



# **A Linkage Model of Corporate New Ventures**

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# A Linkage Model of Corporate New Ventures

*Anurag Sharma*

Conventional wisdom holds that existing structures and systems can pose daunting obstacles to innovation in large firms. So, how do new ideas become real businesses in large organizations? How do new venture teams navigate their business idea through the inertia of existing operations and past the skepticism of embedded interests? To offer insight on these questions, this study examined the experiences of individuals who led new business initiatives in established companies.

Author Anurag Sharma conducted in-depth case studies of nine internal ventures in eight large firms over a 14-month period in the mid-1990s. In each case, the new product was seen by the firm as significantly different from its existing products and as a foray into a new product market. In addition, in all nine ventures, the initial idea had evolved into one or more concrete products, and an infrastructure for the new business had begun to emerge.

## **Qualitative Findings**

New venture managers engage in a range of interlocking activities to establish organization-venture-environment linkages that help reduce key (mostly political) uncertainties. These linkages emerge from informal personal relationships and gradually mature into institutionalized routines that bind the venture to the organization. When firmly established, the linkages serve as conduits that nourish the venture with information and resources. In so doing, they act as anchors that stabilize the venture in its persistently dynamic environment.

Over time, these linkages remain susceptible to rupture by a variety of forces over which managers have only partial control. Political acuity and interpersonal finesse of managers, along with lots of luck, are some key ingredients that sustain the linkages and make a new venture successful.

## **Managerial Implications**

Successful “intrapreneurs” have highly developed interpersonal skills; they are very sensitive to the political culture and to powerful players in the organization. They know that the chief impediment to new ventures is political commitment by top management. So, they co-opt these internal players by serving their *short term* instrumental interests. Moreover, successful intrapreneurs make the existing bureaucratic structure—with all its faults—work for them.

In addition, internal bureaucracy, while frequently seen as an impediment to innovation, should also be seen as helpful to a new venture. Existing routines offer important and helpful support to budding initiatives. Finally, successful intrapreneurs acknowledge that continued funding of new ventures should be contingent upon periodic reviews of incremental success.

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# Introduction

Two contrasting viewpoints about innovation have characterized a debate that exposes the responsive and inertial forces at work within organizations. One of these viewpoints emphasizes that innovation can be institutionalized within established firms, enabling them to “program” the generation and integration of new product markets (e.g., Jelinek and Schoonhoven 1993; Eisenhardt and Tabrizi 1995). The other view questions the ability of firms to routinize new initiatives designed or developed to extract maximal efficiencies in the service of a given end, when they may run counter to interests embedded in old regimes (Burns and Stalker 1961; Miller 1993). In fact, virtually all research favoring the ability to routinize innovation emphasizes adaptation via small, frequent shifts in product offerings in the context of a rapidly evolving computer industry. Lessons learned from these studies, however, may not be sufficient to justify initiatives that are bold departures from current abilities of the firm and that aspire to create entirely new businesses outside the current domains of the host firm.

The key consideration in many “business-building” innovations is not so much that of staying close to the core business but one of integrating the new entity into the organizational mainstream. While the product development reasoning is concerned mostly with the internal logic of pacing and sequencing activities, an additional but crucial concern in building ventures is with inserting the budding entity into changing and unpredictable conditions both inside and outside the host firm. Intriguingly, except for Burgelman’s (1983a) work describing the internal multi-level processes that accompanied six ventures in one diversified firm, little research exists on how such integration is accomplished and to what extent, if at all, firms can establish mechanisms to routinely support innovative new ventures and bind them to ongoing endeavors (see also Van de Ven, Angle, and Poole 1989).

The field research reported here employs a series of case studies to examine the experiences of venture personnel as they shepherd creative sparks through the haze and maze of their organizations. The study is rooted in a view of innovation as *variance-inducing* activity that is enveloped in deep layers of uncertainty and a conception of the established firm as a *variance-reducing* entity that has more or less resolved the basic questions about technical feasibility and market need for its products. Accordingly, findings suggest that the facility with which firms accommodate an innovative venture is strongly influenced by the ability of its proponents to establish robust yet flexible linkages with the most critical constituencies both inside and outside the host firm. These linkages help reduce key uncertainties by serving as conduits for exchange of information and resources, and they act as anchors that stabilize the venture in its persistently unpredictable task environment.

The research confirms that complex innovations are incorrigibly idiosyncratic and, for the most part, defy routinization. Even though firms can install “enabling” mechanisms that routinize the provision of commonly needed administrative functions (cf. Adler and Borys 1996), the findings also strongly affirm the importance

of champions. An important key to a venture's eventual success is the ability of its leadership and personnel to work around obstacles, or to selectively activate the support of appropriate elements in the internal infrastructure. In contrast to a somewhat Foucauldian message underlying the suggestion to institutionalize innovation, therefore, the role and agency of the individual remain indispensable.



# Previous Research

The literature on internal corporate venturing is part of research interest in the broader subject of innovation (see Dougherty 1997; Van de Ven 1986). The concerns examined in the study of new ventures inside established firms are arguably more consequential for scholarship and practice, however, because building abstract concepts into concrete businesses goes beyond merely delivering a technical functionality. It requires commitment to new infrastructure and capabilities, as well as a series of complementary innovations in products, processes, and structures of the firm (Morone 1993; Stinchcombe 1990).

## **New Ventures and Corporate Context**

Research on internal corporate venturing has been concerned with discriminatingly evaluating the multilevel processes that inhibit or facilitate the successful unfolding of new ventures within firms (Burgelman 1983a, 1991; Van de Ven, Angle, and Poole 1989). Burgelman (1983a), for instance, reinforces Schon (1963, 1967) and Maidique (1980) by highlighting the role of champions in building new ventures in one large diversified firm. His inductively built model draws heavily on Bower (1970) to elaborate two core processes (definition and impetus) in which the champions actively engage so as to gain and maintain support within the overlying strategic and structural contexts of the host firm. In the model, Burgelman (1983a) emphasizes the importance of interpersonal and political skills of the champions who guide new business concepts through the complexity and inertia of host organizations.

Moreover, Burgelman (1983b) notes that while “the bulk of strategic activity in a firm is likely to be of the induced variety” (i.e., induced to follow the established mode of doing business), the “large resource-rich firms are likely to possess a reservoir of entrepreneurial potential at the operational levels that will express itself in autonomous strategic initiatives” (i.e., will introduce new categories) (p. 65). Like those before him (notably Schon 1963; Bower 1970; Carter 1971; Maidique 1980), Burgelman strongly subscribes to a “bottom-up” process for generation of frame-breaking opportunities and, ultimately, for strategic renewal of firms. He argues, moreover, that senior management should “balance the emphasis on diversity and order over time” and “control the level and rate of change rather than the specific content of entrepreneurial activity” (1983c, p. 1349). In effect, Burgelman (1983c) suggests that because the “autonomous strategic behavior emerges, by definition, spontaneously . . . [and it] cannot be planned” (pp. 1361, 1362), senior managers should not intervene in the particulars of new initiatives, but they should make sure nevertheless that such activity is not suppressed by the variation-reducing mechanisms currently in place. In his later work on the evolution of strategy at Intel, Burgelman (1991, 1994) reemphasizes the primacy of experimentation and internal variation in bringing about new businesses that ultimately, albeit incrementally, result in a renewed strategy of the firm.

While Burgelman is skeptical about the effectiveness of planning for radically new businesses, Jelinek and Schoonhoven (1993) are emphatic in their insistence that innovation can be and is institutionalized by some firms. From their field study of five high technology firms, they argue that the structures of large firms need not be antithetical to the production of new products. Taking issue with Burns and Stalker's (1961) much-discussed thesis that "organic structure" is necessary for innovation, Jelinek and Schoonhoven (1993) propose that rather than being characterized by ambiguous reporting relationships and unclear hierarchy as well as vague role definitions (which induce role stress), the innovative firms comprising their sample were "highly predictable organizations with clear, explicit responsibilities and reporting relationships" (p. 256). They further assert that "an organic structure is worse than useless for providing the precise and definitive coordination, tight controls, high efficiency and tough decision making needed in their fiercely competitive global marketplace" (p. 257). Paradoxically, the researchers explain, the need to keep up with the rapid pace of change also necessitates stability, predictability, and reliability in the internal organization lest employees become overwhelmed by the noise and continually shifting work requirements. "Without structure," the researchers contend, "too many details simply cannot be managed at all" (p. 261).

In effect, while acknowledging the value of informal and quasiformal structure within high technology firms, Jelinek and Schoonhoven strongly suggest that successfully and repeatedly bringing innovative products to market requires not only creativity but also a good deal of discipline in the form of streamlined processes. It is not only possible but desirable, in their view, to institutionalize innovation within large firms by codifying the core processes necessary for innovation.

Whether corporate context can facilitate new modes of doing business is, in short, an actively debated issue in the literature. A growing view is that internal structure is not an objective entity that responds to an emerging venture either as an insurmountable obstruction or as a resource to be readily leveraged in the service of newly uncovered needs. While the formal structure does broadly define reporting relationships and the work that must get done, it coexists with informal dynamics that also allow at least some discretion in how and what specific work actually does get done. The roles defined within a formal structure are filled by people who, while attending to the imperatives of current job expectations and while sometimes resistant to changing behavior, can be persuaded or mandated or replaced so that a new venture is accommodated. As Stinchcombe (1990) notes, "If most of the decisions in most organizations are 'programmed,' in March and Simon's language, *someone has to program them*. . . . [T]he departmental routines of information and decision . . . do the right thing because the choice of which routines to use, and when to build a new, better one, is *a matter of managerial discretion*" (p. 73, italics added).

Hence, while variation-reducing administrative mechanisms do tend to suppress innovative activity, they may be sufficiently pliable, perhaps even programmable, so as to be proactive in support of new ventures. As Gersick (1994) reports in writing about one investor-funded entrepreneurial venture, inertial tendencies often coexist with adaptive forces, and the differential yet simultaneous presence of such

opposing forces may underlie “variations in organizational adaptiveness” (p. 42). He further notes that “the accumulating evidence argues that research might well begin to focus less on ‘Do they or don’t they?’ and more on when and how organizations steer successfully through changing environments” (p. 11). How and to what extent the strategy and structure can be remolded to routinely accommodate new ventures is, therefore, a research issue that exposes a position squarely between the opposing views that firms are highly rigid or that they are immensely pliable (cf. Brown and Eisenhardt 1997).

### **New Ventures and Uncertainty**

The unfolding of new ventures does not happen against the backdrop of an unchanging host firm and static larger socio-technical environment, however. One chief source of impediments to new ventures is the layers of uncertainty in which they are immersed and which the extant structures are ill equipped to handle (Leonard-Barton 1992; Johnson 1988). Individuals building businesses face lack of clarity about such crucial issues as commitment from the senior management, support within the infrastructure of the firm, ultimate delivered costs, technical performance of the product upon launch, reception in the marketplace, reaction by competition, and financial return on investment (Gurud and Van de Ven 1992; Van de Ven, Angle, and Poole 1989; MacMillan, Block, and Subbanarsihma 1986). Moreover, as Morone (1993) notes, “these uncertainties interact. The form the developing technology should take depends on how the developing market responds to early versions of the technology; yet, paradoxically, how the market responds depends on the form the technology takes” (p. 140). Of course, the degree of uncertainty about any of the critical constraints is influenced by how radically the new venture departs from current practices in the firm. Even so, such uncertainty is an intrinsic feature of all innovations and it afflicts all new ventures to one degree or another.

While virtually everything surrounding new ventures is usually less than certain, the uncertainties encountered by new ventures are neither all equally important, nor are they all unchanging in nature and degree through the course of its development. What matters at any point are the uncertainties surrounding key constraints in the initiation, development, or implementation of the business concept. Moreover, as the key constraints inevitably change with the progression of one or more ideas toward becoming a productive business, so do the uncertainties in which the venture is embedded (cf. Stinchcombe 1990; Roberts 1988). At all points in its unfolding, therefore, the venture needs to evolve mechanisms and means to obtain specialized information as well as resources that help reduce the key uncertainties impeding its progress at any time. Such measures are not necessarily the most efficient, however, because small size and limited resources of the venture, as well as cognitive constraints and bounded rationality of lead actors, bring the most urgent issues to the forefront and push important but less urgent issues to the sidelines. Uncertainty places a premium, therefore, on satisficing and expediency (March and Simon 1958; Nelson and Winter 1982).

In summary, previous research has highlighted the fact that the inertia of ongoing operations crowds out innovative activity that does not directly further the interests

already in place. Moreover, the novelty of new businesses, as well as the high degree of uncertainty inherent in building them, makes it very difficult for existing administrative and operating structures to accommodate them. Even so, it has been argued that some firms are more innovative than others and that the differences in firms' ability to facilitate and accommodate ventures is located in the degree to which innovation has been institutionalized in their culture and structure.

# Methodology

I report findings from a study of nine internal ventures in eight large firms. The ventures were examined sequentially via in-depth case studies during a 14-month period in mid-1990s. Data for each case were collected via on-site semistructured interviews with executives who had led and been actively involved in the new venture. The study used the replication logic of multiple case design methodology (Yin 1994), whereby the patterns discerned and lessons learned from each case were confirmed or disconfirmed by the inferences drawn from subsequent cases. The approach was to summarize the themes found in each case and to look for exceptions to as well as corroboration of those themes across all cases (Miles and Huberman 1994).

## **Sites, Sample, and Interviews**

A typical research site was the location within large firms where the idea for an internal start-up business was unfolding. The new venture was far enough along that the initial idea for a new opportunity had evolved into one or more concrete products and the internal infrastructure for the new venture had begun to emerge. Moreover, those involved considered the new product sufficiently different from the existing products, and they saw the new business venture as diversification into a product market not previously served by the firm. The key criterion for including a site in the study was that the firm had to develop substantially new and different capabilities in order to enable the venture idea to take shape. The final sample was composed of nine ventures in one regional and seven U.S.-based multinational firms (see Table 1).

**Table 1. Research Sample**

Host Firm	Description of Host Firm	Experience with Venturing	Venture	Description of Venture	Direction Relative Size Strategic Importance	Description of Project Type	Venture Status as of the Interviews	Venture Leadership
MEDSUP	Large dominant medical supply multinational	Little (if any)	APACH	Breakthrough drug delivery system	Top-down Big High	Technology and market development	First stage (mfg) of commercial development	Outsider experienced in venturing hired at senior level to build the business
RESCHAIN	Regional restaurant chain	None	DSSRT	Popular product into supermarkets for the first time ever	Bottom-up Medium Low	New market penetration with old product	Built and divisionalized	New & inexperienced, yet very aggressive, marketing insider pushed from below
MAGPUB	Large publisher of international weekly magazine	None	TREAD	Breakthrough news and information delivery system	Bottom-up Small Low	Technology push & market development	Aborted. Know-how transferred to parent	Senior nontechnical business insider assigned to ongoing skunkworks
CHEMONE	Large diversified chemical multinational	High	FTEST	Breakthrough food testing system	Bottom-up Big High	Mkt-anchored technology development	Spun-off at launch. Parent majority owner	Technologist on internal sabbatical initiated and pushed from below
CHEMONE	Large diversified chemical multinational	High	SHEET	Breakthrough film technology for many specialized uses	Bottom-up Small Uncertain	Technology push & market development	Stuck w/poor prospects	Experienced technologist and marketing person assigned to ongoing effort
DEFENSE	Large defense contractor	None	GHEAD	First ever line of consumer product for mass consumption	Top-down Small Uncertain	New market penetration with new product	Integrated with a set of highly related ventures	No dedicated leader. Later hired outsider to run mfg
OFFICE	Large dominant office products multinational	High	PRINT	Breakthrough document replication system	Top-down Big High	Mkt-anchored technology development	Divisionalized and integrated with the core	Senior technologist picked to evaluate product idea and then to build the business
COMPUTER	Large diversified computer multinational	High	CNSLT	Software consulting services from laboratory to market	Bottom-up Small Low	New market penetration with old product	Built & absorbed into a larger division	Experienced technologist pushed/built from below with department support
CHEMTWO	Large diversified chemical multinational	High	HPERF	Breakthrough high performance fiber for many possible uses	Top-down Big High	Technology push & market development	Aborted. Know-how and rights sold to partner	Experienced & powerful technologist initiated and drove project from above

As of the time of interviews, the ventures varied in whether they met their initial objectives. Two of the nine ventures had been aborted after a determination was made that either the market was not ready for their products or that it would be too costly for the firm to make the effort a commercial success. One venture seemed to be going nowhere and its host firm was trying to decide whether to have it adopted by an operating division or to sell it to outside investors. Another venture was in the first stage of commercial manufacturing. The remaining five ventures had successfully commercialized the products and, except for one that was spun off from the parent, they were all integrated with the mainstream operations of the host firm. Finally, seven of nine ventures had dedicated leadership associated with them, either volunteered or assigned by the firm.

The interviews were conducted so as to cover a range of theoretically salient issues such as top management commitment to the venture idea, reporting relationships, incentive structures, competitive conditions, and performance evaluation of the startup. Even so, the primary focus of the interviews was to understand the unfolding of the venture from the perspective of the venture manager and that of another executive identified as being directly involved in developing the idea into a business.

Each interview, focusing on a particular well-defined new venture, was semi-structured in that, after a brief introduction, the interviewee was asked to tell his or her story of the relevant events (see appendix for selected quotes). At times, the executives being interviewed were interrupted (1) to make sure that some previously stated and theoretically interesting aspects of the venture were adequately covered, and (2) to ask clarifying questions. All interviews were tape-recorded following per-

mission by the interviewees, and the researcher also took notes. All tape recordings were then transcribed, analyzed, and coded for key concepts.

Subsequent to the visit to each site, the data from interviews with all participants were distilled in a two- to five-page contact summary sheet, which comprised four major sections: (1) *narrative*—chronology of events, background of the venture manager, other people involved, key activities and resource allocation decisions, and criteria for performance evaluation of the venture; (2) *learning*—themes from previous visits confirmed or disconfirmed by the visit, and incremental learning in terms of new concepts and relationships uncovered; (3) *revelations*—new hypotheses, speculations, or hunches about the field situations suggested by the contacts during the visit; and (4) *questions*—new or more focused questions emerging from this contact that would be addressed in subsequent visits to the same or other sites. The contact summary sheet was then sent for review and feedback to the primary contact in the firm visited. The contact was approached a week later to discuss the story and to answer any questions that the participating executives may have had. The feedback so obtained (either by telephone or in writing) was then incorporated in a revised contact sheet.

### **Notable Features of the Sample**

Executives participating in the study all recalled the fortuitous convergence of many special circumstances that provided the impetus to attempt building a new venture (cf. Cohen, March, and Olsen 1972; see Schroeder et al. 1989 for review). In fact, virtually all ventures in my sample were built on ideas that had existed for several years either inside or outside their respective firms. Although the executives were able to recall some key events that set their ventures in motion, those events could be best described as having diffuse rather than sharp beginnings. For instance, even though a particular venture in my sample (SHEET) began in the early 1980s, the original seed of the idea had been in existence since the late 1960s when the basic technology evolved from an ongoing research project. Similarly, another venture (HPERF) originated in the late 1980s following several years of low-intensity research, first at an independent research institute on contract with the U.S. Air Force, and then by interested scientists in the R&D facilities of the parent firm who conducted several years of low-intensity discovery research purely for technical reasons. Finally, after more than 25 years of scientific interest combining computational and reprographics technologies, a product concept was formally evaluated in 1983. The PRINT venture was built around this new product concept.

In addition, the unfolding of all ventures in this study was punctuated by exogenous shocks over which the executives involved had practically no control. While some shocks threatened the very survival of certain ventures at various points, others presented opportunities that stimulated the ventures' initiation and growth. In either case, however, the changes brought about by uncontrollable events influenced the unfolding of ventures in ways that could not have been originally anticipated. The unfolding of ventures in this study was liberally spotted with interruptions, dead-ends, truncations, divergences, and reorientations that made the progression messy and non-linear. This sample shows again that "innovation incorporates setbacks and surprises as a normal course of events" (Scudder et al. 1989, p. 426).





# Firm-Venture-Opportunity Linkages

In light of the intense uncertainty and virtual inevitability of accidents on the path from concept to commercialization, I describe and discuss the managerial issues that surfaced while studying the ventures in my sample. In the main, I argue that unresolved ambiguities in key areas pose the most significant threats to the successful unfolding of a new venture. Orderly resolution of those ambiguities becomes, therefore, the venture managers' chief objective, and they seek this resolution by establishing flexible yet robust multilevel linkages with important constituencies both inside and outside the host firm. The linkages with the firm are typically at a *conceptual level* with powerful internal constituents who control funding and other resources, at the *bureaucratic level* with the administrative systems and procedures, and at the *operating level* with operating functions in ongoing businesses. External linkages are primarily twofold. The first *analytical linkage* is in the form of anticipated technical feasibility and market need justified to resource controllers via industry studies and market research near the beginning of the project. This is largely in the realm of making informed assumptions. The second *evaluative linkage* entails pre-engagements with the market via beta and launch sites, designed to systematically update and refine the basic assumptions driving the venture. I discuss below the dynamic and the challenges in accomplishing these linkages (see Table 2 for a summary).

## **Conceptual Linkage: Attaining a Common Understanding**

Because the major resource allocation decisions are usually approved, if not made, in the upper echelons of the organization, the eventual success of a venture is strongly influenced by the degree to which top management becomes committed to its development (Bower 1970). The decisions made by top managers are influenced by politically pragmatic presentation and by the prior reputation of people making the proposal, and new venture ideas invite particularly intense scrutiny because they propose to take the firm into new domains. Whether top management is willing to support the new venture with adequate resources is a key uncertainty that venture managers have to resolve (cf. Fast and Pratt 1981).

Scholars have argued that managers' view of the world and, consequently, of their firms' strategy are strongly influenced by their cognitive maps or interpretive schemes (e.g., Fiol 1991). These, in turn, cause managers to interpret the proposed forays into new domains and their exigencies as being either consistent with or in conflict with their current belief structures (see related theorizing in Drazin and Sandeland 1992; Meyer 1982; Schein 1990; Weick 1983). The new venture proposals that by definition often fall outside the assumptions and beliefs embedded in the ongoing operations often invite skepticism from the top management and others who allocate needed resources. Hence, the venture managers need to persuade the top management that there are compelling reasons to pursue the new

domain and that the inherent, yet bearable, risk to the firm can be justified by the potential benefits that might accrue if the initiative is successful. In other words, the new venture idea, while outside the firm's current business domains, has to attain a conceptual link within a broadened concept of strategy held by the key resource allocators. Such a linkage indicates consistency between the venture concept and strategic self-image of the firm as perceived by powerful internal constituents.

How such linkage comes about differs depending upon the situation, however. In a bottom-up process, as shown by Burgelman (1983a), product and organizational championing are necessary to get top management attention and commitment, as well as to make the venture idea operational in the given structural and strategic contexts. In one highly successful venture (FTEST) in my sample, for instance, the venture manager constrained his initial search by attending to loosely defined, yet implicitly understood, criteria inside the firm (i.e., industry attractiveness, potential size of opportunity, and "culture fit"). The manager of another successful venture (DSSRT) recalled the great deal of freedom permitted by the broad parameters within which he could work. He noted, "The rules were very clear: *Don't* screw up the brand; *don't* undermine the restaurant business because that is our core business; and *don't* lose money. You follow those three rules and grow the business, you got all the commitment in the world." Provided the financial viability of the venture could be argued, therefore, the loosely defined parameters enabled the venture managers to make a conceptual link by broadening the definition of "strategic" in the firm.

Even so, while broad parameters provided some venture managers room to maneuver so that the strategic context could be elaborated to accommodate new domains, the details about commitment and support that top management left unspecified also created confusion and lack of direction in some other new initiatives. One venture (SHEET), for instance, had for several years had a difficult time getting attention and sustained funding from the parent. The neglect that the venture manager felt was in spite of his attempts to understand and respond to the strategic direction and expectations from new ventures in the firm at large. As he noted, "That [broad direction] is good and bad. It enabled us to do our own thing, and we did it, and that was very good. It's also bad at some point because nobody cared much about the business."

In essence, the kind of venture ideas that were acceptable and the kind that were too far outside the current strategic context was not always clear to technologists and venture managers several levels removed from the resource controllers. The broad criteria were often not only not helpful, but they also provoked a great deal of guesswork, much of which did not address strategic concerns; nor did it help in correctly anticipating changing strategic priorities of the firm. The manager of the SHEET venture mentioned that he was never quite sure whether he had the mandate to develop a business or whether the top management had a concealed expectation that his group should explore the technology and markets and wait until complementary technologies matured and market opportunities crystallized. From the manager's viewpoint, therefore, uncertainty about top management commit-

ment seriously undermined the venture's legitimacy and its ability to get adequate financial support.

Not all internal venture initiatives were bottom-up processes, however, and in some firms new business activity was initiated by the top management. Three ventures in the sample (APACH, PRINT, HPERF) that were radical departures from their parent firms' current domains, and that entailed significant resource commitments, were all set in motion directly by the top management. In all these cases, however, even though the potential utility of a particular venture idea was understood in its broad outline, the top executives were sufficiently removed from the necessary details to be able themselves to develop a coherent vision about how to build the concept into a viable business and about its long term concrete implications for the organization. Hence, the top management typically assigned somebody in the middle of the organization to crystallize the opportunity by examining the state of technology and markets in the context of capabilities resident within the firm. Even in these cases, the venture managers often had to assess and develop the concept far enough so that they could then minimize uncertainty pertaining to commitment from the top management.

Yet, while initiation by top management has the advantage of facilitating conceptual links between the venture and resource controllers, it also carries the risk that the process of new business creation will be undermined by insufficiently rigorous evaluation and testing of the concept and inadequate buy-in at the operating levels. Fast (1979), for instance, has argued that too much support for the venture from top management can alienate the operating divisions and undermine its viability within the political structure of the firm. Such a scenario was visible at the unsuccessful venture (HPERF), where the idea was conceived by a powerful member of the top management team who felt that the new business could revive the firm by giving it a renewed sense of strategic direction.

Whether it was the bottom-up or top-down process, moreover, establishing robust conceptual linkages with top management depended upon the ability of venture managers to embellish the idea enough so as to be able to quickly explain it to both informed as well as uninformed audiences. Consistent with Dougherty and Corse's (1997) observation about product innovation, successful cases in this study emphasized *well-defined* concepts, although the definition was usually formed through complex interactions among many parties. The manager of one venture (APACH) spent six months completely devoted to clarifying the outlines of a business, which he then used to persuade the top management. Another venture manager initiated the idea during an internal sabbatical and then refined it further for two years before being able to gain formal support from top management. In yet another venture (DSSRT), the new owners of the host firm were initially very reluctant to pursue the business idea, even though it was a modest step outside the firm's traditional domain. The venture manager persuaded them to do so, however, by repeatedly invoking a seemingly small but crucial fact about the need to have their product present in a broader range of retail outlets.

It was important for ventures to establish conceptual linkages not only with top management, moreover, but also with other key constituencies, such as technolo-

gists, who had to be co-opted, and operating division executives, who had to be persuaded to adjust their priorities so as to allow resource sharing. Hence, particularly during the implementation phase, there was an ever-present need to explain and clarify to a very broad audience the purpose of the venture and the fundamental vision that drove it. The more simply these could be articulated, the greater were the chances of a buy-in at all levels of the organization. For this reason, ideas that were simple in concept were also the most effective in implementation. Complicated ideas often confused more than they clarified, and, therefore, they were unable to link conceptually.

Because the unfolding of new ventures typically spanned several years, moreover, the many uncontrollable events both inside and outside the firm increased their vulnerability by threatening to sever common understandings built with important constituencies. For instance, even as FTEST was experiencing much success in the development of technology and in finding markets for its products, there was significant change in the composition of the top management team of the parent firm. The new top management had strategic concerns different from the previous one, and, consequently, they decided to spin off the venture around the time of commercialization. The significance of changes in the top management was also evident in another case (HPERF), where the new executives aborted the biggest venture in their firm's history.

For this reason, conceptual links, once established, needed to be periodically (if not continually) reinforced, revived, and reinvented for the duration of the venture's unfolding. The changes in personnel in corporate executive suites are particularly important, because the credibility, reputation, and trustworthiness built into interpersonal relationships are crucial in establishing and sustaining conceptual fit. When personnel change, the shared view about the value of a particular venture is disrupted. In fact, the rather long development period of new ventures makes it likely that personnel will indeed change and that executives in the middle of the organization will perhaps move up into positions of power. It is important to establish connections and common understandings not only with those currently in power but also with those division presidents who are likely later to occupy positions of higher authority.

### **Operating Linkage: Sharing Resident Functional Resources**

In addition to establishing deep, flexible, yet robust conceptual links, venture managers also attempt to make connections with the operating businesses that typically house most of the functional capabilities of the firm. Such connections enable the budding venture to share and leverage resources, skills, and routines currently deployed to support the existing operations (see Rumelt 1986; Porter 1985; and the vast literature on relatedness for theory underlying this point). Success at making these connections lowers the upfront investments necessary to build the new business and it also enables the venture to focus its own limited resources on building very specific capabilities necessary for viability as a freestanding unit. Potential for such sharing of capabilities makes internal ventures different and more robust than stand-alone external ventures, which have to acquire or build virtually *all* capabilities from the ground up.

In spite of strong theoretical basis, however, researchers have been skeptical about the ability of internal ventures to benefit from resources resident in operating divisions (see Sorrentino and Williams 1995; Miller, Spann, and Lerner 1992). My interviews indicated that it is, indeed, very difficult for new ventures to draw upon the resources resident in other parts of the firm. The demands and pressures of ongoing businesses crowd out most good intentions, if any exist, on the part of division managers to support creative activity that falls outside of their current domains. An executive at CHEMONE highlighted this tendency by noting that the transfer of resources from the operating divisions to new ventures was very difficult, because the sharp incentives of division managers to meet their own operating targets could not be changed without jeopardizing the competitiveness of their businesses.

In my sample, the difficulty in obtaining support from the operating divisions often induced venture managers to shy away from leveraging resident capabilities. This was sometimes the case when the venture had the freedom to pursue its agenda independently because of access to sufficient resources and political capital among the top management. Even when the need to share resources was evident, however, I found that high intensity in existing operations left few apparent resources in the system to support new ventures (Burgelman 1983c). The existing businesses, operating under tight strategic logic and well-honed structural context, were not particularly well suited to transfer and share current resources with budding new ventures. This was especially true in the early years of a new venture's unfolding, when it had little to offer except promised but unproved claims in return for help with operating capabilities.

If, in unusual circumstances, a new venture did obtain resource support from an operating division, such a relationship was vulnerable to dynamic conditions that could suddenly require those resources to be redeployed to the division's core concerns. Hence, not only was the leveraging of resident resources very difficult to accomplish in practice, attempting to do so early in the life of a new venture made it prematurely dependent upon and vulnerable to the concerns of ongoing operations. In the initial period of new venture activity, therefore, it was useful for ventures to depend less on sharing resources with other divisions and more on developing specific capabilities dedicated to supporting their own narrow needs. The initial emphasis on independence and on building dedicated capabilities not only sheltered the venture from the whims of ongoing businesses but it also allowed the focus necessary to refine, embellish, and conceptually shape the original idea so as to firmly anchor the scientific and engineering development efforts.

In order to build dedicated capability, however, the venture manager had to clarify the specific needs and negotiate the necessary resources—and to convincingly argue that the firm lacked the specific skills needed to build and execute functions critical to the new venture. Although such resources could sometimes be negotiated, often they needed to be informally assembled or even bootlegged by the venture personnel. This was particularly so in bottom-up ventures where the initial lack of accessibility to top management made it very difficult to obtain internal legitimacy or committed resources to build venture-specific capabilities.

In essence, the theoretical synergies were very difficult to accomplish in practice because of the operating imperatives of ongoing businesses and the inability of new ventures to offer demonstrable benefits in return for shared resources. Therefore, until the venture had progressed to the point where divisions could derive tangible benefits from sharing their finite resources already deployed in ongoing operations, it needed to remain self-reliant. Such independence, in turn, enabled the venture to maintain focus on developing a self-concept and a set of capabilities that its managers could later barter with operating divisions in return for specific resources.

Once the ventures did begin to take shape, however, the issue became one of trying to leverage selectively the most relevant functional capabilities resident within the operating divisions. Mostly, the incentive to do so was in the desire to economize on cost and time, as well as in a reluctance to expend limited resources for building capabilities that could potentially be drawn from elsewhere within the firm. Hence, consistent with previous research, venture managers used informal networks to gain an audience with, and the attention of, busy executives in operating divisions (cf. Howell and Higgins 1990).

Although the personal credibility of people involved was certainly important in obtaining access to the resources of the operating divisions, structured interactions were also very useful. In fact, participating in structured corporate activities became a useful way for venture managers to establish connections with personnel in operating divisions, and some of these formal contacts later matured in informal relationships and networks.

In addition, operating connections with ongoing businesses were also often accomplished by persuading the senior management to intervene. Given the pressures of ongoing activities in which they were invested, operating division executives were often reluctant to voluntarily risk investing time to help the venture—unless they received explicit signals about its viability and significance from those in power. Hence, to the degree that a venture could establish conceptual links with key top executives and garner their overt support, it also obtained legitimacy and cooperation within the organization. Tactically, formally assigning or co-opting key people from those divisions on the venture team was one common way for bringing about structured sharing with operating divisions—as was the ability of venture managers to project the formally articulated support of the top management. Both formal and informal efforts to attain synergies with operating divisions needed to be continually reinforced, moreover, because the pressures of ongoing activities threatened to crowd out managers' time and attention.

In effect, then, several factors, such as demonstrable alignment of economic interests, reputation and personal credibility of the venture managers, internal legitimacy via explicit top management support, and the broad norms of reciprocity with the firm, were crucial in the ability of new ventures to actually extract and accomplish such synergies with the operating divisions.

### **Bureaucratic Linkage: Leveraging Internal Support Infrastructure**

In addition to achieving conceptual fit with the resource controllers and selective operating fit with existing businesses, new ventures also typically needed to leverage the existing administrative functions to establish structural and procedural consistency with the firm. The internal bureaucratic systems in place typically evolve to support the specialized needs of existing operations, and they are typically not responsive to the idiosyncratic needs of a budding venture that has little political clout within the firm. In fact, much of the received wisdom on this subject is emphatic in noting the incompatibility between established bureaucratic practices in mature firms and the administrative needs of new ventures (e.g., Burns and Stalker 1961; Hill and Hlavacek 1977; Fast 1979; Sykes 1986; Kanter 1988; Sykes and Block 1989). The basic argument underlying this unfavorable view of bureaucracy is that the reporting requirements of large firms burden resource-starved ventures with premature scrutiny and unproductive detail. Echoing the sentiments expressed by Burns and Stalker (1961) a generation earlier, Sykes and Block (1989) argue that, “application of mature company practices to management of new corporate ventures is not only inappropriate, but breeds failure” (p. 159).

What the literature underemphasizes, however, are the positive effects of bureaucratic functions such as accounting and budgeting, legal and technical negotiations, hiring, and training and development. Such functions provide useful services to busy venture managers who need to focus on pressing product and operating concerns. These activities, if left unattended, cause considerable harm to the venture. As Burgelman (1983a) noted, such “strategic neglect in the Medical Equipment case . . . [caused] administrative problems in the venture organization [that] deteriorated from petty and trivial to severe and disruptive, and some high-quality people left the venture” (p. 236). Inadequate responsiveness to the administrative imperatives of the host organization, in other words, seriously compromises new ventures. The solution to bureaucratic obstacles may not be in neglecting them, therefore, but in skillfully navigating around them and, as several successful informants in this study noted, in “working *with* the structure.”

Whether it was for hiring or transferring new talent into the venture, or for getting on the annual budget cycle to acquire the initial funds, or for some other administrative necessity, the new ventures in my sample *had* to deal with the bureaucracy of the firm from the very beginning. Such necessity certainly created problems for the venture because the managers associated with it mostly had backgrounds in particular operating functions and they were typically ill-equipped to navigate by themselves through the confusing maze of administrative bureaucracy. Typically, therefore, the venture managers sought out staff people who “knew the system” and who would take the time to help with a particular need by interfacing with appropriate departments in the firm. These staffers not only made the existing systems respond to the venture’s particular needs, but also, where necessary, they helped modify its functioning so as to accommodate exceptions. In one case (DSSRT), they even created a whole new “accounts receivables” capability that the cash-driven parent never had. In another case (CNSLT), the venture manager commented on the help he received from a staffer to make a crucial change in the

accounting systems of the firm so that his venture could claim the revenues associated with its work with customers of an operating division.

Specific administrative functions are not the only place where venture managers need the help of specialized staff, however. The host firms in this study were sufficiently complex that new venture managers needed help in becoming acquainted with the people, culture, and norms of the departments with which they themselves were not intimately familiar. There was a great deal of minutiae that, without the help of someone intimately familiar with the specifics of the work environment, posed significant obstacles that threatened to slow or even undermine the progress of ventures.

Hence, making connections with administrative departments and the general work environment of particular operating divisions could not always be left to personal friendships and informal networks. Some firms that were accustomed to new initiatives often anticipated the administrative needs in a typical venture's incipient stages and attempted to build the provision of such services into the structure of ongoing activities. The manager of one venture (APACH) explained, for instance, that even though his firm did not have any significant experience in building new businesses from the ground up, the top executives recognized the importance of providing administrative support so that he did not have to spend a great deal of his time trying to learn the complex internal bureaucracy and work norms in every department.

One particularly common administrative constraint that new ventures faced during their initial years pertained to their host firms' hiring routines and practices. Frequently, new ventures required people with special skills in order to meet the special capability needs that the existing system was not equipped to handle and that could not be met with resident resources. This was one arena, therefore, wherein the venture managers often had to *force* the system to accommodate exceptions either by invoking formal authority of the senior management or by persisting in negotiations with those managing the system.

In short, new ventures needed to gain access quickly to the existing administrative fabric of the parent organization, whether through formal channels or via informal personal networks. Where, in spite of all efforts, the existing administrative systems cannot accommodate the needs of a new venture, either top management intervention becomes necessary or the venture itself has to gradually build its administrative capability. Intervention on behalf of the new venture is most likely, however, when a conceptual link already exists between the top management and the venture team.

In fact, not only were the ventures in this sample dependent on existing support infrastructure for their unique administrative needs, but they were also sometimes the impetus for the modification of current systems as well as for development of totally new support capabilities. One executive at RESCHAIN highlighted that the internal processes and systems that historically had supported the existing operations were induced to change themselves as they unsuccessfully tried to respond to the specific needs of the new venture.



Several executives interviewed during the research claimed, however, that they did not set out to change the systems and structures of the firm but only to obtain the functional and administrative support they needed for particular tasks at hand. “Make the structure work for you” was a phrase commonly uttered by my interviewees, and it reflected the tendency of venture managers to emphasize local changes on an “as needed” basis rather than overarching, global changes that reprogrammed the entire structural context within the firm. As an executive at PRINT recalled, “It figures out how the structure can be used to leverage what’s trying to be done. We started off this venture with owning nothing. The functions were all matrixed. They gave way [to the venture] and gradually they all came back together, strongly aligned, back to matrix.”

### **Analytical and Evaluative Linkages**

In addition to facing ambiguity about sustained support from top management and uncertainty about operating and administrative fit with the firm, new ventures are also embedded in layers of uncertainty about the technical feasibility and post-launch market acceptance of their products. In fact, the resolution of key uncertainties about technologies and markets is typically attained concurrently with accomplishing links inside the firm. This happens because the important constituents inside the firm often have to be persuaded that the resources they divert to the new idea have a reasonable chance of yielding favorable results. Persistence of uncertainties about technical feasibility or market impact serves to lower confidence in the eventual success of new ventures and, as a result, it jeopardizes the internal linkages necessary to obtain support and resources.

Across my sample, when a venture idea was initially articulated, it inevitably rested on a number of assumptions or untested hypotheses pertaining to technical feasibility and functionality as well as market need and application of new products. Even though such hypotheses needed to be eventually confirmed or disconfirmed based on the unfolding facts of the situation, it was necessary for venture managers to recognize key uncertainties in making the proposed product a reality and for them to actively work toward resolving those uncertainties so as to continually demonstrate the viability of the idea. In other words, managers needed to analytically formalize their intuition about the venture concept.

The technical uncertainties pertaining to a new family of products were usually too complex and too numerous to be all resolved analytically, however. It was necessary also to construct mechanisms to systematically evaluate the concept with various specialized tests and data. Typically, someone other than the venture manager was assigned (formally or informally) to the process of locating and evaluating at least the very fundamental questions pertaining to technical feasibility of the proposed product. If the initial investigation revealed that the product idea was within the realm of possibility and, indeed, viable from a commercial point of view, it strengthened the justification for allocating additional resources to refine the idea and bring it to fruition. One executive noted the crucial importance of formalizing and justifying technical feasibility by remarking that, “It’s like anti-gravity machines. If we knew how to make those, I’m sure we wouldn’t have any trouble selling them at all.” It was common for scientists and engineers, therefore, to focus

almost entirely on technical aspects, with only a superficial understanding of the end-users and markets where the product would find application.

Even when the basic technology questions were satisfactorily addressed, however, enough uncertainty often remained about a range of second-level technology issues that needed to be resolved incrementally, yet continually, as the venture unfolded toward commercialization. As the manager of one venture (APACH) recalled, although several years of work in the scientific laboratories had answered the basic technology-related questions, there were a great many technical and business uncertainties that still had to be addressed in order to refine and develop the concept into a commercial opportunity. When asked how confident he was of successful commercialization, he replied, “You don’t really know all the answers. It is high risk no matter how much time and effort you put into it. There are risks that you cannot avoid.”

Technical issues were emphasized in the initial stages of the venture partly by necessity and partly because of the need to flesh out the product idea enough to warrant bringing in nontechnical functions to evaluate and embellish it from a business point of view. Hence, the composition of the initial group that conceptually shaped the idea reflected these concerns with technical issues. Moreover, to fully develop the technical side of the equation, technologists often needed freedom from probing issues related to potential market impact and business return. Bringing in commercial considerations too early in the technical development of an idea was often thought to be counterproductive, because of the risk of raising business questions that could not possibly be answered given the undeveloped state of the new product and associated technology.

Even so, solely emphasizing technical issues until the broad outlines of desired functionalities and product capabilities were established was also sometimes counterproductive. The manager of an unsuccessful venture (SHEET), who was himself a technologist, observed that the chief impediment to progress was not technology but concerns related to business. Similarly, an executive intimately involved with an aborted venture (HPERF) noted that the failure arose mostly from an extended and almost exclusive focus on technical concerns to the neglect of commercial considerations. The failure to rapidly integrate and address the business issues, in other words, did seriously impede progress even when fundamental technical issues were continuing to be resolved.

In effect, then, premature as well as delayed involvement of business functions in the venture-building process were both counterproductive. While bringing business functions to bear prematurely on a poorly understood product concept or technically underdeveloped product was unlikely to expedite or benefit a potential venture, waiting too long to do so also sometimes hurt the effort because of resulting neglect of or underemphasis on commercial imperatives. The appropriate time at which commercial interests need to be merged with technical development, therefore, sometimes depends on the project. Typically, the successful ventures in my sample made efforts to integrate business functions with technical work soon after the scientific and engineering feasibility had been demonstrated and the functionalities desired in the end product had been defined.

In integrating business skills with technical efforts, the concern was not only with quickly finding and reaching the end-users, however. The concern was also with strengthening the conceptual links with the resource controllers inside the firm by demonstrating the venture's continuing and demonstrable progress. Successful venture programs usually put in place systematic ways of hypothesizing technical feasibility as well as showing value created for end-users, and they also constructed mechanisms to obtain feedback so as to speedily evaluate the effect of particular actions on the venture's progress.

The importance of obtaining timely feedback pertaining to progress on the technical front as well as pertaining to the continued financial viability of the venture was sometimes overemphasized, particularly in projects that were driven by technological breakthroughs. Because such projects unfolded under great uncertainty spread over time, the assumptions or working hypotheses made at the initial proposal stages needed to be updated, and revised if necessary, so as to keep pace with changes exogenous to the venture. Inability to do this risked fundamentally undermining the economics of the venture and even making it unworkable in spite of significant technological accomplishments. Such was, in fact, the experience of all three unsuccessful ventures in the sample.

Hence, it is not only important to conduct upfront research in order to analytically form initial hypotheses necessary to justify the economic viability of the project. It is also crucial that those hypotheses be updated periodically to assess whether some critical variables have shifted and what effect this shift has on the ability of the venture to reach particular milestones. The information needed to update the working hypotheses can be obtained using informal means, such as maintaining a dialogue with key suppliers and customers, and also through formal means such as putting in place mechanisms that allow systematic and robust feedback at various points in the unfolding of the venture. The effect of such mechanisms is to deepen the experience and decision-making ability in an inherently uncertain process that relies greatly on understanding, improvisation, and flexibility (Eisenhardt and Tabrizi 1995).

The formal mechanisms to get feedback were put in place in the PRINT venture, where the milestone discipline was evident throughout the venture's unfolding. Technical feasibility, market and business potential, and product performance in simulated field conditions were continually evaluated in this venture. In this case, leveraging existing company infrastructure to obtain feedback on the product was cost-effective and also efficient in terms of obtaining timely information about product performance in field settings.

### **Interaction Between Linkages**

The linkages established by new ventures both inside and outside the host firm, while crucial to ultimately reducing key uncertainties impeding the ventures' unfolding, cannot be made in isolation from one another. There is an inevitable, even necessary, interaction among the various linkages. In fact, the chief requisites for the successful unfolding of new ventures were the mutually reinforcing connections among the five linkages, so that venture managers could make an integrated

effort to uncover constraints and pose solutions for a variety of impediments on the path to commercialization. New ventures in this sample built linkages that were in dynamic balance with each other and that served to link the internal resources of the host firm with the most relevant technical and market environments.

**Table 2. New Venture Linkages**

Host Firm	Venture	Venture Distance from Parent Core		Internal Linkages with the Parent Firm			Linkages External to the Firm			
							<i>Technology</i>		<i>Markets</i>	
							Technology	Market	Concept	Bureaucrat
<b>MEDSUP</b>	APACH	High	High	Strong	Strong	Weak	High	High	High	High
<b>RESCHAIN</b>	DSSRT	Low	High	Strong	Strong	Strong	High	High	Mod	High
<b>MAGPUB</b>	TREAD	High	High	Weak	Weak	Weak	High	High	Low	Low
<b>CHEMONE</b>	FTEST	High	High	Strong	Mod	Weak	High	High	Mod	High
<b>CHEMONE</b>	SHEET	Mod	High	Weak	Mod	Weak	High	High	Low	Low
<b>DEFENSE</b>	GHEAD	Low	High	Mod	Strong	Strong	Mod	High	Mod	High
<b>OFFICE</b>	PRINT	High	Mod	Strong	Strong	Strong	High	High	Mod	High
<b>COMPUTER</b>	CNSLT	Low	Low	Strong	Strong	Strong	High	High	Mod	High
<b>CHEMTWO</b>	HPERF	High	High	Strong	Weak	Weak	High	High	Low	Low

Consider, for instance, the conceptual linkage that is essential for reducing uncertainty about top management support and for obtaining funds for the new ventures. The ease with which this linkage can be established is influenced greatly by the nature and intensity of uncertainty about the adequacy of resident operating capability as well as about that pertaining to readiness of technology and markets. In other words, top management support for a new venture idea is typically contingent upon credible assessment that the risk to capital from pursuing the proposed project is worth taking, given the circumstances both internal and external to the firm. Not only is this linkage difficult to establish in the first place; it is also very difficult to sustain for the duration of the venture project. This is because the conditions both inside and outside the firm are continually changing, and the economic and political rationales initially used to gain support of top management are usually no longer valid in the face of changed circumstances following the start of the project. Hence, the analytical and evaluative linkages outside the firm, as well as operating and administrative linkages inside the firm, need to be used to continually update and reinforce the conceptual linkage with those who control resources in the host firm.

Similarly, the operating and administrative linkages that the new venture is able to establish with the internal capabilities and infrastructure of the firm are strongly influenced by the degree to which the project has top management's overt support and commitment. Consistent with what Dutton and Ashford (1993) have proposed, "legitimation of some issues as 'organizational issues' (indicated by top management's attention to them) signals to organizational members the sorts of concerns that have currency in the organization. Where members find these signals affirming, appealing, or desirable, they may be more motivated and committed" (p. 401). It was evident in my research that although the cooperation of operating divisions and bureaucratic functions was difficult to achieve in general, the interests of new ventures were less grudgingly accommodated when the top management's interest in its success was clearly evident and widely understood. In addition, although venture managers did bootleg resources to conduct preliminary research and technical and market analyses, they did in most cases eventually need committed resources in order to execute systematic linkages for clarifying key assumptions, as well as for continually evaluating and updating them.

In essence, then, successful venturing requires developing the entire set of proposed linkages in order to frame and guide a wide range of activities that connect the venture with the most critical constituencies both inside and outside the host firm. While the robustness of each linkage is necessary to resolve a key set of uncertainties, moreover, any one linkage by itself is insufficient to facilitate successful unfolding of a new venture. Each linkage represents a necessary, yet solely insufficient, condition for the eventual success of ventures.



# Conclusions and Implications

The preceding discussion highlights some patterns across nine ventures in a range of corporate and technology-market settings. It identifies and focuses on the theme of venturing as a process of uncertainty reduction on the way to building businesses around (initially) abstract product concepts. The model presented here emphasizes that new ventures emerge and unfold in a sea of uncertainty about issues that range from internal funding and operating support to market need and application. The inability to resolve any one of the key uncertainties can potentially undermine the entire venture effort. By necessity, therefore, successful internal venturing involves developing a series of linkages through which crucial information and resources can flow, on the one hand, between the host firm and the unfolding venture and, on the other, between the venture and its task environment. In this sense, internal new ventures serve to link emerging business opportunities with proprietary capabilities resident within the firm.

The purpose of this study has been to present a normative model of corporate entrepreneurship that is derived from and grounded in particular experiences within several professionally managed firms. Although the heterogeneity of the sample and the focus on activities of the managers (rather than on products or firms) make it likely that the model is analytically generalizable to venturing in a wide range of corporate settings, it is necessary in future studies to locate and verify the contingencies embedded in the firm-venture-opportunity linkages proposed here. For reasons of focus and constraints on resources, the effects on the nature of linkages between such factors as corporate culture and industry environment have not been explored in this paper. (For a broad discussion of issues in innovation and corporate entrepreneurship, see Block and MacMillan 1993; Dougherty 1997; Burgelman and Rosenbloom 1997). Even so, this study yields insights into some ways in which established firms can leverage resident capabilities to expand the scope of their operations.

First, the findings suggest that while autonomous behavior generates the necessary variation to serve as raw materials for new initiatives, it is not a sufficient condition for converting ideas into enterprises. Ventures are initiated not simply because of the presence of ideas and undirected autonomous actions deep within the operating core, but because some from the vast pool of ideas get seized, elaborated, and connected to an infrastructure so as to deliver an explicit function. The emphasis, in other words, is on harnessing the serendipity at the operating level to methodically build the ideas seized either inside or outside the host firm. The building process can be both bottom-up and top-down, moreover. Some ventures in my sample were initiated and led by entrepreneurially inclined technologists or managers, and others were set in motion by senior executives who deliberately picked particular individuals other than idea creators to evaluate, refine, and build untested product concepts into businesses. This ability to build is one of the most important skills for maintaining a corporation's capability to regenerate itself by entering new business domains.

Second, the findings confirm previous claims that entrepreneurs and champions play a crucial role in pushing inherently risky projects through the corporate context, which over time has been honed to stabilize current domains and is usually resistant to uncertainty-ridden new ventures. Even so, firm-specific circumstances influence the ability of internal entrepreneurs to connect with resource controllers as well as to leverage for their own advantage the bureaucratic infrastructure and operating capabilities resident in sister divisions. Hence, while the personal efforts of entrepreneurs are necessary in resolving conflicts and dilemmas generated by the new ventures, systems and procedures can be put in place to help them through anticipated generic problems pertaining to nonoperating but critical issues such as personnel, finance, law, and administration. In this sense, internal venturing is neither a completely unique phenomenon that defies even minimal codification nor is it something that can be institutionalized in permanent management apparatus. It is, instead, a product of interplay between the organic dynamism of the entrepreneur and the formal logic of certain specialized, yet pliable, administrative structures.

Third, several cases in this study indicate that top managers influenced not only the overall venturing activity through manipulation of structural context, but that they also actively intervened in particular ventures, both bottom-up and top-down. By providing input during conceptual linking and even using fiat to remove structural impediments or to help obtain important resources, the top management does help shape both definition and outcomes of particular ventures.

Fourth, by framing venturing activities in a model of uncertainty-reducing linkages, several new observations emerge. I have noted that, for instance, because new ventures typically unfold over several uncertainty-filled years, conceptual linkage with resource controllers remain vulnerable to exogenous shocks both internal and external to the host firm. Hence, conceptual linkage between the venture and parent firm should be several management levels deep and it should be continually reinforced with the passage of time. Similarly, because operating divisions usually have little slack to help a budding venture, depending on these divisions to divert or share their resources is ripe with uncertainty and inherently risky for the new ventures. As a result, budding ventures need to maintain a studious independence from existing businesses until they have themselves developed key dedicated capabilities that can be traded for the necessary resources resident in the operating divisions. At what point in its unfolding a new venture should attempt to share capabilities embedded in the operating core becomes, therefore, a crucial issue in venture management. I have also noted that while internal bureaucracy can impede a new venture, it also is a source of skills and expertise that are important to resource-starved and product-focused venture management. Hence, rather than trying to avoid dealing with the bureaucracy, successful new ventures can selectively deploy it to solve their specific administrative problems. Finally, the model also highlights the importance of external linkages that serve not only to manage technical and market uncertainty by updating fundamental assumptions on which the venture is being built, but also to provide information and feedback so as to strengthen internal linkages.



# Appendix. Selected Quotes

## Conceptual linkages

FTEST: Conceptual linking requires developing a core relationship with people. You can put anything you want on paper, but you don't make the conceptual link until it [the idea] keys into somebody else's mind. You don't get an open mind unless you get an audience. You don't get an audience unless you have rapport. You don't get rapport unless you have credibility. You don't have credibility unless you have a personal relationship.

APACH: I was very concerned that the company did not have a reputation for successful development of advanced products. It made me wonder as to what kind of staying power they had. How serious were they? I knew they had the financial resources, but did they have the will? So, I met with all the senior officers to get a sense as best I could about how they looked at (a) this specific project and (b) the whole idea of setting up a venture and making long-term investments. What I became convinced of was that the company was serious. There was a pretty unified view of what the opportunity was and why the company ought to go into it.

## Operating linkages

FTEST: There's no routine to it. . . . [I]t's hard as hell. The profit objective system at the company drives the division managers. This is not something they explain one way or another. It's called profit objective and they will do what is necessary to deliver that. There is no comparable metric that the divisions are trying to reach around starting new things or being a good corporate citizen. They must deliver that profit objective. So, if resources gets in the way of them meeting their profit objective, it can be very difficult to support new things. [As a new venture] you're really asking for something that may endanger their profit objective.

APACH: Tensions developed when I went looking for people with particular skills. The operating people within the regulatory area said, "You are too small to need a dedicated resource. We'll help you." I took the position that the drug expertise I wanted they did not have. I said, "What I am doing can't be subject to your day-to-day regulatory control in the operating business. We're ploughing new fields and need someone dedicated to us. You can interview the candidates. But I have got to be able to put a team together that makes the decision as to what kind of trade-offs we have to make." It took a while to convince people of that.

## Administrative linkages

FTEST: The functions that are available across the company that you can gain access to easily in any new business are legal, external affairs, public relations, advertising, [etc.]. There are no slack resources, but you can gain access to those resources. So new businesses can start without having to worry about a lot of pieces that an [entrepreneurial venture] would have to. . . . [But, access] really goes

on what you're asking for. If you want a couple hours of a lawyer's time to help frame a contract, that's routine. But if you want a lawyer to spend a month going around with you, then you're into a different domain and that would have to be discussed with some higher level. You'd then be competing with other activities that that guy was going to have [to] do.

APACH: We [the venture] have a young financial type who has come a couple of times and helped me a great deal, including teaching me. One is from the corporate level and one from the financial director from another business. They have come in and they have been enthusiastic to help this venture. They have been able to teach me enough of the company's financial reporting system—to hold my hand to show what forms and what requests need to go in when, what the timing would be or what the budget cycle is, how we get information out of it when we need it, how we manage our financial side. It hasn't been that complex.

### **Analytical linkages**

SHEET: When we talked about the first product being envisioned in the early 1980s, [we] had no business opportunity because of the [low] level of technology. Now through the development in the late 1980s, the level of technology came way up [and] has enabled the opportunities we are going after. . . . [Lately] there never was much doubt about the technology. In this business area we are going after, we are clearly viewed as the world leader in the material technology. There's almost no question about it. The issue is: What's the market? How big is it going to be?

PRINT: We weren't [talking with potential customers] then. We were hypothesizing value [for users]. After we got done [with technically defining the product] and started a program, we did an enormous [market] study. We hired some consulting companies to go out and bring in leaders of the industry we thought we were going after and asking them questions about how they would like [the proposed product]. We had a lot of industry engagement to confirm what we were going after. Some people [customers surveyed] didn't get it at all, and other people said "Wow!"

### **Evaluative linkages**

APACH: The principal focus [in evaluation] has been on two key questions: (1) Are we making progress in proving that the technology works, that it is a safe and an effective method to deliver therapeutic quantities of real life drugs? and (2) Do our partners continue to support us by participating with us and funding the programs? We frankly are looking at that validation from the target industry as very important. We need a partnership on each product, but also their degree of interest in the technology, and in doing feasibility studies. That helps calibrate us. I think we have demonstrated enough value in the technology.

PRINT: The feedback came in 1987-1990 as the product configurations were becoming available. We gave our first product to an internal department in 1988—way in advance of any other product that would have been offered. We wanted to get feedback on what they thought about it in a real environment. . . . We [also] had many beta sites in the period between 1988 and 1990. I think we

had about 27 customers that were running four real jobs and we had given them an arrangement, which gave them the ability to change from a beta site to an actual product site after final launch. If I recall correctly, all of the beta sites changed over to the product.



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