

The new corporate architecture

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Executive Overview

For years the basic questions about how best to organize people and tasks remained the same: "Do we centralize or decentralize? Do we organize by product or function? Where do we stick the international operation?" The answers were seldom satisfactory. Typically, companies were organized by product, by customer, or by territory, and then switched when those structures stopped working. While senior managers felt the impact of such reshuffling, it rarely affected the rank and file who continued to operate in the same functional, vertical organization where all that changed was the boss's name.

Today's management challenge is to design more flexible organizations that affect all members. With traditional structures failing, managers must evaluate innovative types of organization to see if these structures can deliver. In this article we examine three such structures—the modular, the virtual, and the barrier-free—which today have become part of the new corporate architecture.

One promising innovative organization model, the boundaryless organization, has been described by its chief architect, GE's CEO Jack Welch, as a company "... where we knock down the walls that separate us from each other on the inside and from our key constituencies on the outside."¹ The term boundaryless may bring to mind a chaotic organizational reality in which "anything goes." This is not the case. As Jack Welch suggests, boundaryless does not imply that all internal and external boundaries vanish altogether. Although boundaries may continue to exist in some form, they become more open and permeable.

Value chain analysis provides a useful framework for dividing a firm's activities into a set of distinct activities which add value.

Several distinct structural types can contribute to reducing boundaries. While the *modular* and *virtual* types are different approaches to modifying or breaking down external organizational boundaries, the *barrier-free* type involves breaking down all organizational boundaries, both internal and external. While we will examine each of these structural types separately, in our view they are not mutually exclusive. Rather, together they are the building blocks for the boundaryless organization.

The Value Chain

How an organization goes about structuring itself should logically follow from the appropriate configuration of its value chain. The value chain is comprised of primary activities and support activities. Primary activities contribute to the physical creation of the product, its sales and distribution to the buyer, and after-sale service. Support activities assist the primary activities as well as each other. Value chain analysis provides a useful framework for dividing a firm's activities into a set of distinct activities which add value.² As we shall illustrate, each of the structural types that we examine results in fundamental

changes in the value chain configuration of the firm. Central to such changes is the idea that organizations must focus on those activities that add value and are critical to the success of the firm.

The Modular Type

As Charles Handy, the author of *The Age of Unreason*, noted:

"Organizations have realized that, while it may be convenient to have everyone around all the time, having all of your workforce's time at your command is an extravagant way of marshalling the necessary resources. It is cheaper to keep them outside the organization, employed by themselves or by specialist contractors, and to buy their services when you need them."³

To capture Handy's vision, the modular type outsources non-vital functions while retaining full strategic control. Outsiders may be used to manufacture parts, handle logistics or perform accounting activities. The organization is actually a central hub surrounded by networks of outside suppliers and specialists and much like Lego™ blocks, parts can be easily added or taken away. Both manufacturing and service units may be modular.⁴

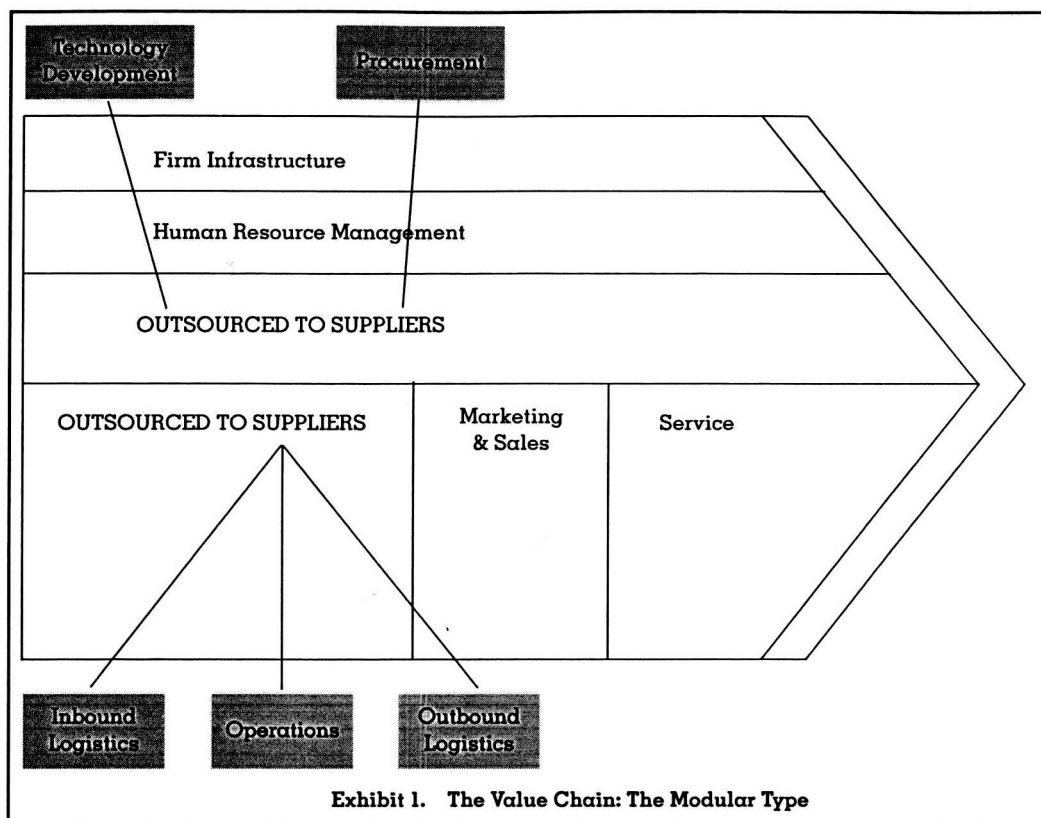
In a modular company, outsourcing the non-core functions offers two advantages. First, it can decrease overall costs and can quicken new product development—by hiring suppliers whose talent may be superior to that of in-house personnel, by avoiding idle capacity, by realizing savings in higher inventory costs due to cyclical demand patterns, and by avoiding becoming locked into a particular technology which may soon be obsolete. Second, outsourcing enables a company to focus scarce resources on the areas where they hold a competitive advantage. These benefits can translate into more funding for research and development, hiring the best engineers, and providing continuous training for sales and service staff.⁵

A company must be wary of outsourcing critical components of its business that may compromise long-term competitive advantages.

The modular type enables a company to leverage relatively small amounts of capital and a small management team to achieve seemingly unattainable strategic objectives. Freed from the need to make big investments in fixed assets, the modular company can achieve rapid growth. Certain preconditions must exist or be created, however, before the modular approach can be successful. First, the company must work closely with suppliers to ensure that the interests of each party are being fulfilled. Companies need to find loyal, reliable vendors who can be trusted with trade secrets. They also need assurances that suppliers will dedicate their financial, physical and human resources to satisfy strategic objectives such as lowering costs or being first to market. Second, the modular company must make sure that it chooses the right competence to keep in-house. A company must be wary of outsourcing critical components of its business that may compromise long-term competitive advantages.

From a value chain perspective, it is unwise for an organization to expend financial and managerial resources on activities that add only a fraction to the final value of its product or service.⁶ The modular type, as shown in Exhibit 1, reflects this perspective.

Apparel and computers are two industries in which the modular type has become widely adopted. Nike™ and Reebok™ have succeeded by concentrating on their strengths: designing and marketing high-tech, fashionable footwear.



Nike has very limited production facilities and Reebok owns no plants. The two companies contract virtually all their footwear production to suppliers in Taiwan, South Korea, and other low-cost labor countries. Avoiding large investments in fixed assets helped them to derive large profits on minor sales increases. By being modular, Nike and Reebok can keep pace with changing tastes in the marketplace since their suppliers are experts at rapidly retooling for the manufacturing of new products.⁷

In the personal computer industry, the shift to the modular structure has been pioneered by newcomers such as Dell, Gateway, and CompuAdd, as well as by workstation innovators like Sun Microsystems. These companies either buy their products ready-made or purchase all the parts from suppliers and perform only the final assembly. Their large established competitors—IBM, Hewlett-Packard, and Digital Equipment—produce most of their parts in-house. As a result, the smaller modular companies are way ahead of their older rivals in profitability.⁸

Other industries are also becoming increasingly modular. An example in a traditionally vertically integrated industry is Chrysler, which purchases 70% of its parts from outside suppliers but avoids buying thousands of separate items. Increasingly, suppliers are delivering pre-assembled sections such as brake systems and door panels.⁹ Toyota has emerged as one of the strongest automakers in the world by carefully following the principles of a modular form. Toyota relies extensively on a network of suppliers that have close ties to the firm. Two are owned outright by Toyota, and 228 others provide everything from jigs to molds to general contracting.¹⁰

Firms applying the modular concept must first develop a strategic plan that

identifies core competencies and areas that are important for future development, and then attempt to outsource non-critical functions. For Nike and Reebok, the core competencies are design and marketing, not shoe manufacturing. For Honda, the core competence is engine technology. These firms are unlikely to outsource any activity that involves their core competence.

While adopting the modular form clearly has some advantages, managers must also weigh its disadvantages (see Exhibit 2). For example, mindless outsourcing in the pursuit of temporary cost advantages can lead to firms becoming "hollow" and losing their competitive advantage.¹¹ The world leader in the bicycle business for almost a century, Schwinn filed for bankruptcy after it outsourced most of its production in response to a labor strike.¹² Schwinn's managers handed over technology and production to Giant Manufacturing Company of Taiwan and China Bicycle Company. These firms now dominate the world bicycle business. Schwinn's demise can be traced to its inability to protect its technology, its failure to establish global brand equity, its lack of innovation, and severe labor/management problems. Instead of addressing these basic problems, Schwinn responded with a poorly devised strategy by its inability to keep high value activities in-house, failure to invest in core competencies, and preoccupation with short-term cost control instead of viewing outsourcing as a strategic weapon to enhance competitive position.

The Virtual Type

The virtual type is a continually evolving network of independent companies—suppliers, customers, even competitors—linked together to share skills, costs, and access to one another's markets.¹³ The term "virtual" originates from the computer industry. A computer's ability to appear to have more storage capacity than it really possesses is called virtual memory. Similarly, by assembling resources from a variety of entities, a virtual organization seems to have more capabilities than it really possesses.

The virtual organization consists of a grouping of units of different firms that have joined in an alliance to exploit complementary skills in pursuing common strategic objectives. A case in point is Corning, the \$3-billion-a-year glass and ceramics maker, renowned for making partnerships work. Among Corning's bedfellows are Siemens, Germany's electronics conglomerate, and Vitro, Mexico's biggest glassmaker. Alliances are so central to Corning's strategy that the corporation now defines itself as a "network of organizations."¹⁴

In its purest form, a virtual organization need not have a central office, an organization chart, or a hierarchy.

Virtual organizations need not be permanent. Participating firms may be involved in multiple alliances at any one time. Virtual organizations may involve different firms performing complementary value activities, or different firms involved jointly in the same value activities such as production, R & D, advertising, and distribution. The percentage of activities that are jointly performed with alliance partners may vary significantly from alliance to alliance.

Unlike the modular type, in which the focal firm maintains full strategic control, the virtual organization is characterized by participating firms that give up part of their control and accept interdependent destinies. Participating firms pursue a collective strategy that enables them to cope with uncertainty in the environment through cooperative efforts. The benefit is that, just as virtual memory increases storage capacity, the virtual organizations enhance the capacity or competitive advantage of participating firms. In its purest form, a

Type of Structure	Advantages	Disadvantages
Modular	<ul style="list-style-type: none"> • Directs a firm's managerial and technical talent to the most critical activities • Obtains "best in the business" for each value chain activity • Leverages core competencies through outsourcing without substantial capital commitment • Centralizes decision making for core competencies—all else outsourced • Quickens response to environmental shifts • Increases focus on customers and markets¹⁵ 	<ul style="list-style-type: none"> • Inhibits common vision through reliance on outsiders • Diminishes future competitive advantages if critical technologies are outsourced • Increases the difficulty of bringing back into the firm activities that now add value due to market shifts • Focuses too narrowly on professional development, opportunities may be missed • Decreases operational control¹⁶
Virtual	<ul style="list-style-type: none"> • Enables the sharing of costs and skills • Enhances access to global markets • Increases market responsiveness • Creates a "best of everything" organization since each partner brings core competencies to the alliance¹⁷ 	<ul style="list-style-type: none"> • Harder to determine where one company ends and another begins due to close interdependencies among players • Leads to potential loss of operational control among partners • Results in loss of strategic control over emerging technology • Requires new and difficult-to-acquire managerial skills¹⁸
Barrier-Free	<ul style="list-style-type: none"> • Leverages talents of all employees • Enhances cooperation and coordination among functions, divisions, SBUs, and external groups • Enables a quicker response to market through a single-goal focus 	<ul style="list-style-type: none"> • Difficult to overcome political and authority boundaries • Lacks strong leadership and common vision which can lead to coordination problems • Time-consuming and difficult-to-manage democratic processes • Lacks high levels of trust which can impede performance

Exhibit 2. Advantages and Disadvantages of the Modular, Virtual and Barrier-Free Structures

virtual organization need not have a central office, an organization chart, or a hierarchy. Participating firms unite to exploit specific opportunities or attain specific strategic objectives, and then, when the objective is met, disband.¹⁹

Each company that links up with others to create a virtual organization contributes only what it considers its core competencies. It will mix and match what it does best with the best of other firms by identifying its critical capabilities and the necessary links to other capabilities.²⁰ Exhibit 3 illustrates the virtual type in the context of the value chain concept.

Paramount Communication Inc. is positioning itself to use strategic alliances to exploit as many stages of the entertainment industry value chain as possible.²¹

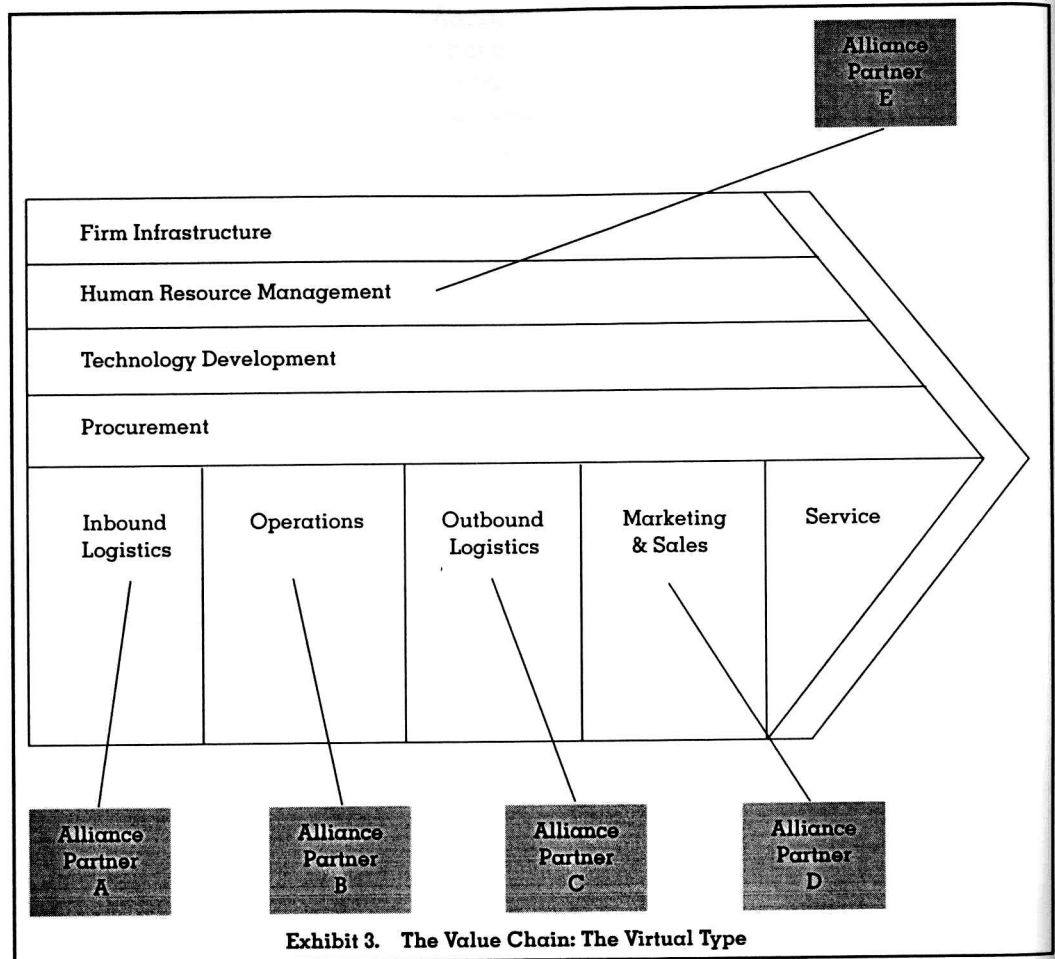


Exhibit 3. The Value Chain: The Virtual Type

The entertainment industry is rapidly converging with the computing, communications, consumer electronics and publishing industries. In anticipation, Paramount is busy converting its movies, textbooks and other software into digital format. Paramount has already entered into an alliance with Hughes Aircraft to put its movies on compact disks and distribute them over a satellite system. It is also discussing possible alliances with communication companies.

Apple Computer lacked the capacity to produce its entire line of PowerBook notebooks and turned to Sony Corporation to manufacture the least expensive version. It linked Apple's easy-to-use software with Sony's manufacturing skills in miniaturization. This helped Apple to get the new product to market swiftly and gain a significant market share in the rapidly growing notebook segment of the PC industry.

Despite their many advantages, alliances often fail to meet expectations. (See Exhibit 2 for advantages and disadvantages.) For example, the alliance between IBM and Microsoft soured in early 1991 when Microsoft began shipping Windows in direct competition to OS/2, which was jointly developed by the two firms. Windows' runaway success frustrated IBM's ability to set an industry standard. In retaliation, IBM entered into an alliance with Microsoft's archrival, Novell, to develop network software to compete with Microsoft's LAN Manager.

The virtual organization demands a unique set of managerial skills. Managers must build relationships with other companies, negotiate "win-win" deals for all parties involved, find the right partners with compatible goals and values, and provide the temporary organization with the right balance of freedom and control. In addition, information systems must be designed and integrated to facilitate communication with current and potential partners.²²

An ever-changing pattern of alliances that are constantly being formed and dissolved does not necessarily imply mutually exploitative arrangements or lack of long-term relationships. The key is to be clear about the strategic objectives while alliances are being formed. Some objectives are time-bound and those alliances need to be dissolved once the objective is fulfilled. Some alliances may have relatively long-term objectives and will need to be clearly monitored and nurtured to produce mutual commitment and avoid bitter fights for control. The highly dynamic PC industry, for example, is characterized by multiple temporary alliances among hardware, operating systems, and software producers. But alliances in the more stable automobile industry, such as those involving Nissan and Volkswagen as well as Mazda and Ford, have long-term objectives and tend to be relatively stable.²³

The virtual organization is a logical culmination of joint venture strategies of the past. Shared risks, shared costs, and shared rewards are the facts of life in a virtual organization. When a virtual organization is formed, such as Time Warner's multimedia ventures, it involves tremendous challenges for strategic planning. As with the modular corporation, it is essential to identify the core competencies. However, for virtual structures to be successful, a strategic plan must also determine the effectiveness of combining core competencies. Virtual structures require more analysis than traditional types to determine where the synergies exist. Also, the strategic plan must address the diminished operational control and overwhelming need for trust and common vision among the partners. This new structure may be appropriate for firms whose strategies require merging technologies (computing and communication, for example), or for firms exploiting shrinking product life cycles that require simultaneous entry into multiple geographical markets. Also, it may be effective for firms that desire to be quick to the market with a new product such as Apple's PowerBook.

The Barrier-Free Type

The "boundary" mindset is ingrained deeply into bureaucracies. It is evidenced by such clichés as "That's not my job," "I'm here from corporate to help," or endless battles over transfer pricing.²⁴ In the traditional company, boundaries are clearly drawn into the design of an organization's structure. These boundaries are rigid. Their basic advantage is that the roles of managers and employees are simple, clear, well-defined and long-lived. Today they are being replaced by fluid, ambiguous and deliberately ill-defined tasks and roles. Just because work roles are no longer defined by traditional structures, however, does not mean that differences in skills, authority, and talent disappear.²⁵

A barrier-free organization enables a firm to bridge real differences in culture, function, and goals to find common ground that facilitates cooperative behavior. Exhibit 4 shows the barrier-free organization in the value chain framework. To be successful, a barrier-free organization must promote shared interests and trust. Eliminating the multiple boundaries that stifle productivity and innovation can enhance the potential of the entire organization.

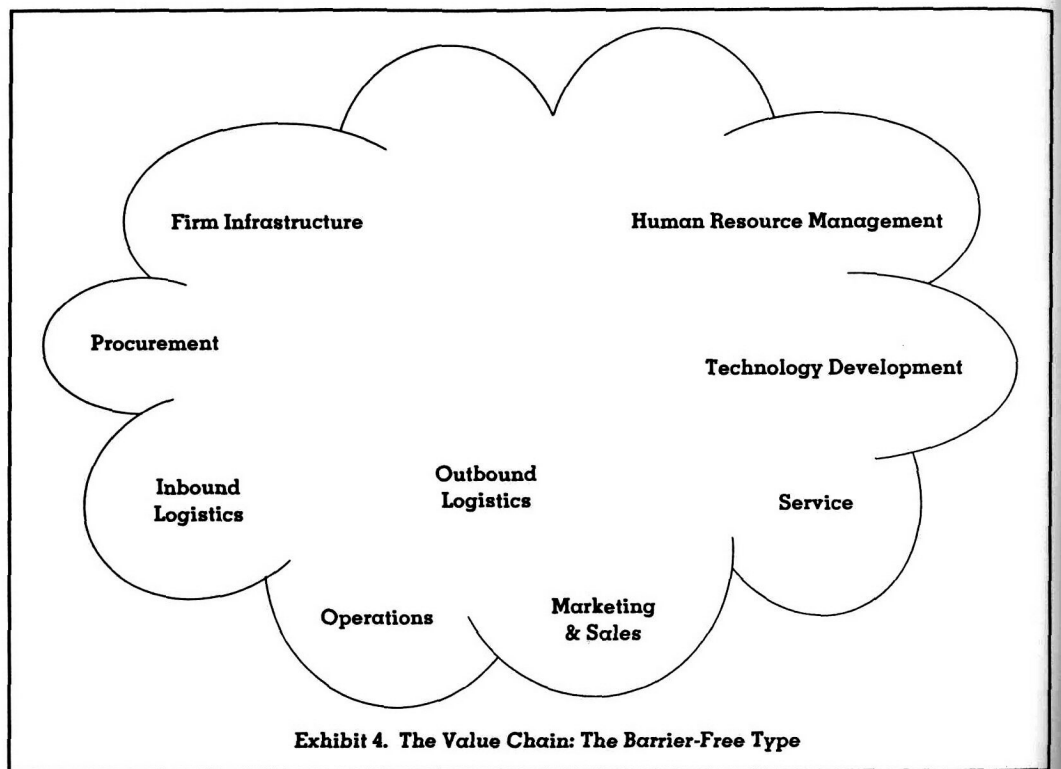


Exhibit 4. The Value Chain: The Barrier-Free Type

A major challenge faced by barrier-free organizations is the need to raise the level of trust among all parts of the organization. Similarly, the organization needs to develop among its employees the skill level needed to work in a more democratic organization. Barrier-free organizations also require a shift in the organization's philosophy from executive development to organizational development, and from investments in high-potential individuals to investments in leveraging the talents of all individuals.²⁶

A major challenge faced by barrier-free organizations is the need to raise the level of trust among all parts of the organization.

Effective barrier-free organizations achieve close integration and coordination with internal constituencies and, as suggested by GE's Jack Welch, with external stakeholders as well. To this end, the organization must go beyond coordination across its internal functions, businesses, and divisions. Past research on the multidivisional type of organization has pointed to the importance of interdivisional coordination and resource sharing.²⁷ Means to this end include interdivisional task forces and committees, reward and incentive systems that emphasize interdivisional cooperation and common training programs. In addition, in barrier-free organizations managers must create flexible, porous organizational boundaries and establish communication flows and mutually beneficial relationships with suppliers, customers, and other external constituencies.²⁸

Chrysler's Neon project provides a recent example.²⁹ Detroit had traditionally been unable to develop a small car profitably. In 1990 Lee Iacocca was seeking a partner to build the next generation subcompact, similar to Ford's joint venture with Mazda to develop the Escort/Tracer. However, Robert P. Marcell, head of Chrysler's small car engineering team, convinced Iacocca that a subcompact could be built and sold at a profit without a partner. Thus began one of the most remarkable development efforts in Detroit's history. Marcell's core group of 150 colleagues mobilized many internal and external

stakeholders—600 engineers, 289 suppliers, and many blue-collar workers—in a campaign to deliver the new model in only 42 months, and for a fraction of any recent small car's cost. From the beginning, Marcell applied the concept of concurrent engineering which required personnel from diverse functional areas and suppliers to work together to avoid later delays and disagreements or misunderstandings. Thus, Chrysler dissolved traditional barriers and involved engineers, marketers, purchasing, finance, labor—as well as suppliers and consumers including subcompact owners in San Diego, California—in the design of its Neon. Chrysler allocated \$1.3 billion to develop the Neon in 42 months. This compares very favorably with Ford's \$2 billion and five years to develop the money-losing Escort and GM's \$5 billion and seven years to develop the Saturn.

Chrysler's Neon project illustrates the benefits of horizontal coordination across activities (e.g., design, manufacturing, marketing) which have often been viewed as sequential in many organizations. While this example primarily involves coordination among professional employees, many organizations have benefited by effectively using teams of production and clerical workers. For example, General Mills has increased the productivity of its plants by 40 percent using self-managed teams. The cost savings mostly reflect a decrease in the number of middle-level managers. At its cereal plant in Lodi, California, the workers are in charge of all activities including scheduling and maintenance. Further, the firm has found that teams generally set higher goals than management. Similarly, Federal Express used the team concept to organize its 1,000 clerical workers into teams of five to ten members each. This played a key role in achieving a thirteen percent reduction in service problems such as incorrect bills and lost packages.

Very often managers trained in rigid hierarchies find it difficult to make the transition to the more democratic, participative style that teamwork requires.

In spite of its potential benefits, many firms are discovering that creating and managing a barrier-free organization is a frustrating experience (see Exhibit 2 for advantages and disadvantages). For example, Puritan-Bennet Corporation, a Lenexa, Kansas, manufacturer of respiratory equipment, found that its product development time more than doubled since they adopted team management. Roger J. Dolida, Director of R & D, attributes this failure to lack of top management commitment, high turnover among team members, and infrequent meetings. Similarly, efforts at Jerome Foods, a turkey producer in Baron, Wisconsin, to switch to entrepreneurial teams have largely stalled due to a failure to link executive compensation to team performance. Very often managers trained in rigid hierarchies find it difficult to make the transition to the more democratic, participative style that teamwork requires.

Although a barrier-free organization is capable of rapid and continual adaptation to environmental changes, its ability to adapt is sometimes hindered by the overwhelming challenges that management faces in guiding an organization in more democratic processes. To be successful, this type must go well beyond a single product development group or team, and must permeate the entire organization. For those firms that are able to form an organizational structure that is barrier-free, the strategic plan must have a common vision and common achievable goals that every group understands. The strategic plan should emphasize the benefits of internal cooperation among the various units within the company.

Barrier-free organizations, as well as other innovative forms, should be effectively complemented by well-designed and implemented information

technology systems. Some have argued that information technology must be viewed more as a prime component of an organization's overall strategy rather than simply in terms of its more traditional role as administrative support.³⁰ Westinghouse's Information Network (WIN) illustrates how an information system helps to reduce barriers and enhance the firm's cost, differentiation, and quick-response competitive advantages.³¹ In response to the need to integrate the activities of eighteen groups of businesses around the world, Westinghouse recently developed one of the largest integrated networks, combining voice and data. WIN improves Westinghouse's response time by providing every employee with the means to contact every other employee in the organization almost immediately. The system is used by more than 90,000 people every day and provides critical data and technical drawings to different functions and integrates operations via video conferencing.

To make a barrier-free organization work, managers must address several important issues: How can we ensure that teams stay on track? How can incentive systems be tailored to reward team performance? How can outstanding individual contributions be encouraged and rewarded? What mechanisms should be established to resolve disputes in the absence of traditional authority structures? As middle management levels are eliminated, how can the organization provide employees with opportunities for upward movement? The inability to successfully address these and other similar issues can doom a barrier-free organization to failure.

Moving Toward the Boundaryless Organization

Organizational structure has traditionally been viewed as layers of boxes, neatly stacked one atop the other, connected by solid and dashed lines. This view focused our attention on hierarchy, reporting relationships, division of labor, and accountability. The new corporate architecture we have discussed requires a different mindset: the emphasis is on results rather than maintaining internal relationships. This new focus requires the organizational architect to be mindful of the organization's strategy and yet open to the new possibilities in dynamic world markets.

Today's managers must *simultaneously* consider the modular, virtual, and barrier-free approaches to organizational design. That is, a firm may outsource many parts of its value chain to reduce costs and increase quality, engage simultaneously in multiple alliances to take advantage of technological developments or penetrate new markets, and break down barriers within the organization to enhance flexibility.

Apple Computer is an example of a firm which has pursued all three types at the same time. It is involved in an alliance with Motorola and their long-time rival, IBM, to develop a new microprocessor. Apple was first to market with personal digital assistants with its innovative Newton. Although developed by Apple, Newtons are outsourced entirely from Sharp. Apple has also taken several measures to minimize internal barriers. Members of different units such as Apple Products, AppleUS, and Apple Europe participate in a collective exercise to set goals and implement strategies. Employees are routinely moved across units to ensure the development of personal relationships and greater interunit cooperation. Apple provides its partners, suppliers, dealers and consultants with access to its internal electronic mail system, thereby greatly reducing boundaries across organizations as well.³²

Often, when organizations face external pressures, resource scarcity, and declining performance, they tend to become more internally focused rather than to direct efforts toward managing and enhancing relationships with existing and potential external stakeholders. We believe that this may be the most opportune time for managers to carefully analyze their value chain activities and evaluate the potential for adopting elements of modular, virtual, and barrier-free organizational types. The benefits of such endeavors may help an organization to enhance or establish multiple forms of competitive advantage—differentiation, overall low cost, quick response—when they are most needed to compete effectively.

Endnotes

We would like to acknowledge Dave Arnott, Brian Boyd, Tom Lumpkin, and James Campbell Quick for their helpful comments on an earlier draft of this manuscript.

¹ Perhaps no executive has exemplified the concept of the boundaryless organization more than Jack Welch of General Electric. See L. Hirschhorn and T. Gilmore, "The New Boundaries of the Boundaryless Company," *Harvard Business Review*, May-June 1992, 104-115; and S.W. Quickel, "Welch on Welch," *Financial World*, April 3, 1990, 62-67.

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⁴ S. Tulley, "The Modular Corporation," *Fortune*, February 8, 1993, 106.

⁵ Interesting examples of successful outsourcing efforts include G. Anthes, "HUD, Martin Marietta Celebrate Outsourcing Success," *Computerworld*, November 16, 1992, 16; T. Guimaraes and S. Wells, "Outsourcing for Novices," *Computerworld*, June 8, 1992, 89-91; and R. Huber, "Continental Outsources its 'Crown Jewels,'" *Harvard Business Review*, January-February 1993, 121-129. Perhaps the seminal contribution is J.B. Quinn, *Intelligent Enterprise: A Knowledge and Service Based Paradigm for Industry* (New York, NY: Free Press, 1992).

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⁹ D. Woodruff and K.L. Miller, "Chrysler's Neon: Is This the Small Car Detroit Couldn't Build?" *Business Week*, May 3, 1993, 116-126.

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¹⁴ S. Sherman, "Are Strategic Alliances Working?" *Fortune*, September 21, 1992, 77-78.

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¹⁶ See for example, M. Davids, "The Outsourcing Source Book," *Journal of Business Strategy*, May-June 1993, 52-56; R. Venkatesan, "Strategic Sourcing: To Make or Not to Make," *Harvard Business Review*, November-December 1992, 98-107; and Bettis, *et al.*, *op. cit.*

¹⁷ R.E. Miles and C.C. Snow, "Organizations: New Concepts for New Forms," *California Management Review*, Spring 1986, 62-73.

¹⁸ R.E. Miles and C.C. Snow, "Causes of Failure in Network Organizations," *California Management Review*, Summer 1992, 53-72; and H. Bahrami, "The Emerging Flexible Organization: Perspectives from Silicon Valley," *California Management Review*, Summer 1992, 33-52.

¹⁹ See J. Byrne, "The Virtual Corporation," *Business Week*, February 8, 1993, 99-103; and T. Peters, *Liberation Management* (New York: NY: Knopf), especially the latter's discussion of McKinsey & Company (Chapter 10) and network organizations (Chapter 20).

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²¹ S.K. Yoder and G.P. Zachary, "Digital Media Business Takes Form as a Battle of

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²⁴ M.A. Devanna and N. Tichy, "Creating the Competitive Organization of the 21st Century: The Boundaryless Corporation," *Human Resource Management*, Winter 1990, 455-471.

²⁵ Hirschhorn and Gilmore, *op.cit.*

²⁶ Devanna and Tichy, *op.cit.*

²⁷ See, for example, R.E. Hoskisson, C.W.L. Hill, and H. Kim, "The Multidivisional Structure: Organizational Fossil or Source of

Value?" *Journal of Management*, 19(2), 1993, 269-298.

²⁸ For a discussion of the need to carefully consider linkages between a firm's value chain activities and those of its suppliers and customers, refer to B.C. Reimann, "Sustaining Competitive Advantage," *Planning Review*, March-April 1989, 30-39; also, T. Peters, *Liberation Management*, *op.cit.*, and "Tearing Down Corporate Walls," *Industry Week*, April 18, 1988, 35-39; and J.A. Byrne, "The Horizontal Corporation," *Business Week*, December 20, 1993, 76-81.

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Executive Commentary

Gail Robinson, Robinson Associates

Boundaryless structures are no longer the domain of high tech companies; nearly every organization is faced with the need to consider non-traditional approaches in order to succeed or even survive. Such moves usually call for large-scale strategic system change—a process few firms have ever experienced. Novices to the effort face innumerable pitfalls.

For example, in responding to competitive pressures, the business strategy of a company can easily outpace its capabilities. The realization that its traditional, control-oriented, hierarchical structure is causing the organization to fall behind may cause it to try to adopt a more flexible and responsive structure literally overnight. Structure, however, is only one piece of an organization's architecture. Real change from a traditional to a boundaryless paradigm requires corresponding changes in management practices, employee attitudes and skills, information technology, reward and incentive plans, spans of control, cultural norms, performance management, and training. When a tradition-bound, hierarchical organization attempts to change its structure alone as a quick fix, the results are predictably disappointing, even chaotic.

Because there are few in senior management with the ability to think creatively and comprehensively about large-scale organizational change, they require the counsel of experienced change management experts. Even Jack Welch relied on a veritable army of consultants to help navigate the waters of GE's successful change initiatives. Lever Brothers is one company that learned and mastered this lesson.

Four years ago, Lever Brothers undertook a large-scale organizational change during my tenure as Director of Organization Effectiveness. These changes included creating a team-based structure and reengineering work processes to support Lever's value chain. The process was led by a CEO who knew how to draw upon the expertise of a combination of internal and external change management experts to help him guide the company through each stage of its transformation. These stages included: (1) laying the groundwork for change, (2) recognizing the need for change, (3) designing the new organization, (4) transitioning to the new organization, and (5) continuous renewal and innovation.

We found stage four, transitioning to the new organization, to be the most perilous. Old foundations have been swept away and new ones have not yet taken root. This stage is the most neglected aspect of the change process in most companies. In our case, exhausted by the pace of change and distracted by the overwhelming demands of a simultaneous reengineering and restructuring process, we lagged behind in setting up the leadership structure and process for the transition phase. As a result, our change effort lost momentum for a short period of time. We picked up on it in time to avoid derailing the entire change process.

In spite of our care to manage each aspect of the change process, at times we encountered resistance and confusion. A great part of the reason is that strategic change is inherently unstable. Once a company embarks on large-scale change, a number of forces are put into play that increase the uncertainty of the outcomes. A high tolerance for ambiguity and deep confidence in one's organizational change principles are required to ride through the chaos and tumult that follow. At this point in time, Lever is well into the fifth stage of the change process, continuous renewal and innovation. Changes in information technology, performance management, communications, and rewards and incentives are underway. Lever Brothers has created the basic foundation of a boundaryless architecture to support its

business strategy and is seeing the kind of business results that once seemed out of reach.

As the authors maintain in this article and as I have tried to show in the Lever Brothers example, companies set on adopting new organizational forms must be ready to undertake changes in all aspects of their systems in order to turn the tantalizing promises of boundarylessness into sustainable business results.

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