

**"STRATEGIC ADAPTATION IN MULTI
BUSINESS FIRMS"**

by

Balaji CHAKRAVARTHY*

and

Peter LORANGE**

N° 89 / 44

* Visiting Professor of Business Policy, INSEAD, Boulevard de
Constance, 77305 Fontainebleau, France.

** The Wharton School, University of Pennsylvania,
Philadelphia, PA 19104.

Director of Publication :

Charles WYPLOSZ, Associate Dean
for Research and Development

Printed at INSEAD,
Fontainebleau, France.

STRATEGIC ADAPTATION IN MULTI BUSINESS FIRMS

BALAJI S. CHAKRAVARTHY*

**Visiting Professor of Business Policy
INSEAD, Fontainebleau, France**

AND

PETER LORANGE**

*** The Carlson School of Management
University of Minnesota
Minneapolis, MN 55455
(612) 624-4034**

**** The Wharton School
University of Pennsylvania
Philadelphia, PA 19104
(215) 898-4984**

The helpful comments provided by Reinhard Angelmar, Sumantra Ghoshal, and David Weinstein are gratefully acknowledged.

Strategic Adaptation in Multi Business Firms

Abstract

The literature on organizational adaptation is devoted for the most part to the survival of a single business firm. Consequently organizational metamorphosis gets a lot of attention. However, the survival of a diversified firm need not be tied to the fate of any one of its multiple businesses. The emphasis in a multi business firm has to shift from a concern for the adaptation of an individual business to the establishment of a management system that will help the organization become self adapting, albeit through the divestiture of declining businesses and the acquisition of more vibrant businesses. The paper presents three distinct options in this regard and discusses their stability.

Strategic adaptation is the process through which a firm ensures that it is legitimate, effective, and efficient. Legitimacy (Tushman and Romanelli, 1985) describes the strength of a firm's right to exist and to persist with its chosen mode of operations (external legitimacy); and the degree of commitment its members have to its mission and strategies (internal legitimacy). Legitimacy is assumed in all surviving firms. Effectiveness is measured by the relevance of a firm's products or services to its chosen markets. A firm's growth is a measure of its effectiveness. Efficiency refers to the amount of surplus contributions that a firm is able to generate through its chosen strategies, over the inducements that it has to provide its stakeholders for implementing those strategies (Barnard, 1938). Profitability is a common measure of efficiency. Clearly a firm has to make tradeoffs between growth and profitability, since the pursuit of one can hurt the other (Abernathy, 1978).

The balance required between growth and profitability is especially difficult to achieve in a single business firm. The growth potential of a business starts eroding as it progresses through its life cycle, and any efforts to reverse this trend can hurt the firm's profitability. Consequently, models of adaptation that are offered for a single business firm call for periodic organizational metamorphosis (Tushman and Romanelli, 1985). The firm cycles through a long period of convergence (or decay) punctuated by a short period of reorientation (or recreation).

Unlike a single business firm, the survival of a multi business firm need not be dependent on the periodic metamorphosis of its business units. In fact, a primary reason for diversification is to decouple the survival of a firm from the fate of any one of its multiple businesses (Salter and Weinhold, 1979). The metamorphosis of a business unit has to be weighed against other alternatives open to the firm, such as partial salvage, divestment, or even termination. Moreover, a business unit may be able to rejuvenate itself in a more evolutionary fashion by leveraging on the strengths of other businesses in the portfolio of a diversified firm. Strategic adaptation in a multi business firm is qualitatively different from that in a single business firm.

However, the extant literature on organizational adaptation has focused for the most part on a single business firm. For example, studies of adaptation based on ecological models (Freeman, 1982; Hannan & Freeman, 1977) or on industrial organization economics (Porter, 1980; Scherer, 1980) examine only the fate of a population of organizations or a strategic group in a single industry setting. Even the more integrative frameworks on organizational adaptation, like that of Tushman and Romanelli (1985), are applicable only to firms associated with a single product class.

Based on extensive field work, this study provides a framework for understanding strategic adaptation in a multi business firm. It is beyond our present scope, however, to present any of the supporting data. The paper is organized into

three sections. The first section provides a brief discussion of some premises that underly our framework. The next section provides a summary description of the three distinct options that are available for managing strategic adaptation in a multi business firm. The third section discusses the stability of each of the three options and the problems of transition between them.

1. Premises Underlying the Proposed Framework

1.1 The Need for Proaction

The extant literature on organizational adaptation, for the most part, tends to view adaptation as a reaction to environmental change, i.e. as a process of achieving fit or consistency between environmental demands (emphasis added) and organizational states (Tushman and Romanelli, 1985). But adaptation can also be a proactive process aimed at manipulating a firm's environment by negotiating new domains, carving new niches, and forming new coalitions (Miles and Snow, 1978; Starbuck, 1975, 1976; Weick, 1969). As Hedberg, Nystrom, and Starbuck (1976:46) so eloquently observe:

....Timing distinctions between adaptation and manipulation are not merely uninformative, they often deceive. Stimulus-response pairs break behavioral chain into segments so short that a perceiver loses perspective; and vanishing with perspective, goes awareness of subtle maneuvers and unexploited opportunities. An environmental happening only elicits reactions if preparations for it were inadequate.

We believe that this preparedness is what makes adaptation strategic - hence our use of the term strategic adaptation. We

focus in particular on top management's use of management systems to encourage a firm's proactive search for growth opportunities.

1.2 The Need for Self Adaptation

Pettigrew (1987) provides a simple framework for managing strategic adaptation. It has three interrelated elements: (i) the content of the chosen strategy or the 'what' of change, (ii) the process through which change is implemented or the 'how' of change, and (iii) the context or 'why' of change, including the 'inner' context through which ideas for change have to proceed within the firm, and the 'outer' context of economic, business, political, and societal formations in which the firm must operate.

In a multi business firm top management can influence all of the above elements to some degree. Through its diversification, acquisition, and divestment decisions it chooses the 'outer' context to which the firm will be exposed. By the core values that it establishes and the informal network that it supports, top management shapes the 'inner' context of the firm. It establishes the process of change by the management systems that it employs, and finally through its influence on business strategies it determines the content of change.

The top management interventions described above differ in their versatility and inertia (Beer, 1972; Starbuck, 1975). An intervention is versatile if it supports strategic adaptation in several businesses at the same time. For example, if top mana-

gement can establish a corporate culture where strategic change is seen as healthy, its intervention would be versatile. The inertia of an intervention is a measure of its durability. Establishing premises that shape behavior is a more durable intervention than one that actually changes behavior (Beer, 1972; Starbuck, 1975).

Interventions that shape the core values within a firm towards change and build the management system and informal network to nourish it are the most versatile and inertial. By contrast, an intervention that actually changes the strategy of a business and reorients its organization for better alignment with the changed strategy is of a lower order. Such an intervention is business specific and not versatile. Also, it is not very inertial since the business organization has merely been adapted and not endowed with any self adapting abilities.

We contend that the literature on strategic adaptation focuses for the most part only on the lower order adaptation, where top management reorients (or recreates) the firm periodically after it has become maladapted (Tushman and Romanelli, 1985). Whereas a higher order adaptation would call for interventions at the level of management systems or core values such that the firm can be self adapting (Hedberg, Nystrom, and Starbuck, 1976). In a diversified firm this is the level at which top management can intervene. It neither has the cognitive capacity nor the information to engage in the lower order intervention of reorienting individual businesses. However, top

management can shape the firm's 'inner' context and design the management process through which a firm will become self adapting. In the next section we will describe three distinct options for self adaptation that we have observed in multi business firms.

2. Options for Self Adaptation In a Multi Business Firm

Three distinct options are available for self adaptation to a multi business firm:

1. **Central Planning:** Manage the firm's businesses primarily for profitability, and ensure long term growth through suitable acquisitions engineered from corporate headquarters. In this option growth is not nurtured within the firm.
2. **Portfolio Balancing:** Manage businesses either for growth or for profitability. Growth and profitability are balanced by selecting an appropriate portfolio of businesses.
3. **Self Renewal:** Manage each business for both profitability and growth through a dual structure administrative arrangement.

2.1 The Critical Distinguishing Dimensions

We will outline here the critical internal and contextual dimensions on which the three options differ. We will provide a more detailed description of the three options in section 2.2 that follows.

2.1.1 Management System

The Organization Structure: A multi business firm is typically structured as a divisional organization (Mintzberg,

1979). There are three levels at which strategic decisions are made in such an organization: business unit, divisional, and corporate. A business unit manager is responsible for profitably serving a clearly demarcated set of customers with distinct needs (Abell, 1980). A division typically consists of several business units, though on occasion a large business unit can itself be a division. The basis of clustering businesses within a division varies across the three options. Finally, the corporate level includes a firm's Chief Executive Officer, the Chief Operating Officer, and their senior staff executives. Divisional managers typically report to the Chief Operating Officer.

The organization structures used in the three options differ on: (i) the management level(s) within the organization where growth and profitability are balanced, and (ii) the relative autonomy enjoyed by a business unit manager to pursue both goals (Table 1).

TABLE 1

In the central planning option growth and profitability are balanced at the corporate level. In contrast, this balance is made at the divisional level in the self renewal option. Growth and profitability can be balanced under the portfolio balancing option either at the corporate level (corporate portfolio management) or at the divisional level (divisional portfolio management).

The business unit managers in the central planning option are primarily responsible for the profitability of their businesses and have limited autonomy to pursue growth goals. In contrast, business unit managers in the portfolio balancing option can pursue either growth or profitability, but seldom both. It is only in the self renewal option that business unit managers have the autonomy to pursue both profitability and growth, albeit through different channels (to be explained in section 2.23).

The Strategy Process: The two critical process elements on which the three options differ are the degree of centralization in a firm's strategy making process and the degree of standardization in its strategy implementation process (Chakravarthy, 1987; Lorange, 1980).

In a centralized strategy making process, top management sets the mission for all business units and divisions in a top down fashion. Furthermore, it carefully scrutinizes the action plans proposed by them for adherence to their assigned mission, and ensures that operating budgets correspond closely to the approved action plans. A centralized strategy making process is not very conducive to nurturing growth within the firm. By contrast, when the process is decentralized there is a better chance of witnessing internally generated ideas for growth. In a decentralized strategy making process it is the divisional manager who sets the business mission, often in close consul-

tation with business unit managers. As long as the financial performance promised by the division is in keeping with corporate expectations, divisional budgets are not required to be tightly tied to the action plans proposed by the divisional manager in earlier periods.

The strategy implementation process is standardized, if the monitoring, control, and incentive sub-systems used by top management is identical across all divisions and are primarily based on a division's profitability. Such an implementation process is not very conducive to growth. However, when the strategy implementation process is tailormade, divisional performance tends to be monitored, controlled, and rewarded to suit the divisional and business missions. The process relies both on a division's profitability as well as its efforts at growth (regardless of their success) in judging and rewarding divisional performance.

2.12 Defining the Contextual Pressures

The two important contextual factors (See Figure 1) that determine which of the three options is most appropriate to the firm are: (i) the portfolio pressure, and (ii) the financial pressure that its senior managers perceive the firm to experience.

FIGURE 1

Portfolio pressure normally varies with the severity of imbalances in the firm's business portfolio. It is a function of the attractiveness of the industries in which the firm competes in and the intensity of competition in these industries (Henderson, 1979). Financial pressure, on the other hand, varies inversely with the perceived ability of the firm to satisfy its stockholders. Stockholders are not impressed by diversity, growth, or balance per se in a firm's business portfolio, unless these can also generate a financial return commensurate with stockholder expectations (Salter and Weinhold, 1979).

2.2 The Three Options

2.21 Central Planning

When top management senses that both the portfolio and financial pressures faced by the firm are high, it is essentially faced with a turnaround situation. Strategy making is centralized in order to prune the firm's business portfolio and to ensure efficient allocation of the firm's scarce resources. Strategy implementation is also standardized and all businesses are managed for profitability in order to alleviate the firm's high financial pressure.

The central planning system is thus predominantly focused on improving profitability (See Table 1) and is not very conducive to growth. However, senior management may have no choice but to forego internal development opportunities and to rely

primarily on acquisitions for correcting imbalances in the firm's business portfolio. Acquisitions can provide the needed balance more readily, whereas internal development can be time consuming and risky. The corporate staff, notably the corporate planner, is responsible for the firm's acquisitions and for the limited growth that may be nurtured within the firm.

2.22 Portfolio Balancing

There are two variants to this option depending on whether the business portfolio is balanced at the corporate or divisional levels.

Corporate Portfolio Management: Should the context of a firm be such that despite high portfolio pressure, its financial pressure is low to moderate, senior management will have the slack resources to sponsor growth atleast in some divisions. Other divisions may continue to be managed for profitability. Consequently, the strategy implementation process has to be tailormade to suit the different missions assigned to each division.

However, given the high portfolio pressure associated with this context, the strategy making process remains centralized. Portfolio balancing decisions are generally made at the corporate level, and acquisitions continue to be an important alternative for correcting portfolio imbalances (See Table 1).

Divisional Portfolio Management: On the other hand, if the context of the firm is such that financial pressure continues to

be high but portfolio pressure is not, senior management can decentralize the strategy making process. Low to moderate portfolio pressure means that the business portfolio of the firm is healthy, with opportunities for growth in every division. Portfolio balancing is, therefore, done at the divisional level (See Table 1). Senior management supplements the divisions' efforts through select acquisitions aimed at improving the firm's portfolio balance.

However, given the firm's high financial pressure, meeting agreed upon profit targets remains an important measure of the divisional manager's performance. Therefore, the strategy implementation process is standardized across all divisions and is based primarily on the division's profitability.

2.23 Self Renewal

When the context of a firm is one of low to moderate financial and portfolio pressures, the firm relies primarily on internal development for generating growth options in all of its businesses (Lawrence & Dyer, 1983). Firms that use the self renewal system are often linked in a matrix like fashion both by a strategic and an operating structure (Lorange, 1985). However, the strategic structure is not a permanent structure - it has no assets or manpower of its own. The strategic structure is primarily used as a think tank for engineering new strategic initiatives, whereas the operating structure is used for finetun-

ing the firm's existing **strategies** and for implementing all of its strategies (See Table 1).

Link between the strategic and operating structures is through the assignment of roles in the strategic structure to various operating managers. Consequently, many business unit managers wear two hats under this system, one representing their responsibilities in the strategic structure for exploring new growth options, and the other representing their responsibilities in the operating structure for existing strategies and for profitably implementing strategies formulated in the strategic structure.

In a self renewal system the strategy making process is centralized in the operating structure and decentralized in the strategic structure. This means that businesses for which no growth has been proposed will be managed solely for profitability. The strategy implementation process is tailormade to accomodate both output and effort for strategies shaped in the strategic structure, but is standardized and based solely on output for those made in the operating structure. This is accomplished through the use of two budgets, a strategic budget for the former and an operating budget for the latter.

2.3 Self Adaptation in the Three Options

Each of the options described above can facilitate the continued adaptation of a multi business firm, albeit with different degrees of stability. The three options are evaluated

below using the prescriptions for a dynamically balanced system (Hedberg, Nystrom, and Starbuck, 1976) :

2.31 Planned and Emergent Strategies

Planning allows a firm to forecast its environment, prioritize its goals, allocate scarce resources, detail action plans, and ensure efficient implementation. But plans cannot predict all events, cannot anticipate all competitor reactions, and cannot absorb all of the creative energies in a firm. Strategies can emerge with or without prior planning (Mintzberg, 1985). A dynamically balanced system should allow both planned and emergent strategies to co-exist.

The above balance is achieved in the three options by segregating activities that can be planned from others that have to be more unstructured (See Table 1). The pursuit of profitability, for example, can usually be planned while the nurturing of growth is often less systematic. For nurturing growth, diligent efforts and risk taking have to be recognized and rewarded, even if the budgeted outputs associated with these activities are never realized (Lorange, 1980). While all three options allow for some unstructured activities, it is only in the self renewal option that emergent strategies are encouraged in all businesses. Support is available through the strategic structure for the exploration of growth ideas in all businesses regardless of their relative maturity. By contrast, the other two options are more selective in their support of unplanned act-

ivities. The central planning option is the most planning oriented of the three.

2.32 Dissension and Coherence

A management system must encourage dissent, as without it critical assumptions on which a firm's strategies are based will never be questioned and revised (Pettigrew, 1974). However, it is equally important that dissent does not degenerate into indecision and acrimony. The system must provide coherence within which dissensions can be resolved.

In the central planning option the dissension is between the line managers and corporate staff. Each is allowed to question the strategic decisions of the other. Coherence is provided by top management who act as referees to these debates. In the portfolio balancing option the dissension is between the business unit, divisional, and corporate managers, with the latter two using the strategy making process primarily as a vehicle for questioning the validity of the strategies proposed by their subordinates. In some companies that use this option, analytical models are invaluable aids to managers in this questioning process. Coherence comes through discussions in the strategy making process and through mutual agreement among the three management levels. As a last resort, coherence is provided by top management in a corporate portfolio management system and by divisional managers in a divisional portfolio management system. Finally in the self renewal option the dissension is between

various experts in the task forces convened through the strategic structure. Coherence comes from mutual discussions and negotiations, with very little senior management intervention. The corporate culture in the firms that use this option plays a very important role in maintaining coherence.

2.33 Slack Poor and Competence Rich

If a firm is effective and efficient it generates slack resources. Unless this slack is simultaneously reinvested, even as it is generated, to expand a firm's core competencies (Chakravorthy, 1986), it can be lost in extra inducements paid to stakeholders (disproportionate to their contributions). Also a slack rich firm is likely to be complacent and, therefore, maladapted (Lawrence and Dyer, 1983; Van de Ven, 1986).

In all three options slack is withdrawn from the more profitable activities of the firm and used to fund growth activities elsewhere in the firm. In the central planning option slack is siphoned by top management to fund acquisitions. In the portfolio balancing option slack is withdrawn from some business units and divisions and transferred to others assigned a growth mission. In the self renewal option slack is extracted through the operating structure and promptly reinvested through the strategic structure.

2.34 Mechanistic and Organic Structures

As noted earlier a multi business firm needs to balance both profitability and growth. The former can be best managed through a mechanistic structure, whereas growth is best nurtured in an organic structure (Burns and Stalker, 1961). The ideal organization must have both features.

Here again, this balance is achieved in the three options by segregating activities oriented towards growth from those aimed at profitability. However, the central planning option uses a mechanistic structure for the most part. In the portfolio balancing option there is better segregation between the two structures. But it is only in the self renewal option that every business is linked simultaneously to both an organic (strategic) and a mechanistic (operating) structure.

2.35 Contentment without Apathy

Another important requirement for a self adapting system is its ability to ensure the cooperation of organizational members by keeping them sufficiently contented, and yet ensuring that contentment does not lead to apathy. The two major areas of contentment are the goals and activities assigned to a manager, and the rewards granted for performance against them. If there is perfect contentment in both areas, the manager is unlikely to sponsor change.

In the central planning option line managers will be typically discontented with their limited role in generating

growth options for the firm, and yet if they are rewarded richly for their contributions to its profitability they will continue to cooperate with the firm's mission. Conversely, staff managers in the central planning option may be contented with the activities assigned to them but may crave for the power and rewards enjoyed by the line managers. Harold Geneen is said to have masterfully exploited this minimal contentment to generate both conflict and cooperation among his line and staff managers at ITT (Kotter, Schlesinger, and Sathe, 1979).

The portfolio balancing option has problems in this regard, especially because of the tendency among firms that use this system to try for consistency between the personality of a manager, the goals and activities that he is assigned, and his rewards. Thus over a period of time the system can nurture two classes of perfectly contented managers, one pursuing growth, and the other profitability. Both will find it difficult to change should the firm's context so demand.

In the self renewal option the package of goals, activities, and rewards assigned to a manager keep changing depending on his role in the firm's strategic and operating structures. Apathy is avoided by the inbuilt transience in a manager's roles, and yet minimal contentment is ensured through consistency in the assigned package between goals, activities, and rewards.

2.36 Revolutionary or Evolutionary Change

The usual organization behaves as if it prefers revolution to evolution, and yet what an organization should be avoiding is drastic revolutions (Hedberg, Nystrom, and Starbuck, 1976). Revolutions entail costs such as hostilities, demotivation, wasted energies, and ill founded rationalities. Evolution on the other hand allows an organization to sharpen its perceptions about itself and its environment through incremental experiments, and to facilitate its learning. A management system that supports evolutionary change is more enduring than one that is associated with revolutionary change.

A useful way to understand the strategic change sponsored by each option would be to refer back to Figure 1. High portfolio pressure is synonymous with loss of effectiveness and implies that a firm's strategies have lost their relevance. High financial pressure, on the other hand, refers more to a firm's loss of efficiency. While the two pressures do interact and influence each other over time, it is possible in the medium term for a firm to be effective without being efficient and vice-versa. The three management systems can then be visualized as engaged in different change processes.

Probably the most difficult change is the turnaround attempted by a central planning system. Whereas the centralization of the strategy formation process and the simultaneous tight and standardized control of all implementation actions associated with this system may seem very restrictive, they are required to reverse the dangerous decline in the firm's effectiveness and

efficiency. By contrast, a self renewal system emphasizes evolutionary change and seeks to retain the high effectiveness and efficiency that the firm already enjoys. Divisional portfolio management and corporate portfolio management systems fall between these two systems in terms of the radicalness of the change that they attempt. A divisional portfolio management system is typically used only when there is opportunity for related diversification through leveraging of business strengths within a division. A corporate portfolio management system on the other hand, does not seek further diversification but rather a careful reallocation of resources within a firm's portfolio to ensure improvement in the firm's efficiency.

3. Stability and Transition

We discussed three systems for self adaptation in the previous section. Each of them is appropriate to a different context and can help the firm improve its effectiveness and efficiency. However, they differ in their ability to withstand changes to their context.

3.1 Destabilizing Forces

While, for ease of exposition, we had assumed that the context of a firm is static, we know it can change due to both external and internal forces.

External change forces include structural changes in the industries in which the firm competes (Porter, 1980). Portfolio

pressure can change as a consequence. Another change force is the activism of a firm's stakeholders on matters such as environmental protection and safety. The additional costs that the firm may have to incur in order to be externally legitimate can add to its financial pressure.

A major internal change force is the very performance of a management system. Figure 2 maps two sets of transitions, one labelled as R (for reaction) that is triggered by the failure of a management system to relieve the firm's portfolio and financial pressures, and the other labelled as P (for proaction) which is prompted by the system's success.

If a management system fails to balance growth and profitability, the portfolio and/or financial pressures faced by

FIGURE 2

the firm will mount. The firm's worsening context will require transition to a different system of adaptation. Transitions shown by the dark arrows R_{21} , R_{31} , R_{42} , and R_{43} are of this type. Failure to make these transitions can further aggravate the firm's portfolio and financial pressures. The other set of transitions shown by the light arrows P_{12} , P_{13} , P_{24} , and P_{34} represent transitions to a more stable system of adaptation. The reactive transitions (the R transitions) are driven by loss of performance, whereas the proactive transitions (the P transitions) are driven by a need to better withstand contextual changes.

3.2 Stability of the Three Options

3.21 Central Planning: The Unstable State

A central planning system can help a firm improve its efficiency and effectiveness. But when that happens, it then creates new expectations among the firm's divisional and business-unit managers. Having had no major responsibility for strategy formation in the turnaround years, they will seek a more active role in managing the company's affairs once its context improves. Failure to accommodate their demands can lead to loss of motivation and executive turnover. Internal legitimacy starts dropping in a central planning system even as effectiveness and efficiency start improving.

Moreover, the continued success of this system is predicated upon the firm's ability to find attractive acquisition targets. In recent years it has not only been very difficult to find undervalued acquisition targets, but the bidding war that typically ensues erodes into any value that the acquisition may have for the acquiring firm (Singh, 1984). A related issue is the social costs in potential disruptions to the firm's host communities because of its acquisitions, mergers, and divestitures. The external legitimacy of the firm may also come under attack. Nurturing growth only through acquisitions may, therefore, become increasingly difficult.

The firm must also begin to focus on profitable renewal opportunities afforded by its current businesses, instead of letting them decay in the hope of future replacements (Pascale,

1982). Although the profitable extension of the life of a product or the rejuvenation of a maturing business may not always be possible, managers must be encouraged to seek such opportunities consistently (Hambrick and MacMillan 1982; Woo and Cooper, 1982). At the very least such an exercise will help the firm analyze structural changes in its industries.

Given the above difficulties we find the central planning system rather unstable.

3.22 Portfolio Balancing: The Stable State

A portfolio balancing system is relatively more resilient to both external and internal changes than a central planning system, especially if top management can alternate the use of a corporate portfolio management system with a divisional portfolio management system (See broken arrows in Figure 2). Each of these systems is self adapting, as discussed in section 2.3. But together, they can cope with most contextual changes.

When faced with a weakening business portfolio, for example, portfolio balancing must shift to the corporate level. The urgent need then is to prune the portfolio of unprofitable businesses and to selectively assign growth and profitability challenges to the firm's divisional and business unit managers. However, once the portfolio pressure is relieved, portfolio balancing can once again be delegated to the divisional managers. This not only buys their commitment and thus improves the firm's internal legitimacy, it can also improve the firm's efficiency. Divisional

managers are now better motivated to exploit economies of scale and scope within their divisions. The strategy implementation process is standardized to put pressure on the divisions to focus on improving their efficiency. However, should divisional emphasis tilt overly in the direction of efficiency with attendant deterioration in the firm's business portfolio, corporate portfolio management becomes once again very salient. The cycle begins all over again.

While portfolio balancing is a very stable system of strategic adaptation, capable of withstanding swings in both the portfolio and financial pressures faced by the firm, it has a few drawbacks as well:

- i. Both divisional portfolio management and corporate portfolio management systems rely on portfolio balancing, the former at the division level and the latter at the corporate level. However, a portfolio configuration is but a snapshot in time. An emerging business or business family can over time grow and mature. Its growth and profitability needs will also evolve accordingly. It is not uncommon, therefore, for a business or business family to be straddling two different contextual orientations at the same time (Hamermesh 1986). The dual structure in a self renewal system is better able to shift its balance between an growth focus and a profitability focus as is required by the evolution of a business or business family.
- ii. Managers in either a divisional portfolio management or corporate portfolio management system run the risk of being typecast. The mission assigned to the manager's business is often confused with his/her role in the company. For example, managers assigned missions that require the harvesting or divesting of business/business family may be perceived as less creative than those assigned missions involving the growth of a business/business family. The real danger of the management system excluding the creative inputs of a class of managers merely because of the missions currently assigned to them is avoided by the dual

structure in a self renewal system. Managers, regardless of their operating roles, are allowed to contribute to the development of new strategies.

3.23 Self Renewal: The Ultra Stable State

It may be recalled from our discussion in section 2.3, that this system is the best balanced on the six criteria that are prescribed by Hedberg, Nystrom, and Starbuck (1976) for a self adapting system. The self renewal system manages efficiency through the operating structure and effectiveness through the strategic structure. The operating structure is more mechanistic and planning oriented, whereas the strategic structure is more organic and innovation oriented. The two structures are intertwined, allowing for the lateral transfer of slack, and facilitating the free exchange of dissenting ideas between experts. Their shifting roles in both structures allows managers to be contented and yet be willing to change.

In concept such a system should help a firm be in continuous adaptation with its environment. Environmental changes will be monitored early and coped with effectively. However, should there be unanticipated and adverse changes to a firm's environment, top management can cope with these changes by merely shifting the relative importance of the strategic and operating structures. For example, if portfolio pressure becomes high top management can increase the slack transferred to the strategic structure and signal its importance by skewing rewards to activities performed in that structure. Conversely, if financial pressure becomes

severe top management can cut back on the funding given to the strategic structure and also skew the rewards more towards performance in the operating structure. While such shifts are not trivial, atleast the system can handle contextual changes without major internal disruptions like in the other two options discussed above.

3.3 Other Organizational Considerations

In the above discussion we focused primarily on how to improve the stability of a firm's management system. However, the proactive transitions required to get to the more stable states are not always possible. The management system in a firm seems to change more readily in response to a firm's deteriorating context rather on the promise of ultra stability. Two major inertial forces that hinder the proactive transitions are: management style and organizational context

3.31 Management Style as an Inertial Force:

Administering each of the three options discussed earlier requires very sophisticated but different management styles. In central planning, for example, the general manager has a significant role in shaping major strategic decisions, albeit with the help of a powerful staff and the counsel of his line managers. In the two portfolio management systems the general manager must orchestrate the firm's management system to shape different managerial mindsets as is appropriate to a business

context. Manipulation of a firm's context to influence decision premises is the key general management skill in a portfolio management system. The general manager in a self renewal system faces the added challenge of motivating his managers to produce two very different behaviors concurrently: profit orientation in the operating structure and growth orientation in the strategic structure. Balancing the relative importance of the strategic and operating structures is a key skill in this management system.

A CEO well suited to one management system may not necessarily be effective in administering another management system. Consequently, there is a tendency on the part of incumbent CEOs to retain characteristics of a management system that are best suited to their styles despite these being inappropriate to the changed context of a firm. Some analysts have pointed to this aspect as the primary reason why ITT did not change its management system under Geneen, even though central planning had stopped being relevant to the reduced portfolio and financial pressures that the company experienced in the later years of Geneen's tenure as CEO (Colvin, 1982).

3.32 Organizational Context as an Inertial Force

With the exception of the self renewal system, the other three systems use a divisional structure. In a typical divisional structure, each business unit is a profit center and controls most of the functions it needs to implement its chosen strategy.

To use a division portfolio management system effectively, divisions must be formed around related businesses. Similarly, it would help a corporate portfolio management system if divisions are formed around commonality of business missions.

In the self renewal system a strategic structure is overlaid on top of the divisional (operating) structure, and acts as the forum for formulating a firm's strategy. This dual structure makes sense only if there are a lot of interdependencies between the various business units in a firm's portfolio, cutting across division lines. If the strategic structure starts mirroring the operating structure, there is no need for the dual structure. The self renewal system can be used only if there are several interdependencies between a firm's businesses.

A management system must also be congruent with the sophistication and skill level of its users. Two of the proposed systems, divisional portfolio management and self renewal, place the responsibility for balancing a firm's business portfolio on the divisional manager. Besides, the divisional manager is also responsible for correcting any observed imbalances in the business portfolio by nurturing internal ventures. This delegation of responsibility can work only in firms that have a pool of qualified middle level general managers, who have earned the trust of corporate management.

Also, in a divisional portfolio management or self renewal system, for example, business unit managers are expected to show a great deal of initiative in new business development. Such a

system of bottom-up idea generation will work, however, only if business managers have the requisite skills to develop new businesses. It may be quite appropriate in certain contexts, therefore, to seek either limited participation (central planning) or selective participation by a few business managers (corporate portfolio management) in new business development.

A firm's cultural setting is another important factor in choosing a management system. In certain firms managers may consider it a "loss of face" to revise a strategy that they had helped shape (Hamermesh 1977), or they may be reluctant to offer new ideas for fear they may fail. A self renewal system cannot be supported by such a firm. It requires a cultural setting that encourages risk taking and is tolerant of failures.

4. Conclusion

We have proposed in this paper three distinct options for self adaptation in a multi business firm. Whereas each is appropriate given a context, the attempt must be to move towards features of a self renewal system. We suggest that this is the most stable system of the three. However, such a transition is only advisable if the style of the CEO and the organizational context of the firm so permit.

References

- Abell, D F, Defining the Business: The Starting Point of Strategic Planning, Englewood Cliffs, N.J.: Prentice Hall, 1980.
- Abernathy, W J, The Productivity Dilemma: Roadblocks to Innovation in the Automobile Industry, Johns Hopkins University Press, Baltimore, 1978
- Barnard, C I, The Functions of the Executive, Cambridge, Mass.: Harvard University Press, 1938.
- Beer, S, Brain of the Firm, New York, Herder and Herder, 1972.
- Burns, T, and G M Stalker, The Management of Innovation, London, Tavistock Publications, 1961.
- Chakravarthy, B S, "Measuring Strategic Performance", Strategic Management Journal, 7(1986), 437-458.
- Chakravarthy, B S, "On Tailoring a Strategic Planning System to its Context: Some Empirical Evidence", Strategic Management Journal, 8(1987), 517-534
- Colvin, G, "The DeGeening of ITT", Fortune, 105,1(1982), 34-39
- Freeman, J, "Organizational Life Cycles and Natural Selection Processes", In Staw, B M, and L L Cummings (Eds.), Research in Organizational Behavior, Greenwich, Ct.: JAI Press, 4, 1982.
- Freeman, J, and M Hannan, "Niche Width and the Dynamics of Organizational Population", American Journal of Sociology, 1983.
- Hambrick, D C and I C Macmillan, "The Product Portfolio and Man's Best Friend", California Management Review, XXV, 1(1982), 84-95
- Hamermesh, R G, "Responding to Divisional Profit Crises", Harvard Business Review, 55, 2(1977), 124-130.
- Hamermesh, R G, Making Strategy Work, Wiley, New York, 1986
- Hedberg, B L T, P C Nystrom, and W H Starbuck, "Camping on Seesaws: Prescriptions for a Self Designing Organization", Administrative Science Quarterly 21, 1976, 41-65.
- Henderson, B D, Henderson on Corporate Strategy, Abt Books, Cambridge, Massachusetts, 1979
- Kotter, J P, L A Schlesinger, and V Sathe, Organization: Text, Cases, and Readings, Richard D Irwin, Homewood, Illinois, pp 271-310, 1979

- Lawrence, P R and D Dyer, Renewing American Industry, The Free Press, New York, 1983
- Lorange, P, Corporate Planning: An Executive Viewpoint, - Prentice-Hall, Englewood-Cliffs, New Jersey, 1980
- Lorange, P, "Organization Structure and Process", in W D Guth (Ed), Handbook of Business Strategy, Warren, Gorham and Lamont, Boston, Massachusetts, 1985, 23,1-31
- Miles, R E, and C C Snow, Organizational Strategy, Structure, and Process, New York: McGraw Hill, 1978.
- Mintzberg, H, The Structuring of Organizations, Englewood Cliffs, N.J.: Prentice Hall, 1979.
- Mintzberg, H, "Of Strategies, Deliberate and Emergent", Strategic Management Journal, 1985, 257-272.
- Pettigrew, A M, The Politics of Organizational Decision Making, London: Tavistock, 1973.
- Pettigrew, A M, (Ed.) The Management of Strategic Change, Oxford: Basil Blackwell, 1987.
- Pascale, R T, "Our Curious Addiction to Corporate Grand Strategy", Fortune, (1982), January 25, 115-116
- Porter, M, Competitive Strategy, Free Press, New York, 1980
- Salter, M S, and W A Weinhold, Diversification Through Acquisitions, New York: Free Press, 1979.
- Scherer, F J, Industrial Market Structure and Economic Performance, Boston: Houghton Mifflin, 1980.
- Singh, H, "Corporate Acquisitions and Economic Performance", Ph D Thesis, University of Michigan, 1984
- Starbuck, W H, "Information Systems for Organizations of the Future", In E Grochla and N Szyperski (Eds.), Information Systems and Organizational Structure, New York: de Gruyter, 1975, 217-229.
- Starbuck, W H, "Organizations and their Environments", In M D Dunette (Ed.), Handbook of Industrial and Organizational Psychology, Chicago: Rand McNally, 1976.
- Tushman, M L, and E Romanelli, "Organizational Evolution: A Metamorphosis Model of Convergence and Reorientation", In Staw, B M, and L L Cummings (Eds.), Research in Organizational Behavior, Greenwich, Ct.: JAI Press, 7, 1985, 171-222.

Van de Ven, A H, "Central Problems in the Management of Innovation", Management Science, 32,5(1986), 590-607

Woo, C Y and Cooper, A C, "The Surprising Case for Low Market Share", Harvard Business Review, 60,6(1982), 106-113

Weick, K E, The Social Psychology of Organizing, Reading, Mass.: Addison-Wesley, 1969.

TABLE 1

OPTIONS FOR BALANCING GROWTH AND PROFITABILITY

Option	<u>Option 1</u>	<u>Option 2</u>		<u>Option 3</u>
	<u>Central Planning</u>	<u>Corporate Portfolio Management</u>	<u>Divisional Portfolio Management</u>	<u>Self-Renewal</u>
System Characteristics				
1. Locus of Responsibilities				
2. Primary Mode thru' which growth options are generated	Acquisitions	Acquisitions and Internal Development	Internal Development and Acquisitions	Internal Development
3. Strategy Making Process	Centralized	Centralized	Decentralized	Decentralized in the strategic structure. Centralised in the operating structure
4. Strategy Implementation Process	Standardized for all divisions	Tailored to suit divisional mission	Standardized for all divisions	Tailored to suit strategies in the strategic structure and standardised for strategies shaped in the operating structure

Figure 1
A TYPOLOGY OF STRATEGIC ADAPTATION

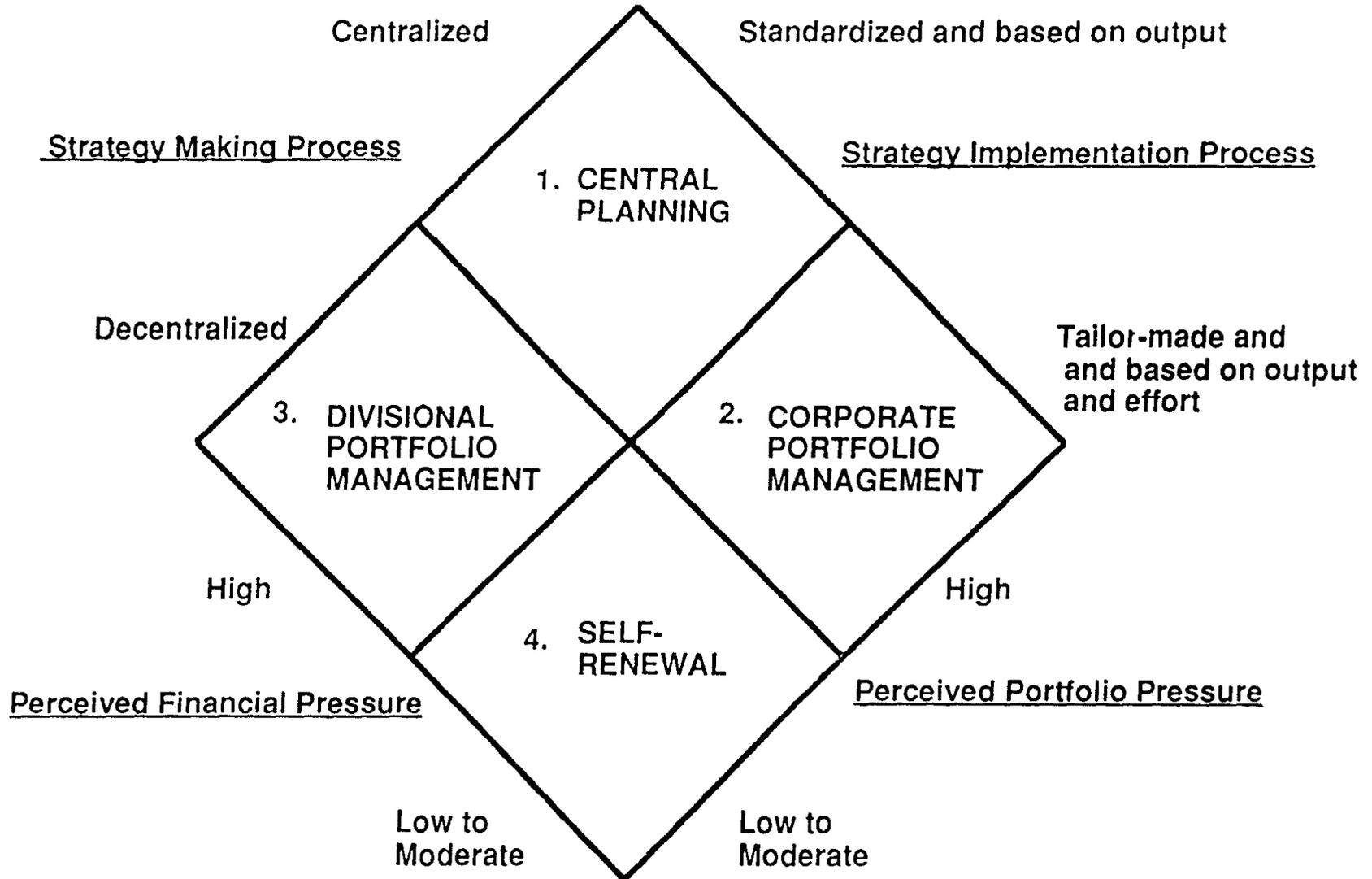
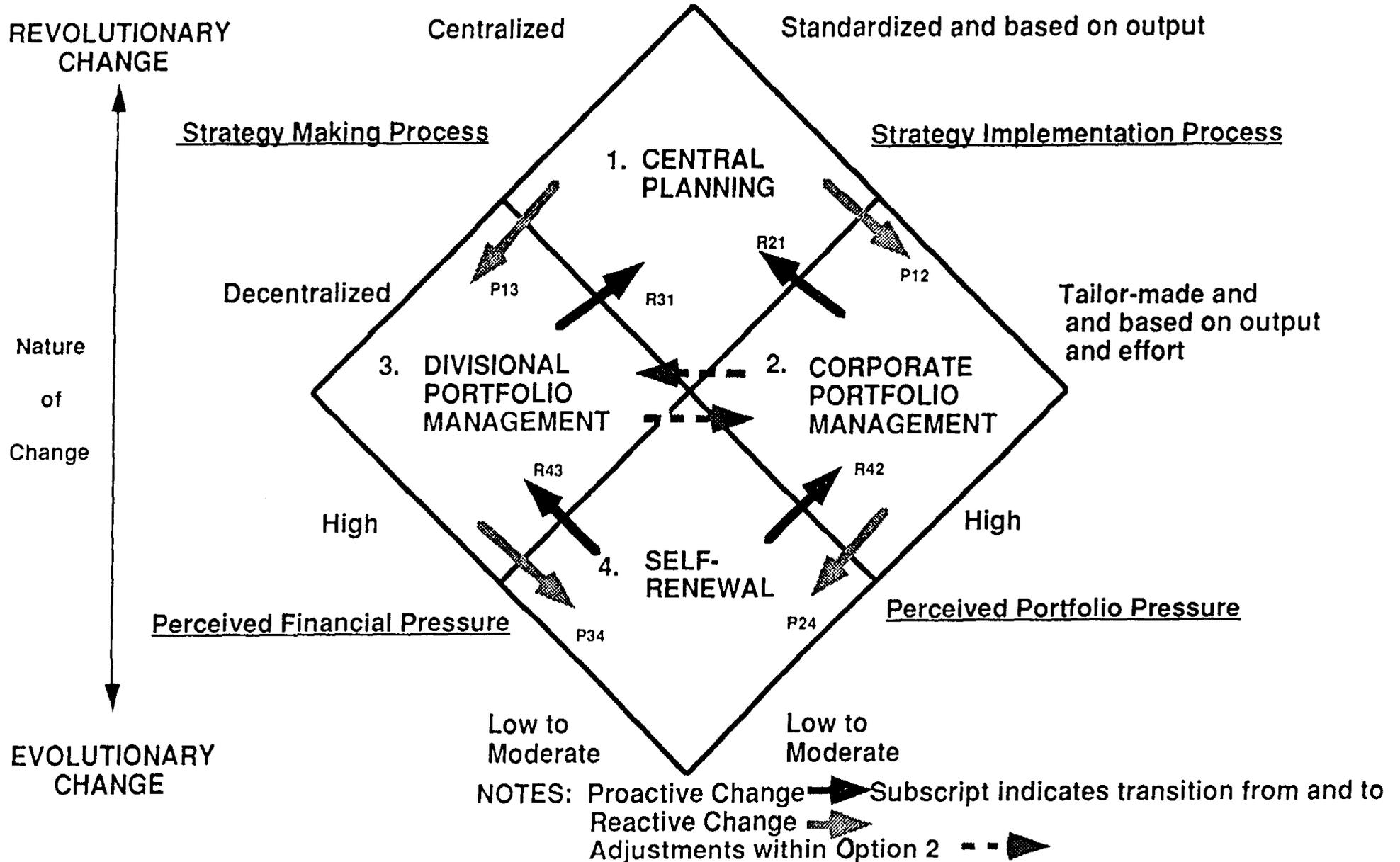


Figure 2
TRANSITIONS BETWEEN MANAGEMENT SYSTEMS



INSEAD WORKING PAPERS SERIES

1986

- | | | | | | |
|-------|---|--|-------|---|--|
| 86/01 | Arnoud DE MEYER | "The R & D/Production interface". | 86/16 | B. Espen ECKBO and
Hervig M. LANGOHR | "Les primes des offres publiques, la note
d'information et le marché des transferts de
contrôle des sociétés". |
| 86/02 | Philippe A. NAERT
Marcel VEVEBERGHE
and Guido VERSVIJVEL | "Subjective estimation in integrating
communication budget and allocation
decisions: a case study", January 1986. | 86/17 | David B. JEMISON | "Strategic capability transfer in acquisition
integration", May 1986. |
| 86/03 | Michael BRIMM | "Sponsorship and the diffusion of
organizational innovations: a preliminary view". | 86/18 | James TEBOUL
and V. MALLERET | "Towards an operational definition of
services", 1986. |
| 86/04 | Spyros MAKRIDAKIS
and Michèle BIBON | "Confidence intervals: an empirical
investigation for the series in the M-
Competition" . | 86/19 | Rob R. WEITZ | "Nostradamus: a knowledge-based forecasting
advisor". |
| 86/05 | Charles A. WYPLOSZ | "A note on the reduction of the workweek",
July 1985. | 86/20 | Albert CORHAY,
Gabriel HAVAVINI
and Pierre A. MICHEL | "The pricing of equity on the London stock
exchange: seasonality and size premium",
June 1986. |
| 86/06 | Francesco GIAVAZZI,
Jeff R. SHEEN and
Charles A. WYPLOSZ | "The real exchange rate and the fiscal
aspects of a natural resource discovery",
Revised version: February 1986. | 86/21 | Albert CORHAY,
Gabriel A. HAVAVINI
and Pierre A. MICHEL | "Risk-premia seasonality in U.S. and European
equity markets", February 1986. |
| 86/07 | Douglas L. MacLACHLAN
and Spyros MAKRIDAKIS | "Judgmental biases in sales forecasting",
February 1986. | 86/22 | Albert CORHAY,
Gabriel A. HAVAVINI
and Pierre A. MICHEL | "Seasonality in the risk-return relationships
some international evidence", July 1986. |
| 86/08 | José de la TORRE and
David H. NECKAR | "Forecasting political risks for
international operations", Second Draft:
March 3, 1986. | 86/23 | Arnoud DE MEYER | "An exploratory study on the integration of
information systems in manufacturing",
July 1986. |
| 86/09 | Philippe C. RASPESLACH | "Conceptualizing the strategic process in
diversified firms: the role and nature of the
corporate influence process", February 1986. | 86/24 | David GAUTSCHI
and Vithala R. RAO | "A methodology for specification and
aggregation in product concept testing",
July 1986. |
| 86/10 | R. HOENART,
Arnoud DE MEYER,
J. BARBE and
D. DESCHOOLEMEESTER. | "Analysing the issues concerning
technological de-maturity". | 86/25 | B. Peter GRAY
and Ingo WALTER | "Protection", August 1986. |
| 86/11 | Philippe A. NAERT
and Alain BULTEZ | "From "Lydiometry" to "Pinkhamization":
misspecifying advertising dynamics rarely
affects profitability". | 86/26 | Barry EICHENGREEN
and Charles WYPLOSZ | "The economic consequences of the Franc
Poincare", September 1986. |
| 86/12 | Roger BETANCOURT
and David GAUTSCHI | "The economics of retail firms", Revised
April 1986. | 86/27 | Karel COOL
and Ingemar DIERICKX | "Negative risk-return relationships in
business strategy: paradox or truism?",
October 1986. |
| 86/13 | S.P. ANDERSON
and Damien J. NEVEN | "Spatial competition à la Cournot". | 86/28 | Manfred KETS DE
VRIES and Danny MILLER | "Interpreting organizational texts. |
| 86/14 | Charles VALDMAN | "Comparaison internationale des marges brutes
du commerce", June 1985. | 86/29 | Manfred KETS DE VRIES | "Why follow the leader?". |
| 86/15 | Mihkel TOMBAK and
Arnoud DE MEYER | "How the managerial attitudes of firms with
FMS differ from other manufacturing firms: | 86/30 | Manfred KETS DE VRIES | "The succession game: the real story. |
| | | | 86/31 | Arnoud DE MEYER | "Flexibility: the next competitive battle",
October 1986. |
| | | | 86/31 | Arnoud DE MEYER,
Jinichiro NAKANE,
Jeffrey G. MILLER
and Kasra FERDOVS | "Flexibility: the next competitive battle",
Revised Version: March 1987 |
| | | | 86/32 | Karel COOL
and Dan SCHRENDEL | Performance differences among strategic group
members", October 1986. |

86/33	Ernst BALTENSPERGER and Jean DERMINE	"The role of public policy in insuring financial stability: a cross-country, comparative perspective", August 1986, Revised November 1986.	87/06	Arun K. JAIN, Christian PINSON and Naresh K. MALHOTRA	"Customer loyalty as a construct in the marketing of banking services", July 1986.
86/34	Philippe RASPESLACH and David JEMISON	"Acquisitions: myths and reality", July 1986.	87/07	Rolf BANZ and Gabriel HAVAVINI	"Equity pricing and stock market anomalies", February 1987.
86/35	Jean DERMINE	"Measuring the market value of a bank, a primer", November 1986.	87/08	Hanfred KETS DE VRIES	"Leaders who can't manage", February 1987.
86/36	Albert CORRAY and Gabriel HAVAVINI	"Seasonality in the risk-return relationship: some international evidence", July 1986.	87/09	Lister VICKERY, Mark PILKINGTON and Paul READ	"Entrepreneurial activities of European MBAs", March 1987.
86/37	David GAUTSCHI and Roger BETANCOURT	"The evolution of retailing: a suggested economic interpretation".	87/10	André LAURENT	"A cultural view of organizational change", March 1987
86/38	Gabriel HAVAVINI	"Financial innovation and recent developments in the French capital markets", Updated: September 1986.	87/11	Robert FILDÉS and Spyros MAKRIDAKIS	"Forecasting and loss functions", March 1987.
86/39	Gabriel HAVAVINI Pierre MICHEL and Albert CORBEAT	"The pricing of common stocks on the Brussels stock exchange: a re-examination of the evidence", November 1986.	87/12	Fernando BARTOLOME and André LAURENT	"The Janus Head: learning from the superior and subordinate faces of the manager's job", April 1987.
86/40	Charles VYPLOSZ	"Capital flows liberalization and the EMS, a French perspective", December 1986.	87/13	Sumantra GHOSHAL and Nitin MOHRIA	"Multinational corporations as differentiated networks", April 1987.
86/41	Kasra FERDOVS and Vickham SKINNER	"Manufacturing in a new perspective", July 1986.	87/14	Landis GABEL	"Product Standards and Competitive Strategy: An Analysis of the Principles", May 1987.
86/42	Kasra FERDOVS and Per LINDBERG	"EMS as indicator of manufacturing strategy", December 1986.	87/15	Spyros MAKRIDAKIS	"METAFORCASTING: Ways of improving Forecasting. Accuracy and Usefulness", May 1987.
86/43	Damien NEVEN	"On the existence of equilibrium in hotelling's model", November 1986.	87/16	Susan SCHNEIDER and Roger DUNBAR	"Takeover attempts: what does the language tell us?", June 1987.
86/44	Ingemar DIERICKX Carmen MATUTES and Damien NEVEN	"Value added tax and competition", December 1986.	87/17	André LAURENT and Fernando BARTOLOME	"Managers' cognitive maps for upward and downward relationships", June 1987.
<u>1987</u>					
87/01	Hanfred KETS DE VRIES	"Prisoners of leadership".	87/18	Reinhard ANGELMAR and Christoph LIEBSCHER	"Patents and the European biotechnology lag: a study of large European pharmaceutical firms", June 1987.
87/02	Claude VIALLET	"An empirical investigation of international asset pricing", November 1986.	87/19	David BEGG and Charles VYPLOSZ	"Why the EMS? Dynamic games and the equilibrium policy regime", May 1987.
87/03	David GAUTSCHI and Vithala RAO	"A methodology for specification and aggregation in product concept testing", Revised Version: January 1987.	87/20	Spyros MAKRIDAKIS	"A new approach to statistical forecasting", June 1987.
87/04	Sumantra GHOSHAL and Christopher BARTLETT	"Organizing for innovations: case of the multinational corporation", February 1987.	87/21	Susan SCHNEIDER	"Strategy formulation: the impact of national culture", Revised: July 1987.
87/05	Arnoud DE MEYER and Kasra FERDOVS	"Managerial focal points in manufacturing strategy", February 1987.	87/22	Susan SCHNEIDER	"Conflicting ideologies: structural and motivational consequences", August 1987.
			87/23	Roger BETANCOURT David GAUTSCHI	"The demand for retail products and the household production model: new views on complementarity and substitutability".

87/24	C.B. DERR and André LAURENT	"The internal and external careers: a theoretical and cross-cultural perspective", Spring 1987.	87/41	Gavriel HAVAVINI and Claude VIALLET	"Seasonality, size premium and the relationship between the risk and the return of French common stocks", November 1987
87/25	A. K. JAIN, N. K. MALHOTRA and Christian PINSON	"The robustness of MDS configurations in the face of incomplete data", March 1987, Revised: July 1987.	87/42	Damien NEVEN and Jacques-P. THISSE	"Combining horizontal and vertical differentiation: the principle of max-min differentiation", December 1987
87/26	Roger BETANCOURT and David GAUTSCHI	"Demand complementarities, household production and retail assortments", July 1987.	87/43	Jean GABSZEVICZ and Jacques-F. THISSE	"Location", December 1987
87/27	Michael BURDA	"Is there a capital shortage in Europe?", August 1987.	87/44	Jonathan HAMILTON, Jacques-P. THISSE and Anita VESKAMP	"Spatial discrimination: Bertrand vs. Cournot in a model of location choice", December 1987
87/28	Gabriel HAVAVINI	"Controlling the interest-rate risk of bonds: an introduction to duration analysis and immunization strategies", September 1987.	87/45	Karel COOL, David JEMISON and Ingemar DIERICKX	"Business strategy, market structure and risk- return relationships: a causal interpretation", December 1987.
87/29	Susan SCHNEIDER and Paul SHRIVASTAVA	"Interpreting strategic behavior: basic assumptions themes in organizations", September 1987	87/46	Ingemar DIERICKX and Karel COOL	"Asset stock accumulation and sustainability of competitive advantage", December 1987.
87/30	Jonathan HAMILTON V. Bentley MACLEOD and J. P. THISSE	"Spatial competition and the Core", August 1987.	<u>1988</u>		
87/31	Martine QUINZII and J. P. THISSE	"On the optimality of central places", September 1987.	88/01	Michael LAVRENCE and Spyros MAKRIDAKIS	"Factors affecting judgemental forecasts and confidence intervals", January 1988.
87/32	Arnoud DE MEYER	"German, French and British manufacturing strategies less different than one thinks", September 1987.	88/02	Spyros MAKRIDAKIS	"Predicting recessions and other turning points", January 1988.
87/33	Yves DOZ and Amy SHUEN	"A process framework for analyzing cooperation between firms", September 1987.	88/03	James TEBOUL	"De-industrialize service for quality", January 1988.
87/34	Kasra FERDOVS and Arnoud DE MEYER	"European manufacturers: the dangers of complacency. Insights from the 1987 European manufacturing futures survey, October 1987.	88/04	Susan SCHNEIDER	"National vs. corporate culture: implications for human resource management", January 1988.
87/35	P. J. LEDERER and J. P. THISSE	"Competitive location on networks under discriminatory pricing", September 1987.	88/05	Charles VYPLOSZ	"The swinging dollar: is Europe out of step?", January 1988.
87/36	Manfred KETS DE VRIES	"Prisoners of leadership", Revised version October 1987.	88/06	Reinhard ANGELMAR	"Les conflits dans les canaux de distribution", January 1988.
87/37	Landis GABEL	"Privatization: its motives and likely consequences", October 1987.	88/07	Ingemar DIERICKX and Karel COOL	"Competitive advantage: a resource based perspective", January 1988.
87/38	Susan SCHNEIDER	"Strategy formulation: the impact of national culture", October 1987.	88/08	Reinhard ANGELMAR and Susan SCHNEIDER	"Issues in the study of organizational cognition", February 1988.
87/39	Manfred KETS DE VRIES 1987	"The dark side of CEO succession", November 1987	88/09	Bernard SINCLAIR- DESGAGNÉ	"Price formation and product design through bidding", February 1988.
87/40	Carmen MATUTES and Pierre REGIBEAU	"Product compatibility and the scope of entry", November 1987	88/10	Bernard SINCLAIR- DESGAGNÉ	"The robustness of some standard auction game forms", February 1988.
			88/11	Bernard SINCLAIR- DESGAGNÉ	"When stationary strategies are equilibrium bidding strategy: The single-crossing property", February 1988.

88/12	Spyros MAKRIDAKIS	"Business firms and managers in the 21st century", February 1988	88/29	Naresh K. MALHOTRA, Christian PINSON and Arun K. JAIN	"Consumer cognitive complexity and the dimensionality of multidimensional scaling configurations", May 1988.
88/13	Manfred KETS DE VRIES	"Alexithymia in organizational life: the organization man revisited", February 1988.	88/30	Catherine C. ECKEL and Theo VERMAELEN	"The financial fallout from Chernobyl: risk perceptions and regulatory response", May 1988.
88/14	Alain NOEL	"The interpretation of strategies: a study of the impact of CEOs on the corporation", March 1988.	88/31	Sumantra GHOSHAL and Christopher BARTLETT	"Creation, adoption, and diffusion of innovations by subsidiaries of multinational corporations", June 1988.
88/15	Anil DEOLALIKAR and Lars-Hendrik ROLLER	"The production of and returns from industrial innovation: an econometric analysis for a developing country", December 1987.	88/32	Kasra FERDOVS and David SACKRIDER	"International manufacturing: positioning plants for success", June 1988.
88/16	Gabriel HAWAVINI	"Market efficiency and equity pricing: international evidence and implications for global investing", March 1988.	88/33	Mihkel M. TOMBAK	"The importance of flexibility in manufacturing", June 1988.
88/17	Michael BURDA	"Monopolistic competition, costs of adjustment and the behavior of European employment", September 1987.	88/34	Mihkel M. TOMBAK	"Flexibility: an important dimension in manufacturing", June 1988.
88/18	Michael BURDA	"Reflections on 'Wait Unemployment' in Europe", November 1987, revised February 1988.	88/35	Mihkel M. TOMBAK	"A strategic analysis of investment in flexible manufacturing systems", July 1988.
88/19	M.J. LAVRENCE and Spyros MAKRIDAKIS	"Individual bias in judgements of confidence", March 1988.	88/36	Vikas TIBREVALA and Bruce BUCHANAN	"A Predictive Test of the NBD Model that Controls for Non-stationarity", June 1988.
88/20	Jean DERMINE, Damien NEVEN and J.F. THISSE	"Portfolio selection by mutual funds, an equilibrium model", March 1988.	88/37	Murugappa KRISHNAN Lars-Hendrik RÖLLER	"Regulating Price-Liability Competition To Improve Welfare", July 1988.
88/21	James TEBOUL	"De-industrialize service for quality", March 1988 (88/03 Revised).	88/38	Manfred KETS DE VRIES	"The Motivating Role of Envy: A Forgotten Factor in Management, April 88.
88/22	Lars-Hendrik RÖLLER	"Proper Quadratic Functions with an Application to AT&T", May 1987 (Revised March 1988).	88/39	Manfred KETS DE VRIES	"The Leader as Mirror: Clinical Reflections", July 1988.
88/23	Sjur Didrik FLAM and Georges ZACCOUR	"Equilibres de Nash-Cournot dans le marché européen du gaz: un cas où les solutions en boucle ouverte et en feedback coïncident", Mars 1988	88/40	Josef LAKONISHOK and Theo VERMAELEN	"Anomalous price behavior around repurchase tender offers", August 1988.
88/24	B. Espen ECKBO and Hervig LANGOHR	"Information disclosure, means of payment, and takeover premia. Public and Private tender offers in France", July 1985, Sixth revision, April 1988.	88/41	Charles VYFLOSZ	"Assymetry in the EMS: intentional or systemic?", August 1988.
88/25	Everette S. GARDNER and Spyros MAKRIDAKIS	"The future of forecasting", April 1988.	88/42	Paul EVANS	"Organizational development in the transnational enterprise", June 1988.
88/26	Sjur Didrik FLAM and Georges ZACCOUR	"Semi-competitive Cournot equilibrium in multistage oligopolies", April 1988.	88/43	B. SINCLAIR-DESGAGNE	"Group decision support systems implement Bayesian rationality", September 1988.
88/27	Murugappa KRISHNAN Lars-Hendrik RÖLLER	"Entry game with resalable capacity", April 1988.	88/44	Essam MAHMOUD and Spyros MAKRIDAKIS	"The state of the art and future directions in combining forecasts", September 1988
88/28	Sumantra GOSWAL and C. A. BARTLETT	"The multinational corporation as a network: perspectives from interorganizational theory", May 1988.	88/45	Robert KORAJCZYK and Claude VIALLET	"An empirical investigation of international asset pricing", November 1986, revised August 1988.
			88/46	Yves DOZ and Amy SHUEN	"From intent to outcome: a process framework for partnerships", August 1988.

- 88/47 Alain BULTEZ, Els GIJSBRECHTS, Philippe NAERT and Piet VANDEN ABBELE "Asymmetric cannibalism between substitute items listed by retailers", September 1988.
- 88/48 Michael BURDA "Reflections on 'Wait unemployment' in Europe, II", April 1988 revised September 1988.
- 88/49 Nathalie DIERKENS "Information asymmetry and equity issues", September 1988.
- 88/50 Rob WEITZ and Arnoud DE MEYER "Managing expert systems: from inception through updating", October 1987.
- 88/51 Rob WEITZ "Technology, work, and the organization: the impact of expert systems", July 1988.
- 88/52 Susan SCHNEIDER and Reinhard ANGELMAR "Cognition and organizational analysis: who's minding the store?", September 1988.
- 88/53 Manfred KETS DE VRIES "Whatever happened to the philosopher-king: the leader's addiction to power", September 1988.
- 88/54 Lars-Hendrik RÖLLER and Mihkel M. TOMBAK "Strategic choice of flexible production technologies and welfare implications", October 1988
- 88/55 Peter BOSSAERTS and Pierre HILLION "Method of moments tests of contingent claims asset pricing models", October 1988.
- 88/56 Pierre HILLION "Size-sorted portfolios and the violation of the random walk hypothesis: Additional empirical evidence and implication for tests of asset pricing models", June 1988.
- 88/57 Wilfried VANHONACKER and Lydia PRICE "Data transferability: estimating the response effect of future events based on historical analogy", October 1988.
- 88/58 B. SINCLAIR-DESGAGNE and Mihkel M. TOMBAK "Assessing economic inequality", November 1988.
- 88/59 Martin KILDUFF "The interpersonal structure of decision making: a social comparison approach to organizational choice", November 1988.
- 88/60 Michael BURDA "Is mismatch really the problem? Some estimates of the Chelwood Gate II model with US data", September 1988.
- 88/61 Lars-Hendrik RÖLLER "Modelling cost structure: the Bell System revisited", November 1988.
- 88/62 Cynthia VAN HULLE, Theo VERMAELEN and Paul DE VOUTERS "Regulation, taxes and the market for corporate control in Belgium", September 1988.
- 88/63 Fernando NASCIMENTO and Wilfried R. VANHONACKER "Strategic pricing of differentiated consumer durables in a dynamic duopoly: a numerical analysis", October 1988.
- 88/64 Kasra FERDOVS "Charting strategic roles for international factories", December 1988.
- 88/65 Arnoud DE MEYER and Kasra FERDOVS "Quality up, technology down", October 1988.
- 88/66 Nathalie DIERKENS "A discussion of exact measures of information asymmetry: the example of Myers and Majluf model or the importance of the asset structure of the firm", December 1988.
- 88/67 Paul S. ADLER and Kasra FERDOVS "The chief technology officer", December 1988.
- 1989
- 89/01 Joyce K. BYRER and Tavfik JELASSI "The impact of language theories on DSS dialog", January 1989.
- 89/02 Louis A. LE BLANC and Tavfik JELASSI "DSS software selection: a multiple criteria decision methodology", January 1989.
- 89/03 Beth H. JONES and Tavfik JELASSI "Negotiation support: the effects of computer intervention and conflict level on bargaining outcome", January 1989.
- 89/04 Kasra FERDOVS and Arnoud DE MEYER "Lasting improvement in manufacturing performance: In search of a new theory", January 1989.
- 89/05 Martin KILDUFF and Reinhard ANGELMAR "Shared history or shared culture? The effects of time, culture, and performance on institutionalization in simulated organizations", January 1989.
- 89/06 Mihkel M. TOMBAK and B. SINCLAIR-DESGAGNE "Coordinating manufacturing and business strategies: I", February 1989.
- 89/07 Damien J. NEVEN "Structural adjustment in European retail banking. Some view from industrial organisation", January 1989.
- 89/08 Arnoud DE MEYER and Hellmut SCHÜTTE "Trends in the development of technology and their effects on the production structure in the European Community", January 1989.
- 89/09 Damien NEVEN, Carmen MATUTES and Marcel CORSTJENS "Brand proliferation and entry deterrence", February 1989.
- 89/10 Nathalie DIERKENS, Bruno GERARD and Pierre HILLION "A market based approach to the valuation of the assets in place and the growth opportunities of the firm", December 1988.

- 89/11 Manfred KETS DE VRIES and Alain MOEL "Understanding the leader-strategy interface: application of the strategic relationship interview method", February 1989.
- 89/12 Wilfried VANHONACKER "Estimating dynamic response models when the data are subject to different temporal aggregation", January 1989.
- 89/13 Manfred KETS DE VRIES "The impostor syndrome: a disquieting phenomenon in organizational life", February 1989.
- 89/14 Reinhard ANGELMAR "Product innovation: a tool for competitive advantage", March 1989.
- 89/15 Reinhard ANGELMAR "Evaluating a firm's product innovation performance", March 1989.
- 89/16 Wilfried VANHONACKER, Donald LEHMANN and Fareena SULTAN "Combining related and sparse data in linear regression models", February 1989.
- 89/17 Gilles AMADO, Claude FAUCHEUX and André LAURENT "Changement organisationnel et réalités culturelles: contrastes franco-américains", March 1989.
- 89/18 Srinivasan BALAKRISHNAN and Mitchell KOZA "Information asymmetry, market failure and joint-ventures: theory and evidence", March 1989.
- 89/19 Wilfried VANHONACKER, Donald LEHMANN and Fareena SULTAN "Combining related and sparse data in linear regression models", Revised March 1989.
- 89/20 Wilfried VANHONACKER and Russell VINER "A rational random behavior model of choice", Revised March 1989.
- 89/21 Arnoud de MEYER and Kasra FERDOVS "Influence of manufacturing improvement programmes on performance", April 1989.
- 89/22 Manfred KETS DE VRIES and Sydney PERZOV "What is the role of character in psychoanalysis? April 1989.
- 89/23 Robert KORAJCZYK and Claude VIALLET "Equity risk premia and the pricing of foreign exchange risk" April 1989.
- 89/24 Martin KILDUFF and Mitchel ABOLAFIA "The social destruction of reality: Organizational conflict as social drama" April 1989.
- 89/25 Roger BETANCOURT and David CAUTSCHI "Two essential characteristics of retail markets and their economic consequences" March 1989.
- 89/26 Charles BEAM, Edmond MALINVAUD, Peter BERNHOLZ, Francesco GIAVAZZI and Charles VYFLOSZ "Macroeconomic policies for 1992: the transition and after", April 1989.
- 89/27 David KRACKHARDT and Martin KILDUFF "Friendship patterns and cultural attributions: the control of organizational diversity", April 1989.
- 89/28 Martin KILDUFF "The interpersonal structure of decision making: a social comparison approach to organizational choice", Revised April 1989.
- 89/29 Robert GOGEL and Jean-Claude LARRECHE "The battlefield for 1992: product strength and geographic coverage", May 1989.
- 89/30 Lars-Hendrik ROLLER and Mihkel M. TOMBAK "Competition and Investment in Flexible Technologies", May 1989.
- 89/31 Michael C. BURDA and Stefan GERLACH "Durables and the US Trade Deficit", May 1989.
- 89/32 Peter HAUG and Tawfik JELASSI "Application and evaluation of a multi-criteria decision support system for the dynamic selection of U.S. manufacturing locations", May 1989.
- 89/33 Bernard SINCLAIR-DESGAGNE "Design flexibility in monopsonistic industries", May 1989.
- 89/34 Sumantra GHOSHAL and Nittin NOHRIA "Requisite variety versus shared values: managing corporate-division relationships in the M-Form organisation", May 1989.
- 89/35 Jean DERMINE and Pierre HILLION "Deposit rate ceilings and the market value of banks: The case of France 1971-1981", May 1989.
- 89/36 Martin KILDUFF "A dispositional approach to social networks: the case of organizational choice", May 1989.
- 89/37 Manfred KETS DE VRIES "The organisational fool: balancing a leader's hubris", May 1989.
- 89/38 Manfred KETS DE VRIES "The CEO blues", June 1989.
- 89/39 Robert KORAJCZYK and Claude VIALLET "An empirical investigation of international asset pricing", (Revised June 1989).
- 89/40 Balaji CHAKRAVARTHY "Management systems for innovation and productivity", June 1989.
- 89/41 B. SINCLAIR-DESGAGNE and Nathalie DIERKENS "The strategic supply of precisions", June 1989.
- 89/42 Robert ANSON and Tawfik JELASSI "A development framework for computer-supported conflict resolution", July 1989.
- 89/43 Michael BURDA "A note on firing costs and severance benefits in equilibrium unemployment", June 1989.