Rethinking the Organization:
New Structures for Global Competitiveness

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As the next millennium approaches, leading companies are racing to implement fundamental reorganizations of various kinds. Ford is rearranging itself into global „centers of excellence." AT&T is breaking apart. GM is contemplating a new international organization to coordinate its global resources. Daimler-Benz, Philips, and others are divesting acquisitions they made not too long ago. Meanwhile, corporate mergers are legion – particularly, but not only, in the industries devoted to pharmaceuticals and health care, banking and financial services, telecommunications and utilities, and aerospace and defense. And the unprecedented wave of reengineering and restructuring that began in the United States continues unabated in Europe and elsewhere.

The objective of all these reorganizations is to redeploy each company's assets more effectively. By eliminating some resources, combining others, and deploying core technologies globally, business leaders expect to reduce costs and to create new services and products, thus improving shareholder value.

Unfortunately, experience has demonstrated that nearly all such reorganizations run into major problems. As widely reported in the press, these problems consist primarily of difficulties with organizing people: power clashes (common both in internal reorganizations and in mergers and alliances); misaligned values and norms, especially between new partners; general insecurity; and various dysfunctional behaviors. Consequently, the hoped-for benefits of reorganization often prove elusive – prompting managers to plunge their companies into further rounds of reorganizations, which run into the same problems.

We believe there is a better way to go about this. In our view, too many companies are still designing organization structures on the basis of principles that are no longer appropriate. Companies today must operate in complex and fast-changing environments – particularly if they want to compete on a global scale. In this article, we outline a new way of organizing people for effective performance in just such environments.

Paradigms and Principles of Organization

Traditionally, large companies have taken the form of functional organizations, divisional organizations, multinational organizations, or classical matrix organizations. All these ways of organizing are based on two underlying principles of organization design, both of which we challenge.

The first principle is: *Focus along a single dimension of strategy for competitive advantage and then design the structure of the organization to deploy resources to fulfill the strategy.* The focus of the competitive strategy might be, for example:

• Least cost through scale and standardization

• Customization to match regional and individual preferences

• Core technology deployed internationally

• Dispersed learning and adaptability

The second principle is *: Specify a clear chain of command or top-down hierarchy to discipline the use of resources in accordance with the chosen strategy and to „manage the exceptions."*

Some readers may already be asking, „How can these *not* be the principles for designing an organization? They are self-evident! And they work – we can give you so many examples. How can you challenge them?"

In our view, the inability or unwillingness to question currently accepted principles underlies many of the problems companies are having with their reorganizations.

A challenge to fundamental beliefs about how things really work is disconcerting for many and irrelevant for others. When Copernicus first pointed out that the earth revolved around the sun, the reactions of the Church and the „scientists" of the time were so strong that his theory had to be published with the disclaimer that it had no claim to be fact, but was only one man's idea! For farmers at the time (and perhaps even for most people today), Copernicus' theory did not make a difference. For them it was sufficient to observe that the sun somehow rises and sets. But for the modern space traveler, it is necessary to know the real pattern of planetary motions. So, too, many companies may continue to operate comfortably with old principles. But for those who aspire to become „accelerating organizations" – organizations that can survive and thrive amidst rapid and unpredictable change – it is time to question these principles in the light of recent evidence.

The Need for Multidimensional Strategic Competencies

Many companies now recognize that to achieve results they must focus on more than one dimension of strategy. For example, while their products and services must suit local market needs, they must also be produced cost-efficiently, often on a global scale. So these companies often seek to integrate a local market and responsiveness strategy with a global production strategy by organizing their resources and people in matrix structures. Often, in fact, such matrices have more than two dimensions. For example, it may be important to focus on key client „accounts" that straddle many countries and also on the needs of individual national markets.

Christopher Bartlett and Sumantra Ghoshal, in *Managing Across Borders: The Transnational Solution,*[1] point out that while, in the past, firms operating in many countries could succeed by adopting a business model that emphasized a single dominant capability (e.g., responsiveness to local needs, or efficiency in producing products on a global scale, or learning), they must now do all these things effectively to succeed. Companies that are organized to succeed along only one dimension of strategy are having increasing difficulties facing global competition. For evidence these authors draw on their research in several global industries, including consumer electronics, from which GE had to finally withdraw, and branded packaged products, in which Kao, the excellent consumer products company of Japan cited by Ikujiro Nonaka and Hiro Takeuchi in *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation,*[2] is unable to compete on a global basis.

As the business environment becomes increasingly complex, corporations need greater strategic flexibility than ever before. Selection of a single strategic competency can, of course, focus resources and propel the organization. But soon another dimension compels attention, and the company must change to another tack. Thus companies keep changing tacks and reorganizing: there is a lot of motion and commotion, but not much rapid progress toward their goals. Clearly corporations need new forms of organization that enable greater flexibility.

Rethinking Control and Hierarchy

Because resources are finite, companies must fix priorities and coordinate plans, using one of two fundamentally different approaches: centralized, top-down management; or market mechanisms in which individual agents are free to determine the best use of their own resources. While the former appears much more rational, orderly, and „managed," and the latter appears potentially out of control and chaotic, it has been clearly established that market mechanisms result in much more efficient resource allocation than central planning. Witness the collapse of the centrally planned communist economies and the sluggishness of the regulated mixed-market economies, versus the robustness and flexibility of the free-market economies.

Despite this evidence against the effectiveness of top-down resource management, most companies continue to organize themselves hierarchically, believing that there is a benefit in giving resource-allocation power to people at the top who have an „overview." And, indeed, the principle of central and top-down hierarchical control has served many corporations well. But the conditions under which this principle is effective may no longer exist for most corporations in the future.

For central control to be effective, the center must have access to all the information in the company; it must be able to obtain the information quickly and without distortion; and it must be able to comprehend and interpret this information. This presumes that the center can be, and is, more intelligent than the rest of the organization.

In today's organizations, however, useful intelligence for meeting objectives is widely distributed. People at the front line interfacing with customers obtain information that is necessary for deploying the resources of the corporation. People at the periphery of the organization get to see what's new out there – vital information for guiding the organization's direction. People within and at the bottom of the organization often understand new technologies much better than the people who are now at the top. Both the pace of change and the complexity of the environment in which companies must compete are driving the need for distributed intelligence throughout the organization.

A Better Model: The Networked Organization

We believe that today's business environment calls for a new organizational model. The new model must meet two fundamental requirements:

• It cannot be „hard-wired" or „boxed" to align with any dimension of strategy, but rather must have the flexibility to deliver value along many dimensions.

• The power to allocate resources must be widely distributed and closely aligned with the various points of intelligence within the organization.

What we call „networked organizations" meet these two requirements much more effectively than traditional forms of organization. A networked organization has the flexibility to adjust resources locally and the

entrepreneurial energy of individual initiatives. It combines its resources among various parts of the organization and also with external groups, such as suppliers, distributors, and customers. A networked organization feels more like a free market than a centrally planned economy. And, not surprisingly, it can change and grow faster than organizations that are run like centrally planned economies. It can also be a more satisfying place for those who work in it.

It's interesting to observe that the principles underlying the design of networked organizations are consistent with the principles scientists are discovering in the emerging science of „complexity," i.e., the study of complex, self-adapting systems, which are organisms that sit at the boundary between rigidity and chaos. These organisms – chemical systems, neural networks, biological organisms and the like – have the ability to evolve their own structures so that they can survive and thrive amidst constant and unpredictable change in the world around them.

Scientists have found[3] that such continuously adapting, self-emerging organisms remain balanced between rigidity and chaos by tuning a few critical parameters: if the parameters are too much one way, the organism becomes stagnant; if too much other way, the organism dissipates into chaos. The nature of the organism determines the relevant parameters. A very simple illustration is the phase transition of an aggregation of water molecules from solid ice to fluid water. The critical parameters for this transition are temperature and pressure. The parameters for much more complex systems must be discovered by experimentation.

The question for designers of business organizations is, „What keeps people in organizations together on that edge between stagnation and chaos?" By studying the history of companies that have endured by learning and evolving, we found four principal conditions:

• *Permeable organizational boundaries.* If the boundaries are too rigid, there is no sharing and innovation; if boundaries do not exist at all, there is no identity to the organization and its units, and hence there are no accountable entities.

• *Flexible resource architecture.* If resources are too focused, they are inflexible; if they are too varied, efficiency can suffer.

• *Minimal rules.* Too many rules, and the organization gets all tied up; too few and the organization does not have anything with which to guide and stabilize itself.

• *A widely shared aspirational vision with sufficient „stretch" from the organization's current reality.* Too little stretch and there is no change; too much, and there is no traction.

The fourth condition, shared aspirational vision and values, is a condition that, as far as we know, applies only to human organizations and not to the other types of organizations that scientists are studying. Human beings have the ability and desire to visualize the future, and shared dreams of that potential future are a strong component of the glue that binds human organizations in the midst of uncertainty. Shared values are another vital component of the minimal rules that bind human organizations, enabling them to steer through challenges. We will not dwell further on vision and values, however, since our focus here is on organizational architecture.

Structures of Networked Organizations

Imagine a large, successful, global organization growing at 20 to 50 percent a year continuously for 25 years. It holds 23,000 institutions in 200 countries and territories, and its market-leading products are used by 465 million people, who make more than 7 billion transactions a year worth $800 billion. It is worth $150 billion on the stock market but it can't be bought, sold, or raided. There is very little centralized control, and the portion of business created by each of the components of the organization is theirs and theirs alone. Such an organization is Visa.

Visa is a networked organization that functions well, even though none of its members – hundreds of thousands of merchants and financial institutions – knows the whole, nor does the whole know all the parts.

All organizations larger than 10 or 15 people seem to beg to be broken into pieces, so that each can concentrate on what it's best equipped to do and – in the best organizations – wants to do. So the first focus of the classical organization designer is optimal compartmentalization. The corporation is split first into strategic business units (SBUs), then into tasks at the operating level. The next step is to decide how all these different components of the machine should be linked together. Today the vital organizational issue for corporations is not how to divide but how to unite: how to integrate a global organization, how to obtain better collaboration between SBUs, how to unite the various dimensions of the matrix, how to achieve post-merger integration, how to make alliances work.

All organizations have structures at three basic levels to connect the members of the organization in work related groups. The primary unit is a cluster of individuals in a team or department unit. The next level is the connection of the teams, through various levels of aggregation, into the company. The third level is the

connection of the company with other companies in a value chain or business ecosystem.

A taxonomy of structures in networked organizations appears in Exhibit 1. The principles of permeable boundaries, flexible resource architectures, and minimal rules play through them all, with greater permeability and flexibility in some than in others.

We will discuss structures at both the organization and the intra-organization levels. For readers interested in the various forms of teams, descriptions and examples are available in *The Accelerating Organization: Embracing the Human Face of Change,* by Arun N. Maira and Peter Scott-Morgan.[4]

Let's compare two organizational structures – a fan and a grid, or classical matrix. The principal difference is that the fan has softer, flexible threads, in the form of teams or communities of practice, that connect the organization laterally across its formal organizational boundaries, whereas in matrix organizations, both dimensions are organized in a similar, formal manner.

Exhibit 1

Structures of Networked Organizations
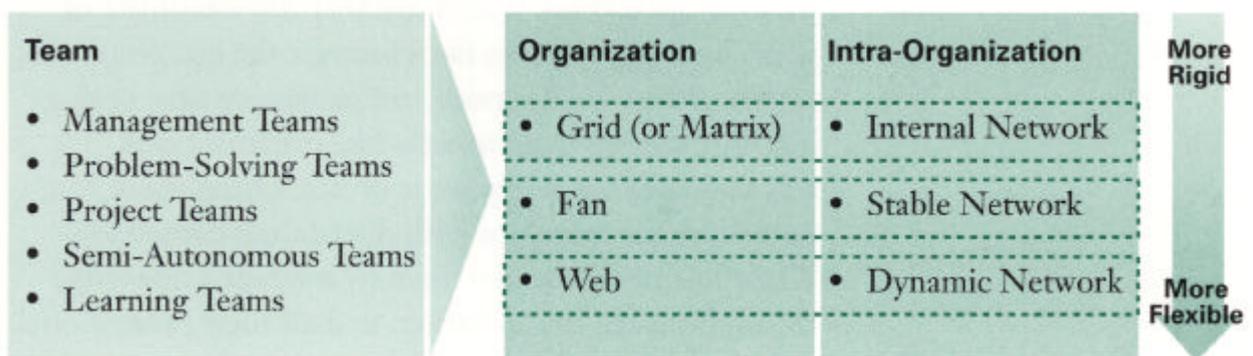
Thus, matrix organizations have often resulted in gridlock (and hence our choice of the term „grid" to describe such formal, rigid organizations). Bartlett and Ghoshal caution against „a rigid, structurally dominated solution that imposes multiple formal reporting relationships and communications on a company's worldwide management processes.... The apparent logic and simplicity of the global matrix design," they point out, „leads to enormous organizational complexity, due to generalized joint responsibilities and formalized multidirectional communication."

The fan structure, on the other hand, provides flexibility through the operation of teams and communities that form fluidly and cut across the more stable structures of the organization. It also provides stability, as well as the means of distilling learning and storing organizational knowledge, in the stable organizational structures, which can take the form of functional organizations or permanent „process owners." Honda's use of the fan structure has contributed to the agility and learning speed that have propelled Honda into new products and markets ahead of its much larger Japanese rivals, Toyota and Nissan, and way ahead of the pack of smaller Japanese companies – Mazda, Subaru, Suzuki – that, like Honda, moved into cars only after the Second World War.

Whereas the fan organization has strong, permanent, vertical structures, such as Sales, Engineering, and Development (which Honda, for example, has demarcated as separate companies), the web has more fluidity in all directions. There are very few examples of web-like companies so far. However the conditions in which professional service companies are now operating are pushing them to web-like organizations, whether they are ready for it or not. Often these companies are partnerships with distributed ownership. Their business requires them to leverage knowledge throughout the organization, and all their professional work is perforce done by temporary or semi-permanent teams. Increasingly, they must work with independent adjuncts, and as these companies become more global, they must connect the many parts of the organization along several dimensions.

Let's move from networks within organizations to networks of organizations. In the terminology of C.C. Snow, R.E. Miles, and J. Henry, Jr.,[5] these take three forms: „internal" networks, „stable" networks, and „dynamic" networks. The internal network is a traditional organization in which divisions of the same corporation are given freedom to buy and sell from each other and also from others outside the corporation. It is an attempt to own and control all the assets within the corporation and yet give each part freedom.

The more flexible „stable network" is an integrated supply chain of independent companies that choose to have longer-term relationships with each other. Toyota's keiretsu is one example of a stable network. Visa is another. Nike's and Benneton's global supply networks are other examples. In some instances, such as Toyota's keiretsu, there is limited cross-ownership of stock. In others, such as Visa and Benneton, there is none. The stable network is always based on the stability of the customer-supplier relationships between members, which are only sometimes supplemented by the cross-ownership of stock.

Most flexible of the three is the „dynamic network," sometimes called a „virtual organization." Dynamic networks consist of firms and individuals that come together for a specific project and then disband, later to connect again, perhaps with others, for another project. Such networks are more agile than stable networks, especially in creating new products. They can create competitive advantage quickly, sometimes giving a nation's industry a global advantage,[6] e.g., Japan's robotics industry, Italy's ceramic industry, and Germany's printing industry. Other examples are the movie industry in Hollywood and high-tech firms in Silicon Valley.

In comparing the return on equity of computer companies, we can see that those operating within dynamic and stable networks – such as Cisco, Dell, Quantum, and Sun – have consistently higher returns than those in more rigid internal networks – such as DEC, IBM, and Unisys. In fact, we attribute the inability of the latter companies to change as fast as their nimbler rivals to their more rigid organizational forms.

A number of factors are accelerating the growth of networks within and among companies. One is advances in computer technologies and the use of the Internet. Networks aim to disperse decision-making about allocation of resources throughout their members, and information technology gives people the necessary information to make these decisions. A more important factor, however, is the collaboration skills of members of the network. According to Thomas W Malone, the Patrick}. McGovern Professor of Information Systems and co-director of the initiative on Inventing the Organizations of the 21st Century at the Massachusetts Institute of Technology Sloan School of Management, „A very important determinant of where decisions are actually made are patterns of interpersonal trust, personal motivations, prior distributions of power within the organization, and individual personalities. In any given situation at any given point in time, combinations of these other factors can be much more important than (IT systems and costs) in determining where decisions are made." Lack of collaboration skills can limit the effectiveness of any network.

We should add that to be truly effective, a new, flexible organizational structure must be supported by two elements: social architecture and leadership skills. The social architecture consists of the „systems" that influence the behavior of people – values, incentives, communication processes, authority structures, job expectations, processes for skills acquisition, etc. And leadership skills means the ability to lead by influence rather than power.

When a corporation can create and align all these elements, it has a good chance of sustaining success into the future as an accelerating organization. The transition will begin when the corporation's leaders, like Copernicus, question the validity of some of the fundamental principles that have guided their work so far. They must now apply new principles of networked organizations that suit the pace and unpredictability of change in the environments in which their corporations must now operate.

1 *Christopher A. Bartlett and Sumantra Ghoshal,* Managing Across Borders: The Transnational Solution, *HBS Press, 1989.*

[2] *Ikujiro Nonaka and Hiro Takeuchi,* The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation, *Oxford University Press, New York, 1995.*

[3] *Mitchell Waldrop,* Complexity: The Emerging Science at the Edge of Order and Chaos, *Simon & Schuster, 1992.*

[4] *Arun N. Maira and Peter Scott-Morgan,* The Accelerating Organization: Embracing the Human Face of Change, *McGraw Hill, 1997.*

[5] *C.C. Snow, R.E. Miles and J. Henry, Jr., „Managing 21st Century Network Organizations,"* Organizational Dynamics, *Winter 1992.*

[6] *Michael E. Porter,* The Competitive Advantage of Nations, *The Free Press, 1990.*

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