has a weak negative correlation with innovativeness, and corporate size and age are positively correlated. This supports Aldrich and Auster's contention that age and size represent separate, independent effects on established firms' ability to innovate³⁴⁴. In her study Day found, that corporate diversity has a negative correlation with innovativeness, suggesting that diversified firms have less incentive to make the substantial investments necessary to develop new technologies or launch new industries. Also, generally, more R&D investment results in more innovative ventures.

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- ³³⁸ McGrath, R G, Tsai, M, Venkataraman, S & MacMillan, I C. 1996. Innovation, competitive advantage and rent: A model and test. *Management Science*, 42(3). Pp. 389 – 403.
- ³³⁹ Miller, A, Gartner, W B & Wilson, R. 1989. Entry order, market share, and competitive advantage: A study of their relationships in new corporate ventures. *Journal of Business Venturing*, 4. Pp. 197 – 209.
- ³⁴⁰ Miller, A, Spann, M S & Lerner, L. 1991. Competitive advantages in new corporate ventures: The impact of resource sharing and reporting level. *Journal of Business Venturing*, 6. Pp. 335 – 350.
- ³⁴¹ Tsai, W & Ghoshal, S. 1998. Social capital and value creation: An empirical study of intrafirm networks. *Academy of Management Journal*, 41(4). Pp. 464 – 476.
- ³⁴² Zajac, E J, Golden, B R & Shortell, S M. 1991. New organizational forms for enhancing innovation: The case of internal corporate joint ventures. *Management Science*, 37(2). Pp. 170 – 184.
- ³⁴³ Day, D L. 1994. Raising radicals: Different processes for championing innovative corporate ventures. *Organizational Science*, 5(2). Pp. 148 – 172.
- ³⁴⁴ Aldrich, H & Auster, E R. 1986. Even dwarfs started small: Liabilities of age and size and their strategic implications. *Research in Organizational Behavior*, 8. Pp. 165 - 198.

Table 11 Empirical findings of effects on second-order market worth

Dependent variable	Independent variable	Author	Relationship	Comment
Second-order market worth				
Venture-environment relationship				
Sustainability of competitive advantage	Nurturateness of environment	Lumme 1998	Positive	In independent ventures
	Explorativeness of strategy	Lumme 1998	Positive	In independent ventures
Legitimacy gap	Explorativeness of strategy	Lumme 1998	Positive	In independent ventures
Differentiation advantage	Early entry	Miller, Gartner & Wilson 1989	Positive	
Cost advantage	Early entry	Miller, Gartner & Wilson 1989	Not found	
	Venture			
Value advantage	Management proficiency	McGrath, Tsai, Venkataraman & MacMillan 1996	Positive	
	Venture-parent relationship			
Competitive advantage	Internal relations Resource sharing	Miller, Spann & Lerner 1991	Positive interaction	Competitive advantage as composite of cost and quality advantage; Internal relations as reporting level
	Internal relations	Miller, Spann & Lerner 1991	Not found	
	Resource sharing	Miller, Spann & Lerner 1991	Not found	

Table 12 Empirical findings of effects on second-order firm worth

Dependent variable	Independent variable	Author	Relationship	Comment
Second-order firm worth				
Venture-environment relationship				
Innovations	Organicity of structure Environment dynamism	Damanpour 1996	Positive interaction	Organicity as complexity; dynamism as uncertainty
Learning and organizational flexibility	External relations	Liebeskind, Oliver, Zucker & Brewer 1996	Positive	Case-based approach with inductive reasoning

Table 12 Empirical findings of effects on second-order firm worth; table continues

Dependent variable	Independent variable	Author	Relationship	Comment
	Venture			
Innovativeness	Age diversity of management team	Zajac, Golden, Shortell 1991	Negative	
	Formalization of structure	Koberg, Uhlenbruck & Sarason 1996	Negative	Firm as unit of analysis, found in newer firms
	Centralization of authority	Koberg, Uhlenbruck & Sarason 1996	Positive	Firm as unit of analysis, found in newer firms
	Stock incentives	Koberg, Uhlenbruck & Sarason 1996	Positive	Firm as unit of analysis, found in older firms
	R&D competence	Day 1994	Positive	R&D competence as R&D spending
	Previous position of managers	Day 1994	Negative	Hierarchical level of principal champion or principal champion from corporate (versus business unit) level
	Previous position of managers	Day 1994	Positive	Level of principal champion if from corporate level
	Organicity of structure	Damanpour 1996, Ettlie, Bridges & O'Keefe 1984	Positive	Organicity as complexity
Innovations	Organicity of structure	Damanpour 1996	Negative interaction	Organicity as complexity
	Venture size	Damanpour 1996	Positive interaction	Dynamism as uncertainty
	Environment dynamism	Damanpour 1996	Positive interaction	Dynamism as uncertainty
	Venture-parent relationship			
Innovativeness	Resource sharing	Zajac, Golden & Shortell 1991	Positive	Resource sharing as participating in integrative activities
Product innovations	Resource sharing	Tsai & Ghoshal 1998	Positive	
	Parent organization			
Innovativeness	Diversity of parent	Day 1994	Negative	
	Parent innovation orientation	Zajac, Golden & Shortell 1991	Positive	
	Age of parent organization	Day 1994	Negative	
Institutionalization	Prior experience of parent	Shortell & Zajac 1988	Positive	

In his study of corporate venturing behavior in a large diversified firm, Burgelman observed four problem areas that hinder the strategic success of corporate ventures³⁴⁵. The problem areas include vicious circles in the definition process, managerial dilemmas in the impetus process, indeterminateness of the strategic context, and perverse selective pressures exerted by the structural context on venture development. The vicious circles refer to the inability of a new venture to obtain resources, if technical feasibility is not demonstrated, and to the inability to demonstrate such feasibility without resources. The managerial dilemmas include the difficulty in balancing between strategic forcing efforts and the autonomy required by emerging venture. The indeterminateness of strategic context refers to vague objectives of corporate venturing behavior. The perverse selective pressures refer to the difficulty of assessing performance of emerging venture with methods designed to assess mature operations.

To summarize, various measures of sustainability of competitive advantage and innovativeness seem to characterize the second-order performance of a corporate venture. Antecedents to these measures include factors opposite to formalization and centralization. Organicity of structure, informal relations and explorative strategies seem to relate to performance of new ventures in the long run.

³⁴⁵ Burgelman, R. A. 1984. Managing the internal corporate venturing process. *Sloan Management Review*, Winter. Pp. 33 – 48.

9 Synthesis and conclusions

The findings of the review of previous literature on corporate venturing are roughly two-fold. On one hand, in contrast to independent ventures, corporate ventures have two major operating environments. In addition to market environment, corporate ventures operate within the boundaries of the parent organization. Although independent ventures do also strive for resources from capital markets and other stakeholders, their markets are more fragmented than those of corporate ventures. On the other hand, studies on venture performance can be categorized into studies on first-order performance and second-order performance. Studies on first-order performance are characterized by deductive reasoning and large samples, while studies on second-order performance focus more on action-analytic methods and deeper case-studies.

Studies on corporate venturing in organizational environment are characterized by focus on institutional theory and resource-based view of the firm. The relationship between a venture and its parent organization are described problematic due to different thought worlds and perceptions. On the other hand, different operating logics and perceptions offer dynamic complementarities, which are seen to lead to emergence of innovations, learning, and inimitable competitive advantage. First-order performance in organizational environment can be assessed by profitability of a venture. Second-order performance in organizational environment can be assessed by development of competencies, innovations, learning, and technological and strategic success of a venture. Studies focusing on learning effects tend to have a social perspective, while studies focusing on competence development try to link corporate venturing to expectations of rents. The studies focusing on environmental effects of and to new venture emphasize strategy, venture's organizational structure, and cooperation with external parties. Some studies have found that strategy, munificence of environment, and their interaction explains more than 80% of market performance variation³⁴⁶. First-order market performance is seen as the growth of the business. Second-order market performance is seen to comprise of the ability to sustain competitive advantage over a period of time. The sustainability of competitive advantage is related to innovativeness of the venture in terms of newness to market and newness of technology. The main findings of the literature study are summarized in Table 13.

³⁴⁶ McDougall, PP, Robinson, R B Jr & DeNisi, A S. 1992. Modeling new venture performance: An analysis of new venture strategy, industry structure, and venture origin. *Journal of Business Venturing*, 7. Pp. 267 – 289.

Table 13 Summary of the main findings of the review of previous literature on corporate venturing

Corporate venturing	
Motives	There are direct and indirect motives for corporate venturing. Direct motives include diversification and growth through ventures. Indirect motives include development of new products and competencies, and fostering organizational learning and entrepreneurship.
Dynamics	The dynamics of corporate venturing include management of various parallel and sequential phases at different levels of organization. The interaction between venture process and strategy process is seen vital for organizational learning. Dynamic complementarities between small ventures and large mainstream units are seen to exist.
Venture operating environment	
Parent organization	Tangible organizational factors relevant to corporate venturing include organizational structure, formal –communication, integration components, and organizational controls. Intangible factors relate to institutionalized practices and routines of the organization. Corporate ventures are seen to require different tangible organizational factors to reflect innovative activity, and to break from institutionalized practices to create innovativeness.
Market environment	Corporate ventures are seen to compete in similar market environments with independent ventures. Previous literature categorizes environments by their munificence and competitive hostility. New ventures are seen to be confronted by liabilities of newness and smallness.
Relational attributes	
Parent-venture relationship	Previous literature on corporate venturing focuses on resource relatedness of parent and venture, sharing of common resources, reciprocity of relationships, and formal and informal relations on personal and business unit level. Differences in operating logic are seen to create conflicts between parent organization and new ventures.
Environment-venture relationship	Ventures are seen to react to, anticipate, and shape their market environments by strategic posture, organizational structure, and formal and informal relations. These factors are seen to affect performance and learning of corporate ventures.
Performance attributes	
First-order performance	A number of different measures of success of corporate venturing have been identified. First-order performance is seen to comprise of profitability as firm worth, and growth as market worth. Similarly, a number of different factors correlating with measures of success have been identified. The factors can be grouped into factors relating to the parent firm, parent-venture relationship, market, individual or venture team, venture characteristics, and venture process.
Second-order performance	Studies on second-order performance are characterized mainly by an inductive research approach. Second-order performance is seen to comprise of development of competencies and innovativeness as firm worth and competitive advantage as market worth. Competence development is related to learning effects of ventures. Sustainability of advantage is related to the degree of innovativeness of ventures. Antecedents to these measures include factors opposite to formalization and centralization. Organicity of structure, informal relations and explorative strategies seem to relate to performance of new ventures in the long run.

Large number of research on corporate venturing focuses on describing the process of managing corporate ventures. Management of corporate ventures is found to be a multi-level phenomenon. Individual ventures are managed to survive and to provide first-order performance.

Portfolio of corporate ventures is managed to distribute risks, to focus efforts, and to manage synergies between ventures. Corporate venturing activity is managed by top management to develop new competencies and to promote entrepreneurial activity and learning inside the corporation. The management of corporate venturing is conducted on product level and on hierarchy level. On product level, many studies call for principal champion to lead the technological development of the new venture. On hierarchy level, previous literature identifies the need for organizational champion to cope with the resistance of organization to exploration of new competencies. The need for two management types relates to the two main operating environments. Corporate venturing processes have been divided into core and support processes. Core processes relate to management of a venture to provide products to markets. Support processes relate to the link between corporate venturing activity and the dynamics of strategy formation. The dimensions of corporate venturing processes are summarized in Table 14.

Table 14 Dimensions of corporate venturing processes

Dimension	End of category		End of category
Organizational level	Individual venture	Portfolio of ventures	Venturing behavior in the firm
Environment type	Product-market management		Hierarchy management
Strategic dimension	Core processes		Support processes

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