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Corporate Entrepreneurship: Lessons from the Field, Blind Spots Beyond…

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Abstract:
This article attempts to extract and integrate the knowledge generated by practitioners engaged in Corporate Entrepreneurship experiments. Relying on fifteen case studies, it identifies and discusses the three key dimensions of their "theory-of-action": *autonomy*, *motivation* and *resource discipline*. It argues for the inclusion of a fourth dimension – *institutionalization* – if Corporate Entrepreneurship is to overcome its present "unstable organizational form" status.

Key words: corporate entrepreneurship, autonomy, motivation, discipline, institutionalization, cases studies.

Résumé :
Dans cet article, l'auteur tente d'extraire et d'intégrer le savoir généré par les praticiens impliqués dans l'implémentation de processus et de dispositifs intrapreneuriaux. Se basant sur l'analyse de quinze études de cas, l'article identifie et commente les trois dimensions clés de leur "théorie de l'action" : l'*autonomie*, la *motivation* et la *discipline par les ressources*. Afin d'assurer la pérennité d'une forme organisationnelle le plus souvent instable, l'article suggère l'inclusion d'une quatrième dimension, l'*institutionnalisation*, dans leur réflexion et leurs pratiques.

Mots clés: intrapreneuriat, autonomie, motivation, discipline, institutionnalisation, études de cas.

Corporate Entrepreneurship:
Lessons from the Field, Blind Spots and Beyond…

Corporate Entrepreneurship is a multifaceted concept that for some refers to a firm-level disposition to strategic daring (Miller, 1983; Covin and Slevin, 1991; Zahra, 1993; Lumpkin and Dess, 1996), for others to the process of new business creation within established companies (Burgelman, 1984; Vesper, 1985; Block and Macmillan, 1993) and for others still, to the adoption of entrepreneurial values and behavior by corporate staff (Pinchot, 1985). These widely divergent interpretations share one point: the belief that in conditions of increasing turbulence, the incorporation of a "dose" of entrepreneurship can improve the performance of large, established companies. At the moment, this belief appears to rely as much on ideological as on rational grounds and the evidence in its support are not entirely convincing. Some in fact suspect Corporate Entrepreneurship of being just another business fad whereas those who find the concept attractive cannot rely on well established maps to navigate the high seas of turning an oxymoron – as Corporate Entrepreneurship is sometimes designated (Stevenson and Jarillo, 1990; Thornberry, 2001) – into a working reality.

These conceptual issues, however, have not precluded a large number of companies from attempting to implement Corporate Entrepreneurship. Over the last three decades, well known firms such as Eastman Kodak, Xerox Corporation and Lucent Technologies in the United States, SAS, Siemens Nixdorf in Europe and less known ones, have elaborated their own version of Corporate Entrepreneurship and part of this wealth of experience is accessible through publications and case studies. This article attempts to extract and integrate the knowledge that practitioners have generated while pursuing Corporate Entrepreneurship experiments.

When they engage in Corporate Entrepreneurship, practitioners rely on a set of part stated, part unformulated assumptions concerning the nature of Corporate Entrepreneurship and its relation to performance i.e., a "theory-of-action" (Argyris and Schon, 1978) or "ordinary theory" (Calori, 2000) of Corporate Entrepreneurship that they simultaneously go on elaborating and testing. These "theories-of-action" share common features and put together, constitute dynamic conceptual systems that are augmented and modified with each additional experiment. The article identifies and reviews three such systems, each of them emphasizing one key aspect of independent entrepreneurship: the *autonomy* dimension, the *motivation* dimension and the *resource discipline* dimension.

Over time, valuable learning concerning the transferability of these three dimensions to Corporate Entrepreneurship has taken place, both within and across companies. To this day, however, Corporate Entrepreneurship initiators continue to face difficulties in front of which they appear quite helpless. In particular, they seem unable to ensure the perenniality of Corporate Entrepreneurship experiments which appear, today as much as thirty years ago, particularly exposed to top management turnover and economic downturns (Fast, 1978; Kanter, North et al., 1990; Block and Macmillan, 1993).

The recurrence of this issue seems to indicate the presence of a "blind spot" – *a bias inherent to their position and goals which precludes Corporate Entrepreneurship initiators and participants from "seeing" the problem and consequently devising a solution*. Analyzing the cases carefully, it is possible to uncover this blind spot. By pointing at it, we hope to enhance the awareness and mastery of those involved in the organizational adventure called Corporate Entrepreneurship and maybe contribute to increase its longevity…

The rationale behind Corporate Entrepreneurship experiments

Management literature strongly emphasizes the differences between entrepreneurs and corporate managers (Stevenson and Gumpert, 1985; Kanter, 1985; Kanter, North et al., 1990; Stevenson and Jarillo, 1990; Venkataraman, MacMillan and McGrath, 1992; Hamel, 1999). Their strategic orientation, the nature of their commitment, the way they access and consume resources and how they organize, are described as radically divergent. What a corporate manager can accomplish well constitutes a major challenge for the entrepreneur, and *vice versa*. It is generally admitted that corporate managers and their organizations are good at improving proven recipes while entrepreneurs are good at seizing opportunities and creating value through innovation and responsiveness.

Given this Manichean but widely spread representation and the prevailing mystique surrounding entrepreneurs, the managers of mature organizations confronted with a major growth and innovation challenge tend to look at entrepreneurs as their "missing half" and wish their organization were able to appropriate some of their talent and inspiration. Furthermore, the acquisition and integration of entrepreneurial features by the mature organization is viewed as a potential answer to the simultaneous and contradictory requirements of exploitation and exploration. If we agree to define Corporate Entrepreneurship as "the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization" (Sharma and Chrisman, 1999), we see that this answer consists in leaving the established organization in charge of what it does well – managing the existing – and putting individuals in charge of what they supposedly do better – identifying and developing new opportunities.

The Corporate Entrepreneurship "solution", furthermore, is supported by some widespread assumptions concerning the psychology and organization of the entrepreneurial process :

- Individuals, not organizations, have intuitions and creative sparks, detect opportunities and trigger learning processes (Simon, 1991; Nonaka, 1994; Crossan, Lane and White, 1999; Friedman, 2002).
- The processes of creation and problem solving so important in business development require the coupling of all relevant dimensions – technologies, resources, market requirements – in "the minds of as few persons as possible – preferably in that of one person." (Galbraith, 1982; Maidique, 1988)
- Being a highly unpredictable task, the development of a new business requires a flexible and responsive decision process that is not compatible with the constraints of hierarchy or extended

group coordination, especially when time is a critical variable (Galbraith, 1982; Daft, 1982; Nonaka, 1990).

- Individuals provided with meaningful tasks, autonomy and feedback are likely to experience a sense of accomplishment, be highly motivated and perform well above minimum requirements (Pinchot, 1985; Lawler and Morhman, 1998).

The interest of top managers for the Corporate Entrepreneurship "solution" is further reinforced by stirring accounts of how spontaneous corporate entrepreneurs manage to create successful ventures within established organizations or rather, in spite of them (Burgelman, 1983; Dougherty and Hardy, 1996; Hamel, 2000). If unaided individuals can make such a difference, trained and well supported ones should be able to generate a constant and significant flow of additional revenues…

On the base of this part rational, part wishful representation, a number of corporations engage in Corporate Entrepreneurship experiments. However, entrepreneurship being a complex phenomenon, considerable choice and latitude is offered to companies when they decide to embed entrepreneurial features: as a consequence, no two Corporate Entrepreneurship experiments look alike. This diversity is illustrated by the two following examples.

Two Corporate Entrepreneurship Cases

The "Divisione Prodotti Freschi" Experiment. In the late seventies, Barilla, the number one Italian pasta producer, had narrow growth and profit perspectives and its owners were pushing for a major diversification. Fresh bakery products was identified by Barilla's management as a highly attractive but relatively risky business opportunity that relied for the most part on resources and competencies that the company did not master. A new Division was formed and a small task force was put in charge of creating the new business from scratch. The "Divisione Prodotti Freschi" (DPF) was organizationally and physically separated from the rest of the company and had almost no contact with it. No particular inducements were provided to corporate entrepreneurs apart from the prospect of managing a large division within a few years. Interference from top management was limited and control was exercised mainly through severe budgetary constraints which had a positive effect and encouraged corporate entrepreneurs to develop highly creative solutions. The task force was very successful and managed to create a large and profitable business within less than three years. Later on, the DPF moved backed with the rest of the company and started sharing resources and adopting standard administrative procedures. By then, the DPF had become the "second leg" of the company.

The "Myriad Ideas Device" Experiment. In the late nineties, the newly appointed head of a large geographical division of the "Tau Group"– a European multinational and key player in the field of electrical equipment – realized that the internal development engine of his division had been choked by a series of hard to digest mergers and acquisitions. To restore the division's dynamics, he implemented an elaborate intrapreneurial device – the "Myriad Ideas" device – whose goal was to leverage individual creativity and to turn a large number of division employees into idea generators and new business developers. Considerable efforts were made to communicate the philosophy, objectives and functioning of "Myriad Ideas". Regular meetings were held over a hundred operating sites to stimulate and guide employees initiatives. Once formatted and introduced in the online

database, ideas were rapidly assessed and if they met certain criteria, selected for further development. The range of acceptable projects was very wide : no idea was a priori out of scope as long as it made business sense. A stage by stage project funding process allowed to bring the most promising ideas to the stage of viable activities. As their project unfold, corporate entrepreneurs benefited from the assistance of internal sponsors, were progressively freed from their daily tasks and provided with money and technical expertise. The company would help them set up a new business and could become a long-term financial partner. Over three years, this experiment produced over three hundred ideas and 13 new viable activities. However towards the end of the period, corporate commitment significantly diminished and "Myriad Ideas" was stopped.

TABLE 1. Corporate Entrepreneurship Experiments: Two different profiles

Key design dimensions	Barilla's "Divisione Prodotti Freschi"	The Tau Group's "Myriad Ideas" intrapreneurial device
Time horizon	Temporary, till new business is viable.	Designed to be permanent.
Scope (number of participants, number and variety of projects)	Very narrow: Only a few individuals are concerned; only one project is pursued.	Very wide: Every employee is potentially concerned; a multiplicity of widely divergent initiatives are pursued.
Degree of separation /integration vis à vis the existing organization	Complete separation	Complete integration, separation happens only at the last stage of the intrapreneurial process.
Inducement mechanisms	None except the prospect of managing a large and successful division within a few years	Significant communication efforts (conferences, internal magazines, local meetings) ; prospect of creating and owning a start-up.
Selection mechanisms	A priori selection of business idea and team members by top management	Continuous selection process based on idea and idea generator potential assessment performed formally and informally by resource holders.
Resources (money, technical expertise, coaching, championing, etc.) and conditions of availability	The task force includes all key functional competencies plus a "fresh bakery " expert. Tight annual budget negotiated with the company's top management on the base of profit and loss forecast.	No assigned envelope for new projects : all resources (funds and expertise) have to be negotiated on an ad hoc basis by idea generator and his(her) sponsor. Sponsors are "designated volunteers". One full time manager is in charge of supervising the whole process and guiding corporate entrepreneurs.

The configuration of Corporate Entrepreneurship experiments reflects the goals of the companies that set them up, the various constraints to which they are submitted but also the implicit "theory" of Corporate Entrepreneurship initiators i.e., what features they consider key in the entrepreneurial process and how they plan to "embed" it in the existing organization to improve its performance. In the case of Barilla, the dimensions that were deemed crucial were the high level of *autonomy* of entrepreneurs concerning the "how", guaranteed by the complete separation of corporate entrepreneurs from the rest of the organization and the limited hierarchical controls as well as the tight budgetary *discipline,* analogous to the penury of resources which usually afflict entrepreneurs but in this case constituted a deliberate attempt at reducing the risks of exploration. In the case of the Tau Group, the dimension of entrepreneurship that the company wanted to appropriate first and foremost

was *motivation*. Participants' motivation was expected to flow naturally from the excitement of being able to work on one's own idea and the prospect of running one's own business. It was reinforced by the communication of top management approval and unconditional support and a timely feedback mechanism that helped participants know where they stood in order to focus on the next hurdle. *Resource discipline* was an important dimension of the Tau Group experiment. The close scrutiny to which projects and developers were subjected before they received additional funds or time credit permitted to control the amplitude of the experiment and to select out "weak" projects as their flaws became apparent.

We have found that the dimensions of a*utonomy*, *motivation* and *resource discipline* were central to all the Corporate Entrepreneurship cases surveyed (see table 2). Each experiment, however, uniquely interprets and combines these dimensions.

TABLE 2. Corporate Entrepreneurship Experiments: Surveyed Case Studies

Case Study	Date	Reference
Raytheon *Military electronics*	1969-1989	Published 1991 [1]
Barilla *Pasta and bakery products*	1979-1982	Unpublished
"Gamma Company" *Unknown industry*	Late seventies	Published 1983 [2]
Scandinavian Airlines System *Airline*	1983-1985	Published 1986 [3]
Eastman Kodak *Photo supplies and finishing*	1983-1989	Published 1991 [4]
Polaroid Corporation *Photo supplies*	1984-1985	Published 1992 [5]
Ohio Bell *Telecom*	1985-1990	Published 1991 [6]
Acordia Inc. *Health Care Provider*	1986-1992	Published 2001 [7]
Xerox Corporation *Photocopiers*	1990-1995	Published 1998 [8]
3M *Abrasives, adhesives and coating processes*	1992	Published 1995 [9]
Siemens-Nixdorf *Information Systems*	1994	Published 1997 [10]
Procter & Gamble *Consumer goods*	1996	Published 1997 [11]
Lucent Technologies *Telecom*	1996-2001	Published 2000, 2001 [12]
The "Tau Group" *Electrical equipment*	1998-2001	Unpublished
Nokia *Mobile phones and networks*	1998	Published 2001 [13]

These three dimensions constitute the building blocks of the implicit theories that practitioners involved in Corporate Entrepreneurship experiments elaborate and test. Because each experiment is unique,

[1] (Kanter, North, Richardson, Ingols and Zolner, 1991)

[2] (Burgelman, 1983)

[3] (Kao and Blome, 1986)

[4] (Kanter, Richardson, North and Morgan, 1991)

[5] (Hill, Kamprath and Conrad, 1992)

[6] (Kanter and Richardson, 1991)

[7] (Kuratko, Ireland and Hornsby, 2001)

[8] (Lerner and Hunt, 1998)

[9] (Bartlett and Mohammed, 1995)

[10] (Kanter, McGuire and Mohammed, 1997)

[11] (Amabile and Whitney, 1997)

[12] (Kanter and Heskett, 2000; Chesbourg and Socolof, 2000; Chesbrough and Massaro, 2001)

[13] (Day, Mang, Richter and Roberts, 2001)

these implicit theories get tested in a variety of contexts which help reveal their strengths and limits. As their experiment proceeds, practitioners learn from their errors and modify their theory. Since practitioners have access through case studies and exchange forums to other companies' experience, cross organizational learning takes place as well. Both types of learning contribute to the progress and refinement of our understanding of Corporate Entrepreneurship. We will now review each key dimension, the problems it raises when transferred in a corporate context, the learning that has taken place and what constitutes, in our judgment, key practitioners' take aways.

The Autonomy Dimension

The links between innovation and freedom as well as those between business building and self-determination are well ascertained (Bird, 1988; Katz and Gartner, 1988). It is not surprising therefore that *autonomy*, usually restricted in large organizations, is seen by many as the critical dimension of the entrepreneurial process (Lumpkin and Dess, 1996) and the one that Corporate Entrepreneurship experiments need to harness and embed (Burgelman, 1983; Siegel, Siegel and MacMillan, 1988).

«Autonomy Theories» of Corporate Entrepreneurship have been from the beginning and to this day very popular. They assume that the entrepreneurial process is a natural phenomenon that just needs to be freed and protected from the negative influence of the established organization to unfold and that self-determined individuals can best contribute to the good of the whole. They are at the origin of all Corporate Entrepreneurship experiments which involve a marked organizational separation such as the New Venture Divisions (NVD) so popular in the sixties and seventies and still in vogue today (see table 3). Strict separation is recommended by innovation specialists who warn managers to "plant seeds in walled gardens so that established business can't trample them." (Day, Mang, Richter and Roberts, 2001) Though less conspicuous, "Autonomy Theories" are also at the heart of integrated Corporate Entrepreneurship experiments, implicitly expressed in the freedom of goals and/or means granted to participating individuals.

"Autonomy Theories" have been tested extensively and in variety of contexts over the last three decades but have found moderate empirical support and in fact appear to have a limited domain of application.

Problems Tied to Separation

In a number of Corporate Entrepreneurship experiments, autonomy is ensured by the creation of a separate entity. Separation can take various shapes. The entity can be separated *organizationally* in which case it is not accountable to existing operating units, does not depend on them for resources and disposes of an expense and investment envelope:

- ✓ *Eastman Kodak's "New Venture Device" had access to a budget equivalent to 1% of assets and R&D investments*[14].

[14] All examples are drawn from the case studies listed in Table 2.

- ✓ *"Xerox Technology Ventures" was provided with an initial envelope of 30 M$ to spend on promising technologies.*

Frequently, the entity is *physically* separated from the rest of the organization:

- ✓ *Raytheon's New Product Center initially occupied separate and run down facilities.*
- ✓ *Barilla's "Divisione Prodotti Freschi" was located in an old building a few miles away from the company's main office.*
- ✓ *Procter & Gamble's "Corporate New Ventures" occupied a separate floor that had a distinctive office layout encouraging informality and intellectual exchanges.*

Very often the entity is *culturally* distinct form the rest of the organization. Marked differences in the way people work and behave, in the way they are evaluated and rewarded can be observed:

- ✓ *The work climate of Barilla's DPF, Raytheon's NPC or Procter and Gamble's CNV was informal in order to encourage creativity and exchange and stood in sharp contrast with the company's dominant relational mode.*

In these entrepreneurial entities, controls and procedures are less pervasive and short-term results imperative somewhat dampened: money is "patient". The differences are particularly exacerbated when autonomous entities adopt, like *Xerox's XTV* and *Lucent Technology's NVG*, the values, norms and procedures of Venture Capital structures.

Separation, which is supposed to allow corporate entrepreneurs to pursue their project freely and successfully often has, in the context of large, established organizations negative consequences. Corporate Entrepreneurship research confirms that separation tends to generate a great deal of internal tensions (Rind, 1981; Burgelman and Sayles, 1986; Block and MacMillan, 1993; Kanter, North et al., 1990; Gompers and Lerner, 2000; Chesbrough, 2000). Entrepreneurial entities have been shown to enter in conflict with existing operating divisions over issues that range from disagreement over respective territories, fight over shared resources, to feelings of rejection and envy. Tensions increase with the success of the entrepreneurial unit as it is expected to absorb more and more resources (Fast, 1978). Rewards and performance criteria differences, in particular, can engender considerable negative feelings:

- ✓ *There were marked differences between Lucent Technologies' NVG and the rest of the company: a 2 to 1 ratio for "regular" employees and even greater differentials at top management level. In addition to these differences, inferior short term results accountability and disagreements around licensing decisions led to a culture clash between the NVG and the rest of the organization.*

TABLE 3. Corporate Entrepreneurship Experiments: Issues Raised by Organizational Separation

Case Study	Separate Entrepreneurial Entity	Key issues
Barilla	The "Divisione Prodotti Freschi" (DPF)	No major issues
Raytheon	The "New Product Center" (NPC)	No major issues
Eastman Kodak	The "New Opportunity Development Office" (NOD)	Modest contribution in number of new ventures (14) and $ relative to size of company. Mainstream/newstream tensions due to different expectations and meters of success. Refusal to confront constructively inevitable tensions. Managerial attrition.
Xerox Corporation	The "Xerox Technology Ventures" (XTV)	Initially, the existing operating units perceived XTV as a competitor that appropriated their technologies and engineers. After one XTV venture got repurchased by Xerox, the entity started to be perceived more positively.
Procter and Gamble	The "Corporate New Ventures" (CNV)	Finding a "home" to produce and market the products it invented and developed.
Lucent Technologies	The "New Venture Group" (NVG)	Initially, getting support from the rest of the company. Cultural clash. Perceived by some as fostering an unhealthy competition within the organization and reproached for not being transparent. Getting recognition from financial analysts for its achievements.

Separation often leads to isolation. Entrepreneurial entities, as most of them discover sooner or later, are rarely completely independent from the rest of the organization and, as a consequence, can greatly suffer from isolation. Isolation can be lethal if it cuts the entrepreneurial entity from strategic information flows about the internal environment, technologies or markets or if it limits its access to crucial resources. Isolated entrepreneurial entities, like *Procter & Gamble's CNV* for example, can experience great difficulty convincing existing operating divisions to reintegrate new activities that are ready to be mass produced and commercialized. Similarly if they find themselves in a delicate situation due to a decreasing commitment on the part of corporate management, isolated entrepreneurial entities will not benefit from the support of other divisions and will have to fight on their own.

Corporate Entrepreneurship experiments that emphasize autonomy and separation also generate vertical conflicts that arise as a consequence of corporate managers' desire to control the entrepreneurial entity and from the entity's refusal to be managed and assessed like a regular business division (Burgelman and Sayles, 1986; Chesbrough, 2000).

Autonomy of Goals or Autonomy of Means ?

Many of the autonomy related problems that companies experience derive from the lack of distinction in the mind of Corporate Entrepreneurship initiators between *autonomy of goals* and *autonomy of means*.

Independent entrepreneurs have complete latitude to select both their goals and their means. Many Corporate Entrepreneurship experiments initially attempt to reproduce this state of affair by limiting a priori constraints: corporate entrepreneurs should be free to decide both the "what" and the "how". The desire to offer maximum latitude to corporate entrepreneurs is apparent in company statements such as "we want to exploit our technologies in anyway that makes business sense", "we are willing to encourage any idea as long as it is a good business idea". Unfortunately, because it allows corporate entrepreneurs to pursue goals that are disconnected from those of the company, this complete freedom can have negative consequences for them and for the Corporate Entrepreneurship experiment in general.

By pursuing strategically unrelated projects, corporate entrepreneurs can weaken their personal position within the organization and contribute to diminish the strategic relevance of the Corporate Entrepreneurship experiment and, consequently, its legitimacy. While strategic relevance is seldom mentioned as a key performance indicator at the beginning of Corporate Entrepreneurship experiments, it tends to acquire more and more weight as the experiment unfolds and as the usually propitious environment in which it was launched turns into a tougher, more competitive one. In a difficult context, the freedom of goals enjoyed by corporate entrepreneurs can become hard to justify and so will a process that authorizes rare resources, such as enterprising managers, to be allocated to projects that generate few or no synergies with the existing businesses and, worse, multiplies the risk of losing these rare resources as unrelated projects can end up in spin-offs…

- ✓ *At the end of a three year period, The Tau Group's "Myriad Ideas Device" got criticized on account of its lack of strategic focus which had led, according to the new management, to a waste of resources and energy. In order to survive, the device would have to restrict its domain and encourage synergies.*
- ✓ *In spite of a highly successful and profitable IPO, Lucent Technologies' NVG achievements have not been recognized by the financial analysts community who worried about the company's overall strategy and failed to see how the NVG contributed to it. Internally, the entity was criticized on the account that, as a result of spin-offs, 50 good managers had left the company.*

The complete autonomy that independent entrepreneurs enjoy can become a trap for Corporate Entrepreneurship experiment leaders and participants who are then forced to fight on two fronts and defend both their choices of goals and their choices of means. The clarification and communication to all of the domain within which exploration is legitimate would help reduce the pressure. The pursuit of strategically aligned projects will eliminate a major potential source of conflict and allow corporate entrepreneurs to focus on reaching their goals in the most effective, albeit unorthodox, ways:

- ✓ *Because the goals it pursued were recognized by all, Barilla's "Divisione Prodotti Freschi" suffered limited hierarchical encroachment and was never strongly questioned by the rest of the organization in spite of its marked work style differences and unorthodox choices of means.*

Progress and Status of "Autonomy Theories"

The problems related to the autonomy dimension of Corporate Entrepreneurship have been identified many years ago. In fact, one of the major conclusions of past Corporate Entrepreneurship research has been that "independence has to be coordinated" (Kao, 1989) and that, in order to be successful,

Corporate Entrepreneurship experiments should be designed so that autonomy and integration are well balanced (Kanter, North et al., 1990; Day, Mang, Richter and Roberts, 2001).

How can this objective be reached ? The literature underlines the importance of maintaining or establishing proper communication channels between the entrepreneurial entity and the rest of the organization and of ensuring that mainstream managers support the key projects of the New Venture Division by including them in its governing board. It also suggests that the autonomy and separation of corporate entrepreneurs should be progressive, that it should correspond to well ascertained needs and evolve with the maturity of the project.

On their part, companies confronted with these problems have demonstrated their capacity to learn from their errors and those of their peers and to improve the balance between autonomy and integration:

- ✓ *The founder of Raytheon's NPC positioned his entity as a service unit whose mission was to help and answer the requests of existing divisions. NPC employees were selected for their technical expertise but also for their ability to communicate and relate with people. Communications channels were considered key and continuously improved over time.*
- ✓ *Over a period of two years, Xerox's XTV managers were able to improve an initially tense relation with existing divisions managers by showing them that they constituted an alternative faster innovation engine and that they could be useful to them.*
- ✓ *Right from the start Lucent Technologies' NVG leaders hired start-ups experts who were also familiar with large companies' decision processes and could managed the delicate interface with top management. As they went along, NVG leaders rapidly realized that their performance depended on the quality of their links with the company's R&D labs and business unit managers. Over a few months, they managed to significantly reinforce these strategic connections.*

We believe that the key lesson that can be learned from these companies' experiments is that the "autonomy" of corporate entrepreneurs is not a given but a rare resource that is conceded by the organization and needs to be continuously negotiated. The autonomy /integration dilemma cannot be solved therefore through structural arrangements (design solution) only, but requires the mastery of a complex social interaction process.

Autonomy being scarce and costly, corporate entrepreneurs should clarify the type and extent of autonomy and separation they really need and accept to compromise and give up on less essential aspects. As conditions evolve and projects unfold, the needs of corporate entrepreneurs will change and so will the "price" of autonomy, forcing them to renegotiate and establish a new equilibrium between their requirements and the demands of the rest of the organization. Flexibility and empathy will help corporate entrepreneurs avoid wearing conflicts while preserving their vital space.

"Take aways"

Within large established companies, autonomy is not a "given" but a rare resource that needs to be continuously negotiated. As a consequence, "autonomy theories" which associate the success of Corporate Entrepreneurship experiments to maximum individual autonomy and organizational separation have a limited range of validity. Outside of this narrow domain of application, autonomy and separation will have to be continually *negotiated*. The success of the separate Barilla and Raytheon entrepreneurial entities reveals that:

- In a corporate context, autonomy works better when goal autonomy is restricted:

- ✓ *Barilla's* DPF *worked on a top management imposed business project and Raytheon's* NPC *spent more than 50% of its resources on existing divisions' imposed projects and requests.*

- In a corporate context, autonomy works better when differences are downplayed:
  - ✓ *Barilla and Raytheon reduced tensions by hiring a majority of insiders (Barilla) and good communicators (Raytheon), by avoiding to create compensation differentials and by installing corporate entrepreneurs in distant, second-rate facilities.*
- In a corporate context, autonomy works better when the separate entity does not depend on existing divisions to reach its goals:
  - ✓ *Barilla's DPF project had almost no resource and competence in common with existing businesses. By limiting its involvement to the elaboration of prototypes, Raytheon's NPC greatly reduced its dependency on existing operating divisions.*
- In a corporate context, autonomy works better when the entity has clear performance targets and its success is unambiguous:
  - ✓ *Barilla and Raytheon both had clear, operational charts. Their success – market share for Barilla, fast and economical prototypes for Raytheon – could be objectively assessed.*

The Motivation Dimension

The powerful motivation that allows entrepreneurs to put in so much heart, effort, and creativity, to pursue their goals with determination and adapt constantly, is definitely a feature that managers of large companies, confronted with low morale and organizational apathy, dream of capturing. Motivation and innovation are closely connected – great motivation is necessary to overcome the difficulties and doubts tied to innovation but innovation is in itself highly motivating. The virtuous circle only needs to be triggered…

The motivation of entrepreneurs depends on several factors: intrinsic factors – building a new business is in itself very exciting – and extrinsic ones such as the prospect of acquiring wealth, autonomy and prestige (Hornsby, Naffziger and Kuratko, 1994). In order to instil the motivation of independent entrepreneurs to their employees, corporations set up reward systems that combine intrinsic and extrinsic elements. Most Corporate Entrepreneurship experiments' reward systems heavily rely on the intrinsic appeal of developing a project from A to Z, testing oneself and being able to "make a difference" (Frohman, 1997). They add to these rewards, the possibility of working in a stimulating, informal environment, recognition under various forms, and of course financial incentives (see table 4). Though a lack of proper financial incentives has been evoked to explain the failure of Corporate Entrepreneurship experiments (Block and Ornati, 1987), it is clear from the cases at hand that corporate entrepreneurs can be highly motivated in absence of any such rewards (see table 4).

Adequate Empowerment Mechanisms and Tools

Most companies recognize that the intrinsic and extrinsic rewards which motivate independent entrepreneurs might not be sufficient to motivate corporate entrepreneurs who need additional encouragement and support. Corporate Entrepreneurship devices try to *empower* individuals i.e., "to enhance feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques" (Conger and Kanungo, 1988).

Separating entrepreneurs from the rest of the organization and providing “patient money”, is a way of “removing conditions that foster powerlessness” and, thus, an empowerment tool. On the other hand, many companies believe that it is possible to empower individuals without removing them from the mainstream. In fact, each company will deploy its own idiosyncratic array of rewards and empowerment tools (see table 4).

TABLE 4. Corporate Entrepreneurship Experiments: Rewards and Empowerment tools

Case Study	Rewards	Empowerment tools
Raytheon	Intrinsic rewards; informal, technologically excellent work environment; internal and external recognition.	Separation
Barilla	Intrinsic rewards; friendly informal work environment; prospect of managing a new division.	Separation
Eastman Kodak	Intrinsic rewards; prospect of managing one’s own activity inside or outside the company.	Selected intrapreneurs are freed up for 20% of their time and receive 25,000 $ seed money “No veto system”: intrapreneurs are free to pursue their idea even if initial feedbacks are not favorable. A highly structured venture support system comprising: - “Offices of Innovation” : professionals guide intrapreneurs during initial phase of project and try to find a “home" (operating division) for it - The NOD, a separate entity that helps intrapreneurs pursue “homeless” projects, constitutes venturing teams and funds promising projects - The Venture Board that can allocate up to 250,000 $ to help launch new businesses - Eastman Technologies Incubator that shelters start-ups born out of the NOD development efforts.
Scandinavian Airlines System	Intrinsic rewards.	Creation of smaller, more autonomous organizational entities (decentralization). Intense indoctrination campaign led by J. Carlzon, the charismatic CEO of SAS, preaching “customer satisfaction religion” and encouraging line employees initiative and creativity.
Ohio Bell	Intrinsic rewards and internal recognition (10, 000 to 30,000 $ prizes are attributed to year best projects)	Explicit “stage by stage” project funding process with clear selection criteria at each stage Candidates receive help from full time “innovation consultants” to formalize, refine their project and assess its bottom line impact. Development teams are set up to help idea generators concretize their ideas and internal sponsors are provided. Department of idea generator receives 1% of value created by project. High level of hierarchy involved in the selection process
Acordia Inc.	Intrinsic rewards and yearly bonus based on individual performance; prospect of running a new division.	Training program and creation of smaller, autonomous entities (decentralization) to instil an entrepreneurial culture Constitution of new venture teams to develop new businesses. New set of performance indicators and

		incentives.
Case Study	**Rewards**	**Empowerment tools**
3M	Intrinsic rewards; Best projects awards and informal recognition; Career progression tied to entrepreneurial accomplishments; Prospect of leading a new division.	15% rule (researchers are allowed to spend up to 15% of their time working on the idea of their choice). Automatic creation of development teams. Explicit "stage by stage" project funding process. "Make a little, sell a little" philosophy lowering minimum business size hurdle. Structure and culture facilitating the linking and leveraging of widely dispersed pockets of knowledge. Selection of innovators sensitive to market requirements with entrepreneurial profiles. Reinsertion in case of failure.
Siemens Nixdorf Informations systeme	Intrinsic rewards; Learning opportunity; Career booster.	A thirteen weeks intensive course is offered to corporate entrepreneurs who have been selected among high potential managers. Attribution of two high level sponsors to each corporate entrepreneur
Xerox Corporation	Intrinsic rewards; prospect of managing own business and/or owning shares of a future public company.	The XTV, a separate venturing entity with a substantial budget, its own funding policy and a 10 years horizon. Participants are progressively granted options to buy real shares. Access to company's resources in the areas of manufacturing, procurement, business services and sales referral. Access to a" Xerox Companies" label.
Procter & Gamble	Intrinsic rewards; friendly, informal work environment.	The CNV, a separate product innovation entity. Formal idea generation and selection methods.
Lucent Technologies	Intrinsic and financial rewards; attractive work environment.	The NVG, a separate internal venture unit combining the culture and operating modes of Venture Capitalists with those of a large technology based company. Enough money to fund 3 to 5 ventures per year and an 8 years time horizon. Explicit "stage by stage" project funding process with clear selection criteria at each stage. Constitution of strong and complementary project teams. Participants are granted "phantom stocks" (a stake in the future valuation of the company)
The "Tau Group"	Intrinsic rewards; visibility; prospect of running and owning one's own business under the sponsorship of the company	Intense indoctrination campaign Network of 100 local relays Explicit "stage by stage" evaluation process with clear selection criteria at each stage Appointed project sponsors. Various forms of support: Online database, Incubator, the "Entrepreneurs' Club".

A few months or a few years through the Corporate Entrepreneurship experiment, many companies discover that the initial combination of measures and tools they implemented does not have the expected results and needs to be modified. The adaptation required is sometimes superficial but in other cases leads to question the basic premises of the experiment:

- ✓ *After two years, Jan Carlzon, CEO of SAS and instigator of a highly successful change process promoting entrepreneurial behavior at all company levels, came to realize that middle managers had been neglected and could become a major hindrance if the movement*

continued to ignore them. He also realized that the enthusiastic response of line employees could not be sustained unless properly aligned compensation and career management systems were put in place.

- ✓ *The first steps of the Tau Group's Myriad Ideas experiment were hesitant. Its initiators had not foreseen the enthusiasm it would generate and had under-dimensioned the project evaluation process. As a result, idea generators had to wait for months in order to get a feedback and got disappointed. As the reputation of the experiment was at stake, the selection process had to be rethought and ended up significantly reinforced. Later on, experiment initiators discovered that, contrary to their expectations, few idea generators were willing to become corporate entrepreneurs. This discovery also led to significant changes in the experiment parameters…*
- ✓ *Lucent Technologies' NVG initiators had initially overestimated the business acumen of technically oriented idea generators and realized after a while that they needed to assemble teams of "professional entrepreneurs" to work with them on projects.*
- ✓ *When they sent 21 high potential managers in the United States for thirteen weeks to be trained as corporate entrepreneurs, Siemens Nixdorf experiment initiators had not foreseen how difficult their return would result. In order to advance the ambitious projects they were working on, these highly motivated individuals had to fight constantly the consequences of poor communication and turf instinct. They could not count on their senior sponsors who appeared moderately involved and, on top, had to manage the unrealistic expectations of their colleagues…*

In some companies, specific measures and processes are embedded within an "entrepreneurial" culture and organization. This is the case at *SAS* and *Acordia Inc.* where, in order to foster entrepreneurial behavior, decision making has been radically decentralized and a large number of small, manageable entities have been constituted. It is also the case at *3M*, which associates to specific measures and processes, a culture that is tolerant to failure and a decentralized organization that nonetheless favors the "linking of distant pockets of knowledge".

Progress and Status of "Motivation Theories"

"Motivation theories" of Corporate Entrepreneurship which link corporate performance to an accumulation of successful individual initiatives, via increased motivation, are at the of core of all Corporate Entrepreneurship experiments. However, as we have seen, theory adaptations diverge widely from one company to another, probably because what motivates individuals, and in particular what motivates them to adopt an intrapreneurial behavior, varies with nationality, employees socio-demographic characteristics and economic context. The importance of financial rewards in particular appears highly contingent.

In spite of their imperfections, the inducement systems set up to foster intrapreneurial behavior seem to work remarkably well. In all the cases analyzed, companies managed to elicit a great deal of enthusiasm and involvement on the part of their employees. Many employees came up with innovative business ideas and a significant number of them wholeheartedly engaged in the long and uncertain process of business building. In a number of cases, the early phases of the experiment were colored by strong positive emotions which participants vividly evoked. However, the extra motivation that Corporate Entrepreneurship experiments generate does not always get transformed into extra performance. "Motivation theories" are often victims of their own success.

When corporate entrepreneurs engage in risky and demanding activities, they do so on the basis of a psychological contract with the organization (Rousseau, 1995). Corporate entrepreneurs have tacit expectations concerning what will happen during – in terms of help and support – and after the

venturing process – in terms of rewards, recognition and reinsertion should the necessity arise. If these expectations are not met, their bad feelings will be directly proportional to their initial level of motivation and involvement. Demoralized corporate entrepreneurs who believe, for good or bad reasons, that their company has not respected its part of the deal are unfortunately not a rarity.

A flawed or excessively stringent selection process can disgust initially enthusiastic participants. When approvals are too slow, funds too hard to get, when too many people have a say and too many conditions have to be met, the internal venturing process turns into a hurdle race that eliminates all but the most resistant. The *Ohio Bell*, *Eastman Kodak* and *"Tau Group"* experiments showed some of these defects. Frequently, corporate entrepreneurs get caught in the undertow and suffer the consequences of the company's decreasing commitment to Corporate Entrepreneurship just as their personal prospects and motivation are reaching a high point. When companies withdraw their assistance at the very last stage of the business development process, the effects can be devastating:

- ✓ *Joline Godfrey had dedicated two years of her working life to "Odyssee", an intrapreneurial project which she had created from scratch and spontaneously submitted to her hierarchy. Through various project development stages, she had managed to get support and resources from the top echelon of the company and was now ready to create a start-up in partnership with Polaroid. During a tense meeting, Joline discovered that the company's top management had decided to drastically reduce their monetary involvement. Joline felt betrayed and although she was highly regarded in the company resigned little after…*

In case of failure, an occurrence that is not well tolerated in most organizations, corporate entrepreneurs can find themselves in an uncomfortable position and feel obliged to leave. Following upon failure or success, the departure of corporate entrepreneurs will have negative consequences for the company which will undergo a loss in both human and social capital. The loss in human capital can be harmful, especially in a tight labor market, but the loss in social capital – "the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action" (Adler and Kwon, 2002) – can be even more damaging (Dess and Shaw, 2001).

Corporate entrepreneurs are social capital generators *par excellence* and their departure can leave a big hole in the social fabric of the company. In effect, corporate entrepreneurs create and maintain extended networks of trusted relations within and outside the corporation to obtain resources, build support and gain legitimacy (Dougherty and Hardy, 1996; Greene, Brush and Hart, 1999). They broker relationships between distant departments, filling the "organizational holes" that result from defective communication channels (Burt, 1992) and become agents of organizational learning (Zahra, Nielsen and Bogner, 1999; Floyd and Woolridge, 1999; Friedman, 2002). When they leave, these critical links will get severed – provoking the isolation of whole areas of the company – and informal value generating processes will get dropped and forgotten. Corporate entrepreneurs can also – it has been the case in the United States recently – bring along with them their most trusted colleagues (Cappelli, 2000), causing even greater damage to the social fabric of the company.

"Take aways"

Contrary to "Autonomy theories" which have a limited domain of validity, "Motivation theories" of Corporate Entrepreneurship work in a great variety of settings and conditions. Individuals *do* get motivated by the prospect of developing a project from A to Z and "making a difference", even when

financial rewards are modest. However corporate entrepreneurs expect the organization to behave as a reliable and benevolent partner and often get disappointed. When this is the case, the extra motivation generated by the Corporate Entrepreneurship experiment can turn into bitterness and resentment, negatively affecting morale and performance.

In order to avoid this situation, the first preoccupation of Corporate Entrepreneurship experiment leaders should be to ensure the sustained commitment of the company to the experiment and to its participants. Corporate Entrepreneurship experiment leaders should also worry about managing expectations. Realistic messages about Corporate Entrepreneurship should be communicated to top management and employees. Participants' expectations in terms of support and rewards should be clarified and the drafting of an individualized contract tying the company to the corporate entrepreneur should probably become an integral part of the project development process.

The Discipline Dimension

Independent entrepreneurs are autonomous, motivated, but also *disciplined* by tough external constraints. Market forces and resource limitations select out "weak" business projects and compel entrepreneurs to be efficient, flexible and value-oriented.

Discipline is a key dimension of entrepreneurship that Corporate Entrepreneurship experiments try to include, if only to balance the autonomy granted to corporate entrepreneurs. In most companies, discipline is imposed by limiting resource availability and/or making it conditional to specific performance requirements. From the standpoint of the company, resource discipline helps reduce considerably the risk of making costly blunders and encourages a more frugal use of resources in the process of product and business development, thus reducing the cost of innovation. If single projects cost less and can be discontinued at any moment, the company will be able to pursue more projects simultaneously, thus increasing variety, flexibility and the probability of success measured by the number and significance of new viable activities.

The Discipline of Scarcity

In a number of cases, the resources formally available to corporate entrepreneurs are few and hard to get. This scarcity reduces the cost of the Corporate Entrepreneurship experiment, selects out poorly motivated participants and forces the others to be efficient and imaginative. Probably because they target a large population and have to limit the resources granted to any single participant, Corporate Entrepreneurship experiments are generally characterized by a stringent and parsimonious funding process.

Scarcity obliges corporate entrepreneurs to be selective and to focus their efforts and resources on strategic targets (Clayton, Gambill and Harned, 1999). It prohibits waste and encourages creativity at all levels (Stevenson and Gumpert, 1985). Faced with strong restrictions, corporate entrepreneurs become good at locating and obtaining, often for free, underused resources both inside and outside

the company. They are also excellent at finding new, more economical suppliers and value chain configurations. Finally, penury discourages the creation of complex and rigid organizations:

- ✓ *Contrary to the company's traditional independence posture and because it disposed of a very limited investment budget, Barilla's DPF outsourced key functions such as manufacturing and outbound logistics. It also outsourced some administrative tasks, reducing their costs by 75%. As its turnover increased, the DPF maintained a restrictive hiring policy. These decisions had a major impact on the DPF's operating profit, return on investment and flexibility.*

But scarcity can also be damaging. Corporate entrepreneurs are not always able to access "free resources" or to "invent" lower cost alternatives and can be starved by corporate stinginess. Interesting but poorly advocated projects do get killed because they are denied seed money in the order of a few thousand dollars.

The Discipline of Continuous Selection and Conditionality

When uncertainty is high, managers can be tempted to entrust difficult choices to an external, neutral force – such as "the market" or "natural selection". The majority of Corporate Entrepreneurship experiments aim at replicating such a "natural selection" process and count on the "law of large numbers" to ensure their success. As one manager explains: "*if we can generate a thousand ideas, we will be able to test a hundred. Out of those hundred, twenty might prove a success and five could become the core businesses of tomorrow*." In order to emulate the natural selection process, Corporate Entrepreneurship experiments usually combine a wide-open idea generation and entry phase with a stringent selection process that funds projects conditionally and in various stages (see table 5).

A priori restrictions are limited in order to foster variety, originality and participation. However, this wide-open entry is compensated by strict assessment procedures that aim at rapidly eliminating unrealistic, insignificant or poor ideas and progressively and prudently allocate resources to "good" ideas.

Such a "stage by stage" project funding process can help companies and individuals tailor their level of commitment to the prospects that uncertainty reduction progressively delineates, reducing risks for both parties. It turns projects into "real options" that can be exercised or, on the contrary, extinguished at the right moment (Courtney, Kirkland and Viguerie, 1997; McGrath, 1999). Attempts at reproducing natural selection, however, do not always produce the expected results and raise several issues.

TABLE 5. Corporate Entrepreneurship Experiments: Acceptable ideas and Selection process

Case Study	Acceptable ideas	Selection process
Eastman Kodak	Ideas can be inside or outside the scope of existing business lines, the only restriction is that the idea generator has to stay involved till the end	Stage by stage project funding process
SAS	Any idea that contributes to improve service to clients or can generate new business	Not mentioned
Ohio Bell	Any idea that contributes to cut costs or generate additional revenues	Stage by stage project funding process
Xerox Corporation	Any idea that exploits Xerox's technologies, doesn't fit within mainline business strategy and has significant turnover and profit perspectives	Stage by stage project funding process
Procter & Gamble	Any idea that leverages and recombines P&G's vast repertoire of technologies and competencies and has adequate turnover and profit perspectives	Stage by stage project funding process
Lucent Technologies	Any idea that exploits Lucent's technologies, doesn't fit within mainline business strategy and has significant turnover and profit perspectives	Stage by stage project funding process
The "Tau Group"	Any idea that makes business sense, preferably aiming at bringing additional value to existing clients	Stage by stage project funding process

The first issue, already evoked in the "Autonomy dimension" review, is a direct consequence of the choice to leave the funnel's entry wide-open and to evaluate projects on their intrinsic merit. In these conditions, all valuable projects, even strategically unrelated ones, will be funded and pursued. We know, however, that in case of budgetary restrictions or top management turnover, unrelated projects will not be seen with a good eye and will tend to discredit the whole Corporate Entrepreneurship experiment.

Another issue derives from the tendency of the selection process to go overboard. Contrary to the model, real selection is not "natural" but performed by a few overwhelmed individuals who do not always possess the required information and competencies. The selection process will be as effective as these individuals. Selection practices, furthermore, tend to mirror the company's culture. Risk adverse companies impose exceedingly stringent criteria (e.g. the *Kodak Eastman* experiment), bureaucratic ones set up complex and discouraging procedures (e.g. the *Ohio Bell* experiment) and monolithic companies encourage decision makers to seek consensus, thus slowing and restricting the funding process (e.g. the *"Tau Group"* experiment). At the end of the funnel, projects will be few and small by company standards.

When the Corporate Entrepreneurship experiment is an integrated one, the formal selection process is reinforced by the selection exercised by an unsupportive work environment. Everyday tasks can be overwhelming. Time and freedom need to be continually negotiated. Corporate Entrepreneurs find themselves isolated and the absence of supportive colleagues and superiors can erode their initial enthusiasm (e.g. the *Siemens Nixdorf* experiment). It takes individuals with exceptional dispositions to thrive in these conditions and bring the internal venturing process to completion (Burgelman, 1983; Kanter, Richardson, North and Morgan, 1991; Hamel, 2000).

A third issue derives from the fact that the selection process eliminates ideas *and* individuals. We have seen in our review of "motivation theories" that this could result in much discouragement and even

resentment especially in organizations that, as most of them do, stigmatize unsuccessful risk takers. "Natural selection" can therefore have a significant human cost.

We believe that the "law of great numbers" is a costly principle that very few organizations can afford and that more restrictive entry conditions could help increase rather than decrease the number of viable projects at the end of the funnel. If projects are fewer and better strategically aligned, they will receive more support and benefit from greater synergies among them and with existing businesses. If the licit domain of exploration is narrower, the chances that various projects are related and reinforce each other increase dramatically. The probability that projects end up in spin-out decreases, limiting valuable managers' attrition. Furthermore, corporate entrepreneurs that pursue projects which enhance in some fundamental way their company's strategic goals will feel more confident and willing to take other risks.

The Discipline of Venture Capitalists

In the last decade, it has become popular for large companies to fashion their separate entrepreneurial entity after Independent Venture Capital structures. Companies like Xerox and Lucent Technologies have modeled their New Venture Divisions after Venture Capital structures and established active partnerships with external Venture Capitalists:

- ✓ *Xerox's XTV, the entrepreneurial entity in charge of exploiting Xerox's technologies, was explicitly modeled after a venture capital organization. It performed due diligence on the ideas that Xerox's researchers proposed and evaluated them on the basis of their potential return on investment. It would then turn selected ideas into viable activities and form independent companies whose ownership was shared among Xerox, the intrapreneurs but also external venture capital firms. XTV's ambition was to introduce these companies on the stock market. In order to benefit from the impartiality and good judgment of venture capitalists as well as their often excellent network of informants, XTV instituted a syndication policy which made the financial participation of external Venture Capital funds mandatory. Temporary executives familiar with start-up management were hired to reinforce internal teams and new ventures CEOs were recruited externally. Xerox employees willing to join XTV had to demonstrate their commitment by relinquishing all return guarantees. The relations of XTV with Xerox were at arms' length and XTV paid for the use of corporate resources and competences.*
- ✓ *Lucent Technologies' NVG initiators described their unit as a "halfway house" combining features of both Venture Capital structures and large technological companies. From Venture Capital organizations, it adopted the "small bets" and "few wins, many losses" philosophy, the reliance on ROI as a key evaluation criteria and value realization via exit. The NVG was structured and operated so as to retain flexibility and responsiveness. Decisions were made frequently and quickly. NVG's managers had foregone bonuses and corporate fringe benefits but were granted phantom stock options. Over time, the NVG learned to put great emphasis on upfront evaluation and developed sophisticated due diligence methods. External Venture Capital funds were involved through syndication and new venture boards often included venture capitalists.*

If we are to judge from these two cases, the "discipline" of venture capitalists does ensure excellent financial results. Over a short period of time, both the XTV and the NVG have given birth to a number of profitable businesses with excellent return for the investors. A majority of these businesses have been spun out, generating attractive capital gains for the parent company. However there are also some negative aspects.

The adoption of Venture Capital norms and procedures strongly differentiates the entrepreneurial entity from the rest of the organization and can lead to its isolation. In particular, the alignment of the

Corporate Venture Capital entity's salaries and rewards on those of Venture Capitalists, as was the case at Lucent Technologies, can raise feelings of injustice and envy and do not encourage supportive behaviors on the part of other divisions' employees. To the extent that they generate few or no synergies with the existing businesses and use resources to fund unrelated diversification, the finality of these entrepreneurial entities is strategically questionable:

- ✓ *Even financial analysts questioned the logic of Lucent Technologies NVG and did not reward the company for the high IPO it obtained on a business it had successfully developed.*

Generating cash by exploiting the company's technologies can look to some more like a means of personal enrichment than a legitimate corporate goal. It is only when entrepreneurial entities demonstrate their usefulness for the rest of the company that they gain acceptance internal acceptance:

- ✓ *XTV's relations with the rest of the organization started to improve when one of its start-ups was reacquired by Xerox and integrated within an existing operating division, making a tangible contribution to this division's performance.*

Progress and Status of "Resource Discipline Theories"

Over the years, "Resource discipline theories" have amply proven their validity.

Early Corporate Entrepreneurship experiments have sometimes been characterized by a lack of resource discipline that encouraged the pursuit of low value projects and waste in general (Block and MacMillan, 1993). Over time, companies have realized that resource discipline was necessary in order to balance the autonomy granted to corporate entrepreneurs and have put in place stage by stage project funding processes which have helped control the direction of the experiment as well as its cost. More recently, the demanding evaluation procedures and criteria of Venture Capitalists have been adopted by a number of companies, with excellent results in terms of return on investment. Resource discipline is necessary in order to balance autonomy but it is also a key instrument in the management of innovation. It is a stimulant that encourages corporate entrepreneurs to be creative, unconventional and efficient. Stage by stage funding processes create "options" that can be exercised or, on the contrary, extinguished at the right moment thus reducing the risks tied to exploration.

"Take aways"

If resource discipline definitely constitutes a valid principle in the context of Corporate Entrepreneurship, it is not sufficient to guarantee the quality and relevance of Corporate Entrepreneurship experiment outcomes. In effect, the combination of a wide open funnel entry with a stringent funding process does not necessarily lead to numerous and significant new ventures. A narrower funnel entry encouraging the aggregation of closely related ideas combined with a more generous funding process might yield better results. Also, because it has such a significant impact on outcomes, the selection process should be designed and implemented with care and great attention to detail.

Lessons from the Field, "Blind Spots" and Beyond

Lessons from the Field

Over the last three decades, a great deal of learning has taken place and Corporate Entrepreneurship experiment leaders and participants now start from a more solid base than their predecessors. They now can draw on the following take aways:

- The autonomy of corporate entrepreneurial entities and individuals is not a given, as in independent entrepreneurship, but a rare resource that has to be continually negotiated with the rest of the organization.
- The degree of separation of an entrepreneurial entity from the rest of the organization – measured both in terms of differentiation and isolation – should be coherent with its level of dependence. In a number of cases, the entrepreneurial entity critically depends on the rest of the organization and should, right from the start, establish and maintain tight connections and good relations with the entities on which it depends.
- The high level of motivation that Corporate Entrepreneurship experiments give rise to can easily backfire if the expectations of both observers and participants are not clarified and properly managed by experiment leaders.
- Resource discipline is an essential feature of Corporate Entrepreneurship : it is a control tool but also an innovation management tool, which it stimulates and makes less risky. Resource discipline, however, is not sufficient to guarantee the quality and relevance of Corporate Entrepreneurship experiment outcomes.
- The selection process has a major impact on Corporate Entrepreneurship experiment outcomes and should be designed and implemented with the greatest care.

Furthermore, at this point, one should acknowledge that Corporate Entrepreneurship is not a panacea and cannot solve by itself the problems of innovation and renewal of large, well established companies. From the case material surveyed, it is apparent that Corporate Entrepreneurship experiments are biased towards small, niche businesses. *The projects they encourage tend to be commensurate to the insights and capabilities of the isolated individuals and small groups whose creativity and energy they appeal to*. Furthermore, because Corporate Entrepreneurship selection processes are rather stringent and available resources usually limited, Corporate Entrepreneurship experiments tend to generate few businesses, limiting their impact on the company's overall performance and drastically reducing the probability that one of them become a core business of tomorrow (see table 6).

TABLE 6. Corporate Entrepreneurship Experiments: Economical Results

Case study	Economic Results
Raytheon	Over 20 years, 50 new products generating several hundred M$ revenues per year
Barilla	Over 5 years, 1 major new business generating a fourth of total company's turnover and a third of total company's profits
Eastman Kodak	Over 5 years, 14 new internal ventures marginally contributing to the company's total turnover
Ohio Bell	Over 5 years, 500 projects contributing 14 M$
Xerox Corporation	Over 5 years, 12 new businesses with high ROI but marginally contributing to the company's total turnover
Lucent Technologies	After 5 years, a portfolio of 26 new businesses, 200 M$ incremental value, IRR > 70%. A several hundred M$ IPO. Marginal contribution to the company's total turnover.

In many cases, Corporate Entrepreneurship experiments turn out to be "business building workshops" able to generate a few profitable but relatively small activities each year. Barilla's DPF constitutes an exception explained by the fact that the target of building "a second leg" had been explicitly stated right from the start of the experiment and the goals of the entrepreneurial entity established accordingly.

For companies such as 3M, whose business portfolio and innovation strategies are based on niche exploitation and product proliferation, Corporate Entrepreneurship processes can make a major difference. But for many large companies, especially those in search of the core business of tomorrow, Corporate Entrepreneurship can only constitute a complementary development tool whose impact on employees' motivation and skills – and indirectly on the company's intellectual and social capital – will be as significant if not more than its direct economic return. For those companies, multiple small bets cannot substitute the few large bets needed in order to secure dominant positions in businesses whose potential is commensurate to the company's overall size.

A Neglected Pattern: the Short Life Expectancy of Corporate Entrepreneurship Experiments

Most Corporate Entrepreneurship experiments, after a few years, go through a critical phase from which many never recover. This phenomenon has been observed recurrently over the last decades and emphasized by several Corporate Entrepreneurship researchers (Fast, 1978; Kanter, North et al., 1990; Kanter, Richardson, North and Morgan, 1991; Block and MacMillan, 1993; Gompers and Lerner, 2000): Corporate Entrepreneurship experiments constitute "unstable organizational forms."

The infancy crisis Corporate Entrepreneurship experiments go through can have circumstantial motives such as the arrival of a new CEO. It can result from a shift in strategic priorities such as reduced emphasis on personnel retention and greater emphasis on cost reduction. Finally, it can be provoked by the gap between top management expectations and the "modest" economic outcomes of the experiment. The consequences of such crisis are detrimental for both the company and the individuals involved. Experiments usually get questioned when leaders and participants, who have

overcome a number of obstacles and understood some basic issues, are theoretically in the best position to modify and improve the structure and processes initially put in place, thus preventing the organization to learn from its errors. Crisis usually imply a decreasing commitment on the part of the organization and the letting down of a number of projects and intrapreneurs. Considerable knowledge and goodwill get destroyed in the process.

Whereas the factors that bring forth crisis are well known, the mechanisms that turn these crisis into fatal events are less well understood. Why do Corporate Entrepreneurship experiments remain experiments and why are experiment leaders and participants generally incapable of turning them into perennial realities ? Asking these questions is tantamount to ask why, over a period of three to five years, these key actors fail to *institutionalize* Corporate Entrepreneurship i.e., to turn an organizational experiment into a lasting, "non expendable" (Selznick, 1957), "taken for granted" reality (Zucker, 1983), whose value for the company does not solely depend on rational/technical factors (Selznick, 1957).

Corporate Entrepreneurship experiment accounts indicate that few experiment leaders even consider this to be an issue... Heavy with consequences, this neglect has structural causes which could explain why, over time, institutionalization has not emerged as a significant issue and a key dimension of Corporate Entrepreneurship. The causes, we believe, are inherent to the mindset, role and position of Corporate Entrepreneurship experiment leaders and participants and to this extent constitute "blind spots" that prevent them from learning along this direction.

One can hypothesize that, as most innovators, Corporate Entrepreneurship actors are result driven and care little about gaining approval and legitimacy through means that are not strictly tied to performance and outcomes. One can also assume that this orientation is reinforced by individualistic traits such as self-reliance which do not predispose corporate entrepreneurs to mobilize collective processes in order to reach their goals. As a result, most Corporate Entrepreneurship actors count on the *legitimacy of success* to gain support for both individual projects and the overall experiment. But, whereas the legitimacy of success can ensure the acceptance of a single project (as in the *Barilla* and the *Gamma Company* cases), it cannot work at the level of the whole experiment which generates, by definition, more failures than successes. The legitimacy of Corporate Entrepreneurship experiments has to rest on other foundations…

Institutionalizing Corporate Entrepreneurship Experiments

Two success stories, the Raytheon and the Nokia cases, can help us understand how Corporate Entrepreneurship experiments can gain legitimacy within the organization and, as a consequence, stand a better chance of surviving adversary conditions:

- ✓ *George Freedman, Raytheon NPC's founder, showed right from the start a great concern for organizational acceptance. During the first three years of the NPC's existence, Freedman continually fought for its recognition. He positioned the NPC as a low profile, complementary service unit that did not compete with Raytheon's R&D labs. The NPC dedicated more than 50% of its resources to the development of existing divisions' ideas and to solving their punctual technical problems. Technical help was not part of the NPC's chart but offered because "it made political and organizational sense." The tight budget of the NPC was apparent in the modest facilities it occupied. The NPC recruited engineers with both strong technical and human abilities whose task was to maintain good relations with the rest of organization. NPC's employees were remunerated like any other employee and motivated*

mainly by intrinsic rewards and the prospect of internal and external recognition. The NPC systematically tried to find "foster parents" for internally developed projects among existing divisions' managers which, in many cases, ended up thinking they were the "true parent" of the project. Once a product idea had reached the stage of prototype, it was handed over to an operating unit which took care of its commercialization and assumed the financial risks.

- ✓ *Nokia's New Venture Organization (NVO) was set up in 1998 to triage, test and develop new ideas into activities that could be either divested, turned into new business groups or reintegrated within existing business groups. Its stated mission is "to look for growth opportunities that are beyond the remit of the existing businesses but within Nokia's overall vision." According to Markus Lindqvist, NVO's director of business, "NVO does not exist for itself; it exists for Nokia… if we start to do things, we don't regard them as being our own." The NVO is positioned as a service entity fulfilling an organizational mission. The NVO is an "accelerator" that speeds up the development of ideas. At any point of time, businesses can leave the NVO and reintegrate the mainstream. A board composed of NVO, Nokia Research Center and existing business groups managers is in charge of evaluating the ideas referred by business divisions and deciding where they should be developed (the NVO being just one possible "home"). Before any project gets validated, it is internally tested through informal consultation of a number of recognized experts and managers. NVO employees are remunerated like other Nokia's employees (Nokia's incentive policy favors rewards based on team performance). NVO's permanent staff is limited and project team members leave the NVO with their project.*

There are a number of common points in these two experiments which may help explain their stability and success:

- Both entrepreneurial entities have been positioned as complementary and service oriented. They do not own the products or activities they develop. Their role is to perform tasks that existing divisions would perform slowly or not at all. They are useful to the existing divisions and do not compete with them.
- The managers of both entities underplay the differences between their unit and the rest of the organization. Even if they work differently, entrepreneurial employees do not have a different status. They maintain a low profile and their compensation is aligned with that of their colleagues.
- Both entities maintain strong links with the rest of the organization which they constantly involve in both operational and strategic level decisions.

In both cases, Corporate Entrepreneurship experiment leaders have demonstrated to be "institutional entrepreneurs … capable of mounting successful challenges to existing institutional arrangements" (Fligstein, 1997) by devising subtle integration strategies.

By downplaying differences and isolation, they have limited the rejection reaction of established operating entities and created a climate favorable to cooperation and success. By nurturing interdependence, they have progressively "become embedded in networks, with change in any one element resisted because of the changes it would entail for all the interrelated network elements" (Zucker, 1991). They have also enlarged the range of performance criteria by which they are to be judged to include their contribution to the success of core businesses. They have become valuable to existing divisions' managers who, because they take advantage of this alternative, low-cost development tool, have a direct interest in its preservation. One can note that the independent entrepreneur clichés have little influence on the configuration of these experiments which do not rely on autonomy of goals, organizational separation or the prospects of individual enrichment and only leverage autonomy of means and intrinsic rewards.

Accounts of successfully institutionalized Corporate Entrepreneurship experiments are not numerous and we lack evidences to determine whether more assertive strategies could be applied with success. One could imagine a scenario (Seo and Creed, 2002) in which the corporate entrepreneurs themselves would actively defend the philosophy and achievements of the Corporate Entrepreneurship experiment and "militate" to ensure its recognition by the rest of the organization. In order to do so, they would have to overcome their isolation and individualistic leaning and constitute groups of kin within which a common identity and logic of action could be elaborated. The use of external references could reinforce the legitimacy of this emergent group: these external references could be developed through exchanges with similar groups working in other companies and through Corporate Entrepreneurship education. Whether preserved or conquered, top management support will constitute an important hurdle in the process of institutionalization and, to this avail, sufficient alignment of the Corporate Entrepreneurship experiment with the firm's overall strategic goals needs to be insured. Such an alignment does not per force imply the subordination of the Corporate Entrepreneurship experiment to existing strategic goals and can also result from well directed efforts at modifying the latter.

Conclusion

Over the last three decades, practitioners involved in Corporate Entrepreneurship experiments have generated significant knowledge. Their progress, however, have been limited by the short duration of most Corporate Entrepreneurship experiments which rarely manage to survive an economic downturn or a change in top management team. The short life of Corporate Entrepreneurship experiments has also restricted their perceived impact on companies, in particular their impact on human and social capital which requires time in order to become manifest. To reap the full benefits of Corporate Entrepreneurship experiments, the long-term commitment of companies has to be ensured and *institutionalization* has to become part of the theory-of-action of Corporate Entrepreneurship experiment initiators. Allowed to last, these successful experiments would have a chance to progressively modify the culture and processes of the host company and turn it into a more responsive and creative ensemble.

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