

# Toward the Flexible Form: How to Remain Vital in Hypercompetitive Environments

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## Abstract

Hypercompetition has received much attention, but an important question has not been answered: What organizational forms lead to success in hypercompetitive environments? Hypercompetition forces firms to move more quickly and boldly and to experiment in ways that do not conform to traditional administrative theory. Bureaucratic vertical forms severely hamper the ability to respond to accelerating competition. Flexible forms, in contrast, can respond to a wide variety of changes in the competitive environment in an appropriate and timely way. The author examines several alternative flexible forms for coping with hypercompetitive environments.

Flexibility derives from the repertoire of managerial capabilities (management challenge) and the responsiveness of the organization (organization design challenge). On the basis of theories of control, the author argues that organizational flexibility is inherently paradoxical and requires a constructive friction between change and preservation. The paradox of flexibility is portrayed in a conceptual model that relates competitive environments, certain types of flexibility, and organizational conditions.

The author develops a rich typology of organizational forms for coping with hypercompetition, each of which reflects a particular way of addressing change and preservation. Furthermore, he explores different trajectories of organizational development over time, especially those relating to revitalization. The implications of the typology for strategy and organization design research in hypercompetitive environments are profound.

*(Flexibility; Organizational Form; Hypercompetitive Environments; Revitalization)*

the ground rules for competing in the 1990s and beyond. Instead of long, stable periods in which firms can achieve sustainable competitive advantage, competition is increasingly characterized by short periods of advantage punctuated by frequent disruptions (D'Aveni 1994). The behavior of firms in such hypercompetitive environments has received much attention recently, but the characteristics of firms that lead to success in hypercompetitive environments have not been identified. This article addresses the question of how firms should be organized to cope best with hypercompetitive environments.

In the traditional mode of low-intensity and moderate-intensity competition, firms must develop certain unique and difficult-to-transfer routines as a part of their core competence. Their repositories of routines specify behavior that is appropriate and a search process for new ideas that are reasonable and consistent with prior learning (Nelson and Winter 1982). Competition for rents depends on innovations in routines that are organizationally embedded. Such innovations tend to be incremental and sufficiently infrequent that specialization is both feasible and desirable.

Teece (1984, p. 106), however, has argued that a limited repertoire of available routines severely constrains a firm's strategic choice. Although this suppression of choice is probably a condition for the exploitation of a core competence, Leonard-Barton (1992) rightly remarks that in highly competitive environments a core competence can become a core rigidity; firms develop core rigidities together with highly specialized resources to enhance profits at the price of reduced flexibility. Similarly, Utterback and Abernathy's (1975) model posits that a firm which does pursue the evolution of its processes and products to the extreme may find that it has achieved the benefits of high productivity only at the cost of decreased flexibility and innovative capacity. It must face compe-

## Introduction

Although traditional organizational forms have worked well in relatively stable environments of past decades, the globalization of markets, rapid technological change, shortening of product life cycles, and increasing aggressiveness of competitors have radically altered

tion from innovative products that are produced by more flexible firms. In the new mode of *hypercompetition*, therefore, rents do not derive from specialized routines but from *adaptive capability*. The reason is that, with hypercompetition, competitive change cannot be predicted but only responded to more or less efficiently *ex post*. Hence, superior organizational modes in hypercompetitive environments must generate superior adaptive capability.

A well-established stream of research in contingency theory has examined organic forms adapted to highly complex and dynamic environments (Burns and Stalker 1961, Duncan 1972, Lawrence and Lorsch 1967, Thompson 1967). Nonetheless, the defining characteristic of hypercompetition is that firms, in their struggle for control, continuously identify and develop new advantages, thereby creating a temporary disequilibrium. This dynamic process requires new organizational forms that are able to explore new opportunities effectively as well as exploit those opportunities efficiently, to change their strategic focus easily as well as develop some strategic direction, and to change their dominating norms and values as well as correct deviations from essential norms and values. These paradoxical requirements imply that balances must be struck if organizational forms are to remain vital. But how can firms reconcile the conflicting forces for change and stability?

Recently, several approaches have been suggested for coping with this paradox, such as the virtual corporation (Davidow and Malone 1992), the network form (Miles and Snow 1986), and the shamrock organization (Handy 1990). Most researchers are concerned with the logic of justification and rationalization of a particular organizational form, rather than the logic of discovery of new forms in general. In this article, a typology of alternative flexible forms is developed for coping with hypercompetitive environments. The empirical articles of Hanssen-Bauer and Snow (1996), Liebeskind et al. (1996), Richardson (1996), and Smith (1996) in this special issue show that some of these forms are viable whereas others have not yet been found.

First, the inherently paradoxical nature of flexibility is examined. On the basis of some insights drawn from theories of control, organizational flexibility is argued to derive from the control capacity of the management and the controllability of the organization. This two-dimensional conception of flexibility as a managerial and organization design challenge is portrayed in a conceptual model. Specific propositions then are derived that connect types of competitive environments with effective types of flexibility and organizational

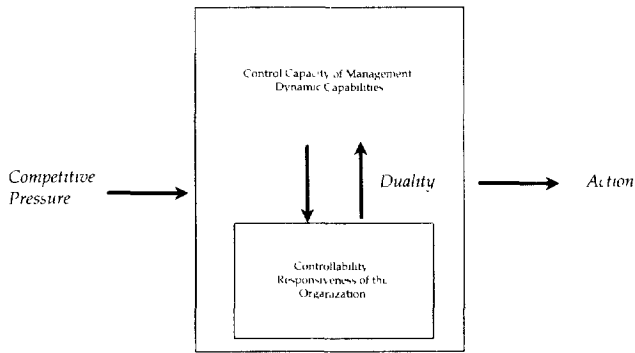
conditions. The typology of possibilities consists of the rigid, planned, flexible, and chaotic forms; each form reflects a particular way of coping with the flexibility paradox of change versus preservation. Finally, trajectories of organizational failure and success are derived from the typology.

## The Paradox of Flexibility

Nearly all definitions of organizational flexibility emphasize the adaptive capacity of management in terms of an ability (Aaker and Mascarenhas 1984, Frazelle 1986, Kieser 1969, Scott 1965, Zelenovic 1982), a repertoire (Weick 1982), a degree of freedom (Sanchez 1993, Thompson 1967), or free options (Quinn 1985) to initiate or adapt to competitive change. In most definitions flexibility opposes stability, and only a few emphasize that if flexibility is to have value it must be combined with stability. That idea is not wholly new, for Scott (1965) observed that creating too great a capacity to respond by deliberate postponement of decisions resulted in a lack of decisiveness, progressively increasing costs, and a continual revision of plans. Too great a reaction capacity or too short a reaction time may lead to overreaction, excessive information search, and wasted resources. Weick (1982) concluded that total flexibility makes it impossible for the organization to retain a sense of identity and continuity; in other words, flexibility without stability results in chaos. More recently, Van Ham, Pauwe, and Williams (1987) stressed the stability component of flexibility as necessary to preserve the identity and maintain the controllability of the organization. Similarly, Adler (1988) claimed that flexibility is advantageous or a meaningful concept only against a backdrop of stability. Instability is a result of a lack or excess of flexibility, so flexibility is the middle course between rigidity and overreaction.

Control theory provides another way of looking at the paradox of flexibility (De Leeuw and Volberda 1992). A firm is "under control" when for each competitive change there is a corresponding managerial capability and firm response (see Figure 1). In hypercompetitive environments, in which competitive change is frequent and radical, organizations may easily become adrift because flexibility requires high responsiveness (controllability) of the organization and sufficient managerial capabilities (control capability of management). The flexibility of an organization is the outcome of an interaction between (a) the controllability or responsiveness of the organization and (b) the dynamic control capacity of management. This interaction is such that the elements must be in balance. If one outweighs the other, there is no gain. More controllability does

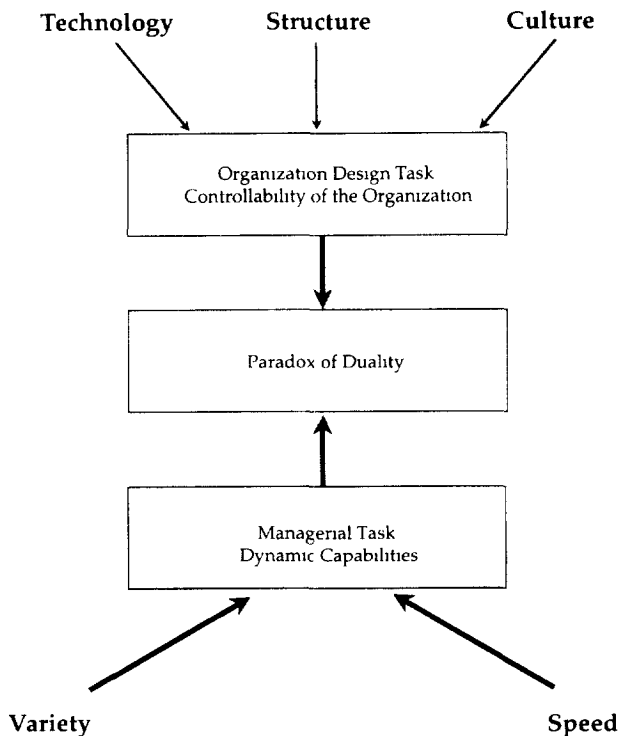
**Figure 1 Paradox or Duality of Control Capacity and Controllability**



not compensate for less capacity. The system is only as effective as the weakest dimension.

Hence, flexibility is a function of the interaction of two sets of variables. We can see this duality in two separate tasks (see Figure 2). First, flexibility is perceived to be a managerial task. Can managers respond at the right time in the right way? In this connection, the concern is with the managerial capabilities that endow the firm with flexibility; for example, manufacturing flexibility to expand the number of products the firm can profitably offer to the market or innovation

**Figure 2 Organizational Flexibility and the Associated Managerial and Organization Design Tasks**



flexibility to reduce the response time for bringing new products to the market. Second, flexibility is perceived to be an organization design task. Can the organization react at the right time in the directed way? The concern here is with the controllability or changeability of the organization, which depends on the creation of the right conditions to foster flexibility. For instance, manufacturing flexibility requires a technology with multipurpose machinery, universal equipment, and an extensive operational production repertoire (cf. Adler 1988). Similarly, innovation flexibility requires a structure of multifunctional teams, few hierarchical levels, and few process regulations (cf. Quinn 1985; Schroeder et al. 1986). These two tasks result in the following definition (Volberda 1992, Volberda and Cheah 1993).

**DEFINITION.** *Flexibility is the degree to which an organization has a variety of managerial capabilities and the speed at which they can be activated, to increase the control capacity of management and improve the controllability of the organization.*

**The Managerial Task: Developing Dynamic Capabilities**

As a managerial task, flexibility involves the creation or promotion of capabilities for situations of unexpected disturbance. Developing such capabilities is not exclusively the role of the manager. Grant (1996) makes clear that in principle every organizational member participates in the process of capability development. Whereas authoritarian managers may restrict capability development to a limited number of people, more democratic and more participative forms of decision making in organizations can result in a much wider involvement. Figure 2 shows two core components of this managerial task, variety and speed.

*Variety of Managerial Capabilities.* Not only the currently used arsenal of capabilities is important, but also the collection of potential flexibility-increasing capabilities that are not yet activated. Currently used capabilities have already been deployed for a real flexibility need (Reichwald and Behrbohm 1983). The possible emergence of opportunities or threats requires management to have some potential capabilities as insurance against risk (see Scott, 1965). Ashby (1964) demonstrated that to be able to respond to all circumstances, a firm must have a variety of capabilities at least as great as the variety of disturbances in the environment. In a turbulent environment, management needs an extensive, multidimensional collection of capabilities. Variety can be in terms of either the quantity (the number) of capabilities or the quality of capabilities (such as temporary versus durable flexibility-increasing capabilities). For instance, the training

of multiskilled personnel results in a durable improvement in flexibility, whereas the contracting out of certain peripheral activities or “hire-and-fire” employment practices result in a temporary improvement in flexibility. Temporary flexibility-increasing capabilities lead to a reduction of the potential for use once allocated, but durable flexible capabilities are not restricted in use.

*Speed.* Management may have the necessary capabilities, but may not be able to activate them in time. Flexibility is not a static condition, but a dynamic process. Speed is therefore an essential factor of organizational flexibility.

The dynamic capabilities that endow the firm with flexibility are manifested in the “flexibility mix.” Considering this flexibility mix as a hierarchy of capabilities (cf. Grant 1996, p. 5), we can distinguish four types of flexibility (see Table 1): steady-state, operational, structural, and strategic (Ansoff and Brandenburg 1971, Volberda 1992). Each type represents a simple combination of more/less variety of capabilities and fast/slow response.

*Steady-state flexibility* (low variety, low speed) consists of static procedures to optimize the firm’s performance when the levels of throughput and the nature of throughput remain relatively stable over time. It hardly seems to be a real type of flexibility, because under steady-state conditions there is only minor change and a relatively low premium on speed of response to external conditions.

For the other three types of flexibility a distinction can be made between internal and external flexibility (Ansoff 1965). Internal flexibility is defined as management’s capability to adapt to the demands of the environment. External flexibility is defined as management’s capability to influence the environment so that the firm becomes less vulnerable to environmental changes. Examples of these types of flexibility are provided in Table 2. The table shows that the variety and speed of managerial capabilities may result in various levels of managerial maneuvering capacity and can be both internal and external.

**Table 1** Types of Flexibility

<i>Variety</i>	<i>High</i>	Structural	Strategic
	<i>Low</i>	Steady-State	Operational
		<i>Low</i>	<i>High</i>
		<i>Speed</i>	

*Operational flexibility* (low variety, high speed) consists of routine capabilities that are based on present structures or goals of the organization. It is the most common type of flexibility and relates to the volume and mix of activities rather than the kinds of activities undertaken within the firm. The routines used are directed primarily at the operational activities and are reactive. Operational flexibility provides rapid response to changes that are familiar. Such changes typically lead to temporary, short-term fluctuation in the firm’s level of activity. Although the variety in the environment may be high, the combinations of conditions are sufficiently predictable for management to develop specialized routines to reduce uncertainty. Operational flexibility can be internal or external. Examples of internal operational flexibility are the variation of production volume, the building up of inventories, and the maintenance of excess capacity in terms of financial resources. Richardson (1996) shows that vertically integrated fashion apparel firms have developed “quick-response” routines aimed at shortening the manufacturing cycle, reducing inventory levels, and enabling manufacture in response to sales during the season. The object of internal operational flexibility is a more efficient, less risky operation in a volatile end market. External operational flexibility can be achieved by contracting out certain peripheral activities, using temporary labor to adjust the size of the workforce to shifts in product demand, or obtaining resources from more than one supplier.

*Structural flexibility* (high variety, low speed) consists of managerial capabilities to adapt the organization structure, and its decision and communication processes, to suit changing conditions in an evolutionary way (Krijnen 1979). When faced with revolutionary changes, management needs great internal structural flexibility or intraorganizational leeway to facilitate the renewal or transformation of current structures and processes. Examples of internal structural flexibility are horizontal or vertical job enlargement, the creation of small production units or work cells within a production line, changes in organizational responsibilities, alterations in control systems, the use of project teams, and even the transformation from a functional grouping to a market-oriented grouping with interchangeable personnel and equipment.

Structural flexibility can also be external in terms of interorganizational leeway in supporting and sheltering new technologies or developing new products or markets. Examples are various forms of JIT purchasing, comakership, codesign, or even joint ventures and other coalignments. By increasing such structural relations

**Table 2** Examples of Internal and External Types of Flexibility

	Internal	External
Routine Maneuvering Capacity	<p><i>Internal Operational Flexibility</i></p> <ul style="list-style-type: none"> <li>• variation of production volume</li> <li>• building up of inventories</li> <li>• use of crash teams</li> </ul>	<p><i>External Operational Flexibility</i></p> <ul style="list-style-type: none"> <li>• use of temporary labor</li> <li>• multisourcing</li> <li>• reserving of capacity with suppliers</li> </ul>
Adaptive Maneuvering Capacity	<p><i>Internal Structural Flexibility</i></p> <ul style="list-style-type: none"> <li>• creating multifunctional teams</li> <li>• changing managerial roles</li> <li>• alterations in control systems</li> </ul>	<p><i>External Structural Flexibility</i></p> <ul style="list-style-type: none"> <li>• purchasing of components from suppliers with a short delivery time (JIT)</li> <li>• purchasing of subassemblies from suppliers (co-makership)</li> <li>• developing of subcomponents together with suppliers (co-design)</li> </ul>
Strategic Maneuvering Capacity	<p><i>Internal Strategic Flexibility</i></p> <ul style="list-style-type: none"> <li>• dismantling of current strategy</li> <li>• applying new technologies</li> <li>• fundamentally renewing products</li> </ul>	<p><i>External Strategic Flexibility</i></p> <ul style="list-style-type: none"> <li>• creating new product market combinations</li> <li>• using market power to deter entry and control competitors</li> <li>• engaging in political activities to counteract trade regulations</li> </ul>

with outsiders, the organization can engage more easily in new developments. This point is perfectly illustrated by Hanssen-Bauer and Snow (1996), who note that for regional firms to cope with hypercompetitive environments, they need network relationships to expedite the learning process. From the regional firm's standpoint, external structural flexibility raises interesting questions about the relative efficacy of internal versus external avenues toward new products, technologies, and knowledge (cf. Pennings and Harianto 1992).

*Strategic flexibility* (high variety, high speed) consists of managerial capabilities related to the goals of the organization or the environment (Aaker and Mascarenhas 1984). This most radical type of flexibility is much more qualitative and involves changes in the nature of organizational activities. Strategic flexibility is necessary when the organization faces unfamiliar changes that have far-reaching consequences and needs to respond quickly. The issues and difficulties relating to strategic flexibility are by definition unstructured and nonroutine. The signals and feedback received from the environment tend to be indirect and open to multiple interpretations, "soft" and "fuzzy." Because the organization usually has no specific experience and no routine answer to cope with the changes, management may have to change its game plans, dismantle its current strategies (Harrigan 1985), apply new technologies, or fundamentally renew its products. The response may also be external, for example influencing

consumers through advertising and promotions (Mascarenhas 1982), creating new product market combinations (Krijnen 1979), using market power to deter entry and control competitors (Porter 1980), or engaging in political activities to counteract trade regulations. New values and norms are necessary and past experience may not provide any advantage (Newman et al. 1972). The creation of new activities in new situations may be very important. Smith (1996) shows how regional Bell operating companies (RBOCs) developed strategic flexibility from international expansion activities because the international managers in the unregulated side of the business questioned past practices, raised new assumptions about the organization, and promoted significant changes in strategy.

**The Organization Design Task: Creating Adequate Organizational Conditions**

The ability to initiate the repertoire of managerial capabilities depends on the design adequacy of organizational conditions, such as the organization's technology, structure, and culture (Zelenovic 1982). Those conditions determine the organization's controllability or responsiveness. As Grant (1996) argues, capabilities can be utilized efficiently only if the hierarchy of capabilities corresponds to the architecture of the firm. If management tries to increase the flexibility mix beyond the limits of organizational conditions, the controllability of the organization will diminish.

Designing the appropriate organizational conditions requires identifying the type of technological, structural, or cultural changes necessary to ensure effective utilization of managerial capabilities. For many service and manufacturing organizations, recent developments in *technology* have created a range of programmable automation systems and general information systems that seem to afford much greater flexibility potential (Adler 1988). In this connection, "technology" refers to the hardware (such as machinery and equipment) and the software (knowledge) used in the transformation of inputs into outputs, as well as the configuration of the hardware and software. The design of technology can range from routine to nonroutine, corresponding to the opportunities for routine capabilities. Routine technology is often characterized by mass or process modes of production, a typical line layout, specialized equipment dedicated to specific products, and a limited production repertoire. Such technology is focused on volume to create learning by doing or economies of scale. Consequently, its potential for flexibility is minimal. Nonroutine technology is characterized by small batch or unit modes of production combined with a group layout. In addition, the means of transformation are often multipurpose and the operational production repertoire is large. Such a completely redeployable technology gives leeway for search processes. The potential for flexibility is not restricted by technological constraints. Various intermediate technological designs also are possible. Richardson's study (1996) of fashion apparel firms shows that redesigning their technology by implementing new information technologies such as CAD/CAM equipment and EDI resulted in a large potential for operational flexibility.

Increases in controllability might also involve changes in *organizational structure*. Organizational structure comprises not only the actual distribution of responsibilities and authority among the organization's personnel (basic form), but also the planning and control systems and the process regulations of decision-making, coordination, and execution. The structural design of the organization can range from mechanistic to organic (Burns and Stalker 1961), corresponding to the opportunities for adaptive capabilities. A functional type of organizing with many hierarchical levels is characteristic of a mechanistic structure. Processes may be highly regulated through elaborate planning and control systems, specialization of tasks, and high degrees of formalization and centralization. Only minor incremental changes are possible in such a highly formalized and centralized structure (Cohn and Turyn 1984).

In contrast, an organic structure can range from the divisionalized form to the project or matrix form consisting of few hierarchical levels. Essential for both the divisional and matrix forms are planning and control systems that are predominantly performance oriented instead of means oriented and allow for ambiguous information and necessary experimentation and intuition. Moreover, direct process regulation in the form of specialization and formalization is extremely low, whereas indirect process regulation by training and education is well developed. The preceding principles of organic structure are basic guidelines. Because of the "equifinality" of the various structural design parameters, different configurations of those parameters can constitute the organic structure. Such organic structures provide great leeway for structural flexibility.

Many large corporations are undertaking organizational restructuring to increase their responsiveness. For instance, Xerox was able to exploit its superior technological and market capabilities after fundamentally changing the organizational architecture of the firm by creating business divisions with self-organizing teams and developing new reward and recognition systems (Howard 1992). Similarly, Smith (1996) illustrates that the newly developed capabilities of two RBOCs could be successfully deployed after drastic restructuring and organizational redesign.

Not only structural changes, but also cultural changes may be necessary to increase the controllability of the firm. *Organizational culture* can be defined as the set of beliefs and assumptions held relatively commonly throughout the organization and taken for granted by its members (Bate 1984). Essential features of such beliefs are that they are implicit in the minds of organization members and to some extent shared (Hofstede 1980). The beliefs may constrain managerial capabilities by specifying broad, tacitly understood rules for appropriate action in unspecified contingencies (Camerer and Vepsalainen 1988). The organizational culture can range from conservative to innovative, depending on the slack within the current norms and value systems for strategic capabilities. A conservative culture consists of a strong and homogeneous identity with a narrow scope. Leaders apply a directive leadership style. There are large repositories of unwritten rules as a result of a strong discipline dominance, socialization processes, and a low tolerance of ambiguity. Moreover, a conservative culture has a closed external orientation, which is mainly short-term and reactive. In contrast, an innovative culture has a weak and heterogeneous identity with a broad scope. Leaders apply a delegative leadership style and are biased

toward improvisation. There are only a few unwritten rules as a consequence of a low discipline dominance (free exchange of knowledge and information between the various disciplines), weak socialization processes, and a high tolerance of ambiguity. Exceptions involving violations of the formal rules are possible. The external orientation is very open and long-term oriented.

The beliefs and assumptions of the organizational culture play a central role in the interpretation of environmental stimuli and the configuration of organizationally relevant strategic responses (Johnson 1987). Does the organization see new strategic options? Can it deviate from present patterns? The more innovative the culture, the greater the leeway for strategic flexibility within the organization. Hence, many large corporations have not only restructured the organization, but also tried to change the corporate culture (e.g., GE's workout program, Philip's Centurion program, and ABB's corporate bible). Craig's (1996) study of two players in the Japanese beer industry reveals that Asahi initiated and Kirin responded to hypercompetition by not only working on their functional structure, but also reconsidering their intolerant culture. Both firms fundamentally changed their corporate culture by corporate identity and empowerment programs.

### **The Conceptual Model: Basic Assumptions and Propositions**

Combining the managerial and organization design tasks involves a process of matching, typically called duality or resolving paradoxes. Management must develop dynamic capabilities that enhance flexibility and the firm must have an adequate organizational design to utilize those capabilities. Consequently, management must cope with a constructive tension (Kanter 1983) between developing capabilities and preserving organizational conditions. If there is no balance, flexibility efforts will fail. For instance, if management develops dynamic capabilities but the organization remains inert, the firm will experience chaos. Management will overreact to competitive change and the organization will be unable to respond. Conversely, if the responsiveness of the organization is increased but the managerial capabilities are limited, the flexibility potential will be largely unrealized.

The process of matching represents *metaflexibility*. Management must reconfigure the flexibility mix and redesign the organizational conditions in line with future competitive changes. Because change is frequent and disruptive in hypercompetitive environments, effective flexibility requires the development of a supporting monitoring or learning system, particularly the

intelligence-gathering and information-processing functions of management (Galbraith 1973). Such a system may contribute to the firm's vision of where the next advantage will be discovered, where the company should focus its disruption, and which capabilities it needs and which it does not. D'Aveni (1994, p. 246) calls this "strategic soothsaying," which is concerned with understanding the future evolution of markets and technology that will proactively create new opportunities to serve current or new customers. Ansoff (1980) calls the latter "surprise management."

The factors that determine the sufficiency of the flexibility mix and the design adequacy of the organizational conditions have not been examined explicitly. When can management combine operational flexibility with tight organizational conditions and when must it combine structural or even strategic flexibility with looser organizational conditions? The sufficiency of the flexibility mix and the adequacy of the organizational conditions are assumed to depend on the turbulence in the environment. That is, the more dynamic (frequency and intensity of environmental changes), complex (number and relatedness of environmental changes), and unpredictable the environment (extent to which cause-effect relationships are incomplete), the more difficult it is to handle the managerial and organization design tasks (Volberda 1992). However, the causal connection between the environment and the firm is not assumed to be one way. Firms may drive their environment and vice versa. This two-dimensional conception of flexibility together with the turbulence characteristics of the organizational environment are portrayed in the conceptual model in Figure 3. The model relates the composition of the flexibility mix and the design of organizational conditions to the degree of environmental turbulence. The basic assumptions of the conceptual model follow.

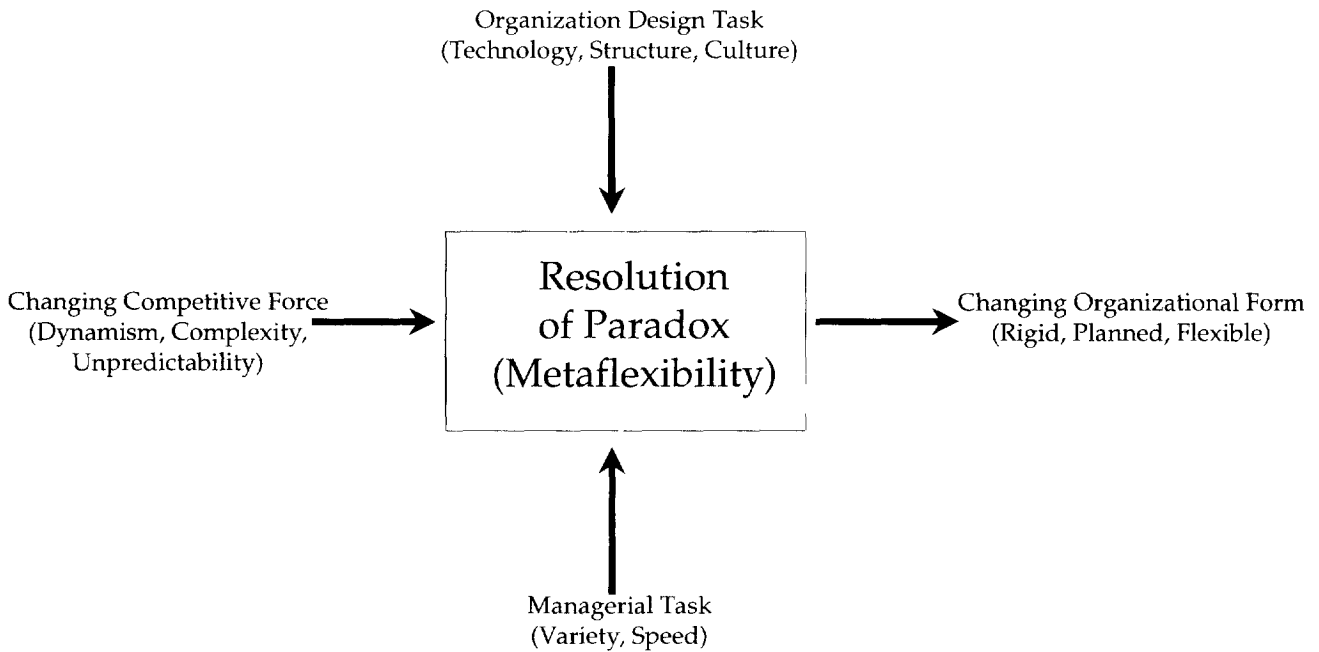
**ASSUMPTION 1.** *Management's flexibility mix must match the degree of environmental turbulence (sufficiency of the flexibility mix).*

**ASSUMPTION 2.** *To activate a sufficient flexibility mix, the design of the organizational conditions must provide adequate potential for flexibility (design adequacy of the organizational conditions).*

**ASSUMPTION 3.** *The sufficiency of the flexibility mix and the design adequacy of the organizational conditions must be continuously matched with the degree of environmental turbulence.*

The first assumption reflects the managerial task of flexibility, the second reflects the design task of flexibil-

Figure 3 A Conceptual Model of Organizational Flexibility



ity, and the third indicates the difficulty of matching the two tasks in a dynamic context.

Three propositions can be stated about optimal organizational forms for coping with various competitive environments.

**PROPOSITION 1: RIGID FORM UNDER LOW COMPETITION.** *In a static, simple, and predictable (noncompetitive) environment, the optimal organizational form employs a limited flexibility mix and has a routine technology, a mechanistic structure, and a conservative culture. In addition, the intelligence-gathering and information-processing aspects of metaflexibility are very elementary.*

The first proposition is very straightforward. In non-competitive environments, firms have established positions that enable them to develop absolute sustainable competitive advantages and generate excessive profit potential. In such environments, there is little need for managers to expend effort on a flexibility mix or for the organizational conditions to generate potential for flexibility. Too much flexibility is a nuisance. Consequently, intelligence gathering and information processing can be restricted to the primary functions of the organization.

**PROPOSITION 2: PLANNED FORM UNDER MODERATE COMPETITION.** *In a dynamic and/or complex but largely predictable (moderately competitive) environment, the optimal form employs a more comprehensive flexibility mix*

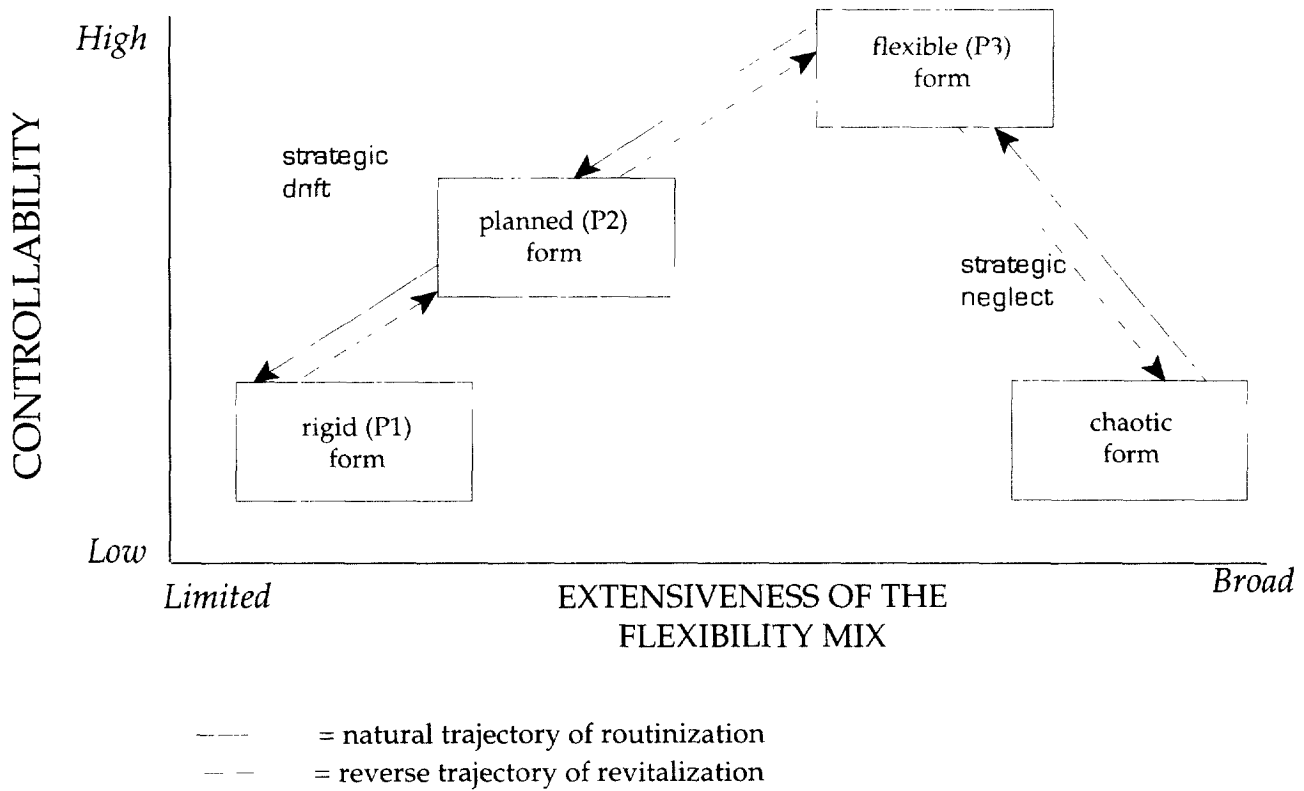
*dominated by operational flexibility and has a more non-routine technology, a relatively mechanistic structure, and a conservative culture. In addition, intelligence-gathering and information-processing capacity is very extensive and directed toward proliferation of routines.*

For survival in a dynamic and complex but largely predictable environment, managers must activate many sophisticated routines to cope with complex changes. They need a potential for operational flexibility originating from a nonroutine technology. In moderately competitive environments, firms seek to establish stable "oligopolies" by implicit collusion or developing sustainable competitive advantages (D'Aveni 1994, p. 224). Creation of strong entry and mobility barriers can reduce intraindustry rivalry. Competition may be characterized by relatively long periods of incremental, competence-enhancing changes (Tushman and Anderson 1986). In Clark's (1985) terminology, the result is a narrowing of approach instead of the emergence of new management approaches. Although competitive changes can be very dynamic and complex, they may be predictable to a large extent and various routines (ranging from simple to sophisticated) can be developed. Management therefore needs an extensive information-processing capacity to anticipate complex changes and to facilitate development of routines.

**PROPOSITION 3: FLEXIBLE FORM UNDER HYPERCOMPETITION.** *In a fundamentally unpredictable environment,*



Figure 4 A Typology of Alternative Flexible Forms for Coping with Hypercompetition



which may also be dynamic and complex (*hypercompetitive*), the optimal form employs a broad flexibility mix dominated by structural and strategic flexibility and has a nonroutine technology, an organic structure, and an innovative culture. The intelligence-gathering and information-processing aspects of metaflexibility are directed toward enhancing the receptiveness to new environments.

The third proposition suggests that in hypercompetitive environments, management must activate both strategic flexibility and structural flexibility originating from innovative culture and organic structure. The escalating degree of competition results in short periods of advantage punctuated by frequent disruptions. The disruptions are associated with departures from current approaches that reduce the value of established commitments and competence and require fundamentally new capabilities. The liability of newness plagues new firms confronting moderate competition within well-established markets, whereas the liability of age and tradition constrains established successful firms confronting hypercompetition (Stinchcombe 1965, Tushman and Anderson 1986). Hypercompetition is

facilitated by the disequilibrium-creating activities of firms that are capable of breaking new ground, pioneering new fields, promoting radical innovation, and, in the process, partially or completely transforming the organization. Instead of building on current routines as a part of their operational flexibility, such firms develop high levels of structural and strategic flexibility.

### A Typology of Forms for Coping with Hypercompetition

The conceptual model clarifies variations among organizations in the composition of the flexibility mix. Nonetheless, this instrumental model ignores the *process* of variation in the composition of the flexibility mix *over time*. In other words, how does management cope with change? The propositions raise serious doubts as to whether there is a permanently flexible organization. Shifts may occur in the level of competition, and the composition of the flexibility mix and the design variables of the organizational conditions must vary correspondingly. An ongoing process of variation in the flexibility mix and related organizational conditions is needed to overcome routinization and chaos.

On the basis of the two central dimensions of organizational flexibility—the extensiveness of the flexibility mix and the controllability of the organizational conditions—many organizational forms are possible for coping with hypercompetition. Aside from the three ideal types, *rigid*, *planned*, and *flexible*, there is at least one other, the *chaotic* form (see Figure 4). Each type represents a particular way of addressing the flexibility paradox of change versus preservation, and some are more effective than others.

The *rigid form* reflects Proposition 1. It has a very small flexibility mix and the controllability or changeability of the organization is low. The flexibility mix is dominated by simple procedures (steady-state flexibility). In addition, the choice and variation possibilities are limited; improvisation is forbidden in the organization. The mature technology (routine), the functionalized and centralized structure with many hierarchical layers (mechanistic), and the monotonous and narrow-minded culture (conservative) do not allow potential for flexibility and result in a fragile and vulnerable organization.

The *planned form* (Proposition 2) also has a narrow flexibility mix, but the variety of routines and the controllability are less limited than in the rigid organization. The flexibility mix mainly consists of specific rules and detailed procedures, which are sophisticated and complex and require an extensive information-processing capacity. Moreover, for every possible change, the management has developed a certain routine. The rigidity of this organizational form is not a result of the technology or the basic organizational structure, but of strong process regulations such as standardization, formalization, and specialization, and very detailed planning and control systems. Also, the shared cultural beliefs and assumptions give very little leeway for deviant interpretations of the environment, and dissonance is potentially threatening to the organization's integrity. This organizational form resembles the "ideal-type" bureaucracy of Weber (Perrow 1986). As long as there are no unexpected changes, the controllability of such an organization is high. However, if changes occur that are not anticipated in the planning repertoire and are threatening to the shared idea system, the result is a situation known as "*strategic drift*" in which consciously managed incremental changes do not necessarily keep pace with environmental changes (Johnson 1988, p. 88). Inertia sets in and the organization becomes rigid.

An illustration of the planned form is provided by Richardson (1996) in his discussion of vertical integration as a valuable organizational mode in a hypercom-

petitive industry such as fashion apparel. By tight coupling, firms lose some of their structural flexibility and become integrated firms that have control over manufacturing and retailing (cf. Clark 1985, Utterback and Abernathy 1975). Such integrated firms are very similar to the planned form in the typology. They have mainly operational flexibility in terms of managerial routines to respond quickly based on a nonroutine technology (CAD/CAM equipment, EDI). Such integrated firms are superior organizational forms for exploiting current opportunities through technological innovations known as "quick response." Nonetheless, their structural and strategic flexibility for developing new opportunities is low. Richardson's study shows that the exploitation of time and response opportunities requires further integration and may lead to new rigidities. The planned firms run the risk of being outperformed by flexible deintegrated firms that have more structural and strategic flexibility.

The *flexible form* (Proposition 3) has a large and rich flexibility mix dominated by strategic and structural flexibility. In addition, the controllability of the organizational conditions is reasonably high. Disturbances are met effectively with alert adaptations without the organization losing its distinctiveness. Resistance to signals of threat to the idea system is low, and the system adapts. Change can be implemented easily through adaptations within the current (nonroutine) technology and (organic) structure (Ansoff and Brandenburg 1971). The organization is able to resist being overwhelmed by its immediate environment and the consequently losing its distinctiveness. It develops some dominance over its environment to preserve its identity. The balance between change and preservation is well managed.

Of the organizational forms discussed in this special issue, the social network form (Liebeskind et al. 1996) and the cluster form (Hansen-Bauer and Snow 1996) are closest to the flexible form. Liebeskind and her coauthors argue that the social network form is an appropriate organizational mode for sourcing scientific knowledge in the hypercompetitive new biotechnology industry. The social network form differs from the hierarchy and market exchange forms in the sense that it has a high degree of structural and strategic flexibility. This organizational form is characterized by a redeployable technology and an organic structure, but with strong ties between actors as a result of a strong professional culture. New biotechnology firms in a social network have much room to maneuver, but also preserve some commonly shared social norms. That is, the network requires a willingness to change and to

renew and at the same time an unconditional commitment, concern, and loyalty to the social norms. It supports Kanter's (1988, p. 195) suggestion to encourage strong social ties within flexible forms and strong beliefs in fundamental values. Also, the regional cluster form of Norvest Forum Inc. in Norway described by Hanssen-Bauer and Snow (1996) might be considered a flexible form. Such a cluster form provides much strategic leeway for participating regional firms, but also preservation and self-control in terms of structural relationships.

Finally, the *chaotic form* in the typology has a very extensive flexibility mix dominated by strategic flexibility, but is totally uncontrollable. In such organizations, the possibilities for variation are unlimited, because there is no anchorage within the organizational conditions. The innumerable initiatives for change are impossible to implement. A distinct technology, administrative structures, and basic shared values stemming from the organizational culture are lacking. Consequently, the environment can force the organization in a certain direction; that is, the organization is controlled by the environment. The lack of administrative stability is caused by *strategic neglect*. According to Burgelman (1983, pp. 234–237), strategic neglect is the more or less deliberate tendency not to pay attention to the administrative structure of the organization. As a result, emerging administrative problems deteriorate from petty and trivial to severe and disruptive. In his study of new internal corporate ventures, Burgelman

concluded that such administrative instability is exacerbated by lack of strong strategic orientation to counter opportunistic behavior on the part of some participants in the venture. The range of possible procedures is so large that making a choice is very difficult and managers' decision-making capacity is greatly reduced (Eppink 1978, Scott 1965). Decisions are delayed although the situation requires an immediate decision.

The chaotic form generally has a negative association, but Smith (1996) shows that it has a role for exploration of new opportunities when firms are facing advancing hypercompetitive conditions. By exploring how two regional Bell operating companies created new capabilities in their telecommunication service industry, she argues that resource-rich firms begin to develop new capabilities through chaotic forms in their unregulated business. The chaotic forms were characterized by no clear agreement on outcomes, uncrystallized or problematic relations between means and ends, and a lack of focused strategy (cf. Hrebiniak and Joyce 1985).

The four-cell typology of organizational forms is important for understanding the process of variation in the composition of the flexibility mix and the design of the organizational conditions over time. No such system of categorization related to flexibility has been proposed in the study of organizations. Forms are currently identified through such typologies as mechanistic-organic or bureaucratic-professional or through empirically developed typologies. Although these frag-

**Table 3** Trajectories for Coping with Hypercompetition over Time

	Rigid-Planned	Planned-Flexible	Flexible-Chaotic
Routinization (←)	<i>Strategic Drift</i>	<i>Maturation</i> <ul style="list-style-type: none"> <li>• exploitation of time and response opportunities in the fashion apparel industry resulting in further integration of firms (Richardson 1996)</li> </ul>	<i>Strategic Focus</i> <ul style="list-style-type: none"> <li>• identification of capabilities created within unregulated businesses of two RBOCs forced by top management intervention (Smith 1996)</li> </ul>
Revitalization (→)	<i>Professional Revitalization</i> <ul style="list-style-type: none"> <li>• RBOCs becoming more market-driven in their core activities after divestiture (Smith 1996)</li> <li>• the Dutch National Postbank's movement from standardized to customized services (Volberda 1992)</li> </ul>	<i>Entrepreneurial Revitalization</i> <ul style="list-style-type: none"> <li>• ability of two firms (Asahi and Kirin) in the Japanese beer industry to create new capabilities and to carry out radical internal change (Craig 1996)</li> <li>• transition of Philips Semiconductors from a bureaucratic and conservative to an innovative and responsive company (Volberda 1992)</li> </ul>	<i>Strategic Neglect</i> <ul style="list-style-type: none"> <li>• lack of administrative structures and a shared culture within the R &amp; D Dept of Dutch National Gas Corporation (Volberda 1992)</li> </ul>

mentary typologies contribute rich insights to flexible technologies, structures, and cultures, they are often not complex enough or sufficiently developed to permit a very comprehensive analysis of organizational flexibility. Consequently, the difference between the planned form (in which operational flexibility dominates) and the flexible form (in which structural and strategic flexibility dominate) is frequently unclear or confusing. For instance, the vertically integrated form described by Richardson (1996) is perfectly able to exploit quick-response routines. The superior operational flexibility enables the firms to identify mistakes and take corrective actions quickly. Nonetheless, their structural and strategic flexibility diminishes as a consequence of an increased commitment to irreversible resources. The social network form, in contrast, has high levels of structural and strategic flexibility that enable it to engage more easily in radical new developments. Both the integrated form and the social network form are flexible, but in totally different ways.

## Trajectories of Transformation

The typology illustrates that none of the forms is a permanent solution of the flexibility paradox of change versus preservation. However, we can obtain from the typology trajectories for coping with competitive change. Some likely trajectories are considered next, with examples based on the empirical studies in this issue and flexibility studies in Philips Semiconductors, the Dutch Postbank, and the Dutch National Gas Corporation (see Table 3).

### The Natural Trajectory of Routinization: Decreasing Levels of Competition

The process of transition from a chaotic state to flexible, planned, and rigid forms can be described as a natural trajectory of routinization (see Figure 4). During this process of decreasing levels of competition, the accumulation of routines results in a natural trajectory. The trajectory corresponds with Nelson and Winter's (1982) evolutionary theory of economic change, which holds that radical change becomes less possible as the organization ages (Rumelt 1987, p. 151).

Smith's (1996) study on international expansion of two RBOCs is illuminative. These RBOCs were ill-prepared for competition after divestiture, but their top managers allowed chaotic forms in the unregulated side of their business. Smith's study shows how strategic flexibility was created from the firms' chaotic international expansion activities but, because of organizational conditions, the new capabilities could not be utilized. A distinct technology, administrative

structures, and shared values stemming from the organizational culture were lacking. The new strategic capabilities of the RBOCs could be deployed only through top management support to *focus* their international efforts on certain types of telecom services, project types, and countries and through drastic changes in organizational design. The chaotic forms are moving toward more flexible forms in which prior experiences with the chaotic forms can be maximally exploited.

As the level of competence-destroying competition (hypercompetition) decreases, the flexible organization faces a crisis. It must become more efficient in its operations to extract greater benefit from the hypercompetitive changes that it introduced previously. The transition from a flexible form toward a planned form can be portrayed as a process of *maturation*. According to Miller and Friesen (1980, p. 285), maturation creates a greater need to professionalize and institutionalize the intelligence-gathering and information-processing functions, and to integrate the efforts of decision makers by formal means (process regulations). This trajectory of maturation can be seen in Richardson's (1996) study, where the vertically integrated firm gained more competitive advantage from current technological opportunities (CAD/CAM, EDI) than the more flexible deintegrated firms. However, in the process of adapting and refining the organizational conditions to efficiently exploit time and response opportunities, the planned organization runs the risk of losing its strategic and structural flexibility as it concentrates increasingly on the accumulation of a large number of operational procedures and routines (operational flexibility). In such circumstances, it may become progressively more rigid.

### The Reverse Trajectory of Revitalization: Escalating Levels of Competition

For many organizations, the transition from a chaotic state toward a rigid organization can be regarded as a natural trajectory. A transition in the reverse direction in the typology also can be perceived as a trajectory, though it may not be as easy to achieve or seem as "natural" as the former process. Such trajectories of revitalization, initiated for creating temporary disequilibria, are most likely to be effective under situations of hypercompetition.

Smith's (1996) description of the transformation within the core activities (local telephone service activities) of the RBOCs after divestiture seems to expand this trajectory. During their 100-year history in AT & T, the rigid forms had functioned in the context of a monopoly. In 1982, however, the seven RBOCs were

jolted from their rigid existence in AT & T. After divestiture, their core activities seemed to be moving toward the planned form. The same trajectory was evident within the Administrative Department of the Dutch National Postbank, the fifth largest bank of The Netherlands (Volberda 1992). The bank was recently privatized. In the past, its main line of business had been retail banking because of restrictions imposed by the Dutch government. It largely provided standardized services to more than six million account holders. After the deregulation, it intended to provide more customized services as a part of corporate banking. The bank was confronted with increasing national and international competition, new information technologies in banking, increased pressure on interest margins, and the introduction of new banking-related services. The Administrative Department Corporate Accounts, which was bureaucratically organized for a noncompetitive environment, had to adopt a more comprehensive flexibility mix dominated by operational flexibility, which in turn originated from a more adaptive technology (broadly applicable information systems) and a larger operational production repertoire of employees.

When such professional revitalization proves inadequate, the planned organization must transform itself further into a more flexible form. In terms of organizational conditions, this change in the composition of the flexibility mix can be realized only if the organization moves toward an even more flexible or multipurpose technology, develops a more organic structure, and adopts a more heterogeneous, open, and externally oriented culture. Such efforts help to promote asymmetry within and "unbalance" the previous organizational form while propelling the organization toward the creation of new temporary advantages better suited to hypercompetitive environments. This process of *entrepreneurial revitalization* is promoted by such changes as new leadership composed of visionary entrepreneurs, reduction of process regulations (specialization, formalization), loose basic organizational forms (grouping by target market, flat structure, and broad management tasks), a more open external orientation, and a high tolerance for ambiguity.

This kind of transition is perfectly described in Craig's (1996) study on hypercompetition in the Japanese beer industry. For a long period of time the Japanese beer industry was a stable oligopoly in which competition was limited to well-understood nonprice dimensions (moderate competition). Nonetheless, the hypercompetitive behavior of one firm with declining market share (Asahi) caused escalation of competition on the industry level. The only firms that could respond were

ones that were able to revitalize their culture (e.g., corporate identity campaigns, empowerment) and structure (redrawing organizational boundaries between marketing and production, shifting from functional to product division structure, new evaluation and reward systems). A similar transition occurred within Philips Semiconductors (Volberda 1992). The rapidly escalating competition in cost and quality (price erosion and unforeseen volume developments) and in timing and know-how (introduction of plastic diodes, release of higher voltages versions, new crystal types, and the advance of integrated circuits in the application markets) forced the firm to increase its structural and strategic flexibility to more easily exploit unknown opportunities in those hypercompetitive areas. The transition of entrepreneurial revitalization was accomplished by radically transforming the firm from a bureaucratic, conservative company to one that is innovative and responsive. The development of autonomous task groups, interdisciplinary marketing-production-development teams, and less formal planning and control, combined with the development of a unique logo for the plant, the organization of social events, special training, and a news bulletin for employees, made the transformation possible.

If the organization is successful in achieving a major transformation, it faces the opposite danger of overshooting its target and becoming chaotic. For example, the R & D Department of the Dutch National Gas Corporation had unlimited potential for flexibility, but it was impossible for managers to activate (Volberda 1992). In other words, the department was too flexible. There were many initiatives for new research, but they could not be implemented because the department had no clear administrative structures or shared values stemming from its culture. Nor did the department have adequate information about man-hours, costs, or technical progress per project. The schizophrenia of the department resulted in distorted information with which managers could not make appropriate decisions. Consequently, the environment (board, internal clients) could force the department in a certain direction; that is, the department was controlled by its environment. This *strategic neglect* resulted in a lack of decisiveness about research priorities, a fragmented structure, and a loose constellation of subcultures. Kanter (1988, p. 195) points out that, ironically, creating change requires stability. Organizational structures and cultures must allow continuity and preserve the organization in the midst of change. In particular, Kanter proposes encouragement of strong social ties and strong beliefs in fundamental values. Liebeskind et al. (1996)

discuss the social network form as a viable flexible form under conditions of hypercompetition.

## Discussion

Various alternative flexible forms enable firms to initiate or respond successfully to different kinds of competition including hypercompetition. On the basis of an elaboration of the flexibility paradox, a conceptual model is developed for describing flexible organizations. The model is used to construct a rich typology of organizational forms for coping with hypercompetitive environments. From the typology, trajectories of organizational success and failure in meeting various levels of competition are obtained. In the old mode of competition in which firms' attention is directed toward reducing the level of competition, a natural trajectory of routinization is most likely. Contrary to this evolutionary approach, in the new mode of hypercompetition in which firms are confronted with rapidly escalating competition, a trajectory of revitalization is more likely to be successful. In hypercompetitive situations, firms must continuously increase the variety and speed of managerial capabilities as well as the controllability of the organization.

The empirical articles in this special issue provide examples of superior organizational forms for use with particular kinds of hypercompetition. The studies show that the regional cluster form, the social network form, the vertically integrated form, and the garbage can form are viable organizational modes analogous to the forms identified in the typology. Still, in reconciling the "logic of discovery" presented here with the "logic of justification" applied in the empirical articles, a few remarks are necessary.

First, the logic of discovery in this article is to some extent speculative, based on a limited number of observations. The model and typology developed might be a fallacious attempt to reduce complex phenomena to simple dimensions. For instance, some dimensions might not be included in the model. Furthermore, the typology does not address the question of causality, the firm affecting the market and vice versa. Nonetheless, exploratory interviews with management consultants and flexibility audits within Philips Semiconductors, the Dutch Postbank, and the Dutch National Gas Corporation suggest that the ideal types are to some extent distinguished by practitioners and clearly have some empirical value (Volberda 1992).

Second, besides being speculative, the logic of discovery can never be as comprehensive as reality. Perhaps there are forms that span the boxes because the typology is restricted to only one level of analysis.

Some evidence suggests that if multiple levels or multiple parts are considered, different trajectories of transformation for coping with hypercompetition can be found in a single firm. For instance, Smith (1996) found two different trajectories within the same RBOC. After divestiture, the RBOCs shifted their core activities into more planned modes, but in their unregulated business they created more chaotic modes. The fact that RBOCs now complain about their split-brain personality is not surprising given the two trajectories, one through chaos and another through a more planned mode. One successful RBOC solved this paradox by knitting the regulated and unregulated sides into an integrated whole (synthesis), whereas another successful RBOC accepted the paradox by splitting the company in two to increase both parts' chances for survival. In the study by Galunic and Eisenhardt (1996), the paradox is solved by spatial separation (cf. Poole and Van de Ven 1989). That is, mature divisions confronted with moderate competition operate in a planned mode, whereas new ventures developed to create hypercompetitive disruption may operate in a chaotic mode. Nonetheless, to the extent that the relevant environment for the organization as a whole has been transformed from moderate competition to hypercompetition, the crisis confronts the entire organization and requires a comprehensive response, not a partial one. Craig's (1996) study shows that a dramatic redesign often is necessary to deploy new capabilities.

Another limitation of the typology is that only four forms are considered. Other combinations of levels of managerial flexibility and controllability of the firm are possible. One might think of the hollow corporation in the left upper corner in the typology; that form is highly controllable but the managerial flexibility repertoire of participating firms is restricted.

The most important contribution of this article is that it describes successful and unsuccessful ways to achieve superior flexibility. However, as is clear from the empirical articles in this issue, there will never be one best way to achieve the flexible state in hypercompetitive environments. The trajectories indicate that firms can arrive at the flexible form through strategic focusing of the chaotic mode or through entrepreneurial revitalization of the planned mode. In addition, the flexible form itself can be achieved in different ways, which suggests the likelihood of equifinality. There are several equally good ways to match high variety and speed of managerial capabilities with an adequate design of organizational conditions, solving the constructive tension between development of capabilities and preservation of stability within the

organizational conditions. Both the social network form and the regional cluster form are considered as examples of the flexible form. Both forms have high levels of structural and strategic flexibility, but the preservation in the social network form is based on strong beliefs in fundamental values, whereas in the regional network form it is based on self-control of the network in terms of structural relationships.

Finally, the train of thought in this article on alternative flexible forms has been initiated in other areas, for instance, the work on strategy types (Miles and Snow 1978, Mintzberg and Waters 1985), archetypes of organizational transitions (Miller and Friesen 1980, Nelson and Winter 1982), and types of corporate entrepreneurship (Schumpeter 1934, Stopford and Baden-Fuller 1994). Although the logic of discovery was enriched by those works, the intention of this article is to develop theory and stimulate debate that goes beyond theory on traditional forms in stable competition. The conceptual underpinning of flexible forms as viable in situations of hypercompetition has not been discussed properly. The conceptual model and typology of alternative flexible forms may provide a useful guide for the study of effective organizational forms in the new world of hypercompetition. The logic of discovery has something to offer.

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