
Marketing in the Network Economy

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Marketing in the Network Economy

As the twenty-first century dawns, marketing is poised for revolutionary changes in its organizational context, as well as in its relationship with customers. Driven by a dynamic and knowledge-rich environment, the hierarchical organizations of the twentieth century are disaggregating into a variety of network forms, including *internal networks*, *vertical networks*, *intermarket networks*, and *opportunity networks*. The role of marketing in each network is changing in profound ways. Marketing increasingly will be responsible for creating and managing new marketing knowledge, education, real-time market information systems, intrafirm integration, conflict resolution, technology forecasting, risk and investment analysis, transfer pricing of tangibles and intangibles, and the coordination of the network's economic and social activities. It will explore new frontiers in multilateral marketing, reshape markets through technology convergence and electronic commerce, organize consumer communities, and aggregate consumer information and demand into saleable business assets. The most radical implication for marketing is the shift from being an agent of the seller to being an agent of the buyer, from being a marketer of goods and services to being a customer consultant and manager of his or her saleable consumption assets.

In the relatively short period of a half century, marketing has made several transitions, from seller of a firm's outputs to key player in shaping a firm's products, technologies, marketing policies, and strategic direction. As the next century unfolds, marketing again is poised to undergo significant changes in its content, emphases, and boundaries. Peter Drucker has described the economy of the future as a network society. Business networks are not entirely new, but there has been a rapid evolution in their number, form, and complexity. Marketing outcomes increasingly are decided by competition between networks of firms rather than by competition among firms. Companies embedded in strategic networks will enjoy significant market advantages in the future. In this article, we explore how marketing will be organized and function in different types of network structures that are populating the contemporary world economy.

The twenty-first century is shaping up to be a knowledge-driven society in which the basic economic resource is not materials, labor, or capital, but knowledge¹ (Drucker 1993). Networks are adapted better to knowledge-rich environments because of their superior information-processing capabilities. They minimize idiosyncratic investments in fixed assets and technology and thus are more flexible and responsive to change. But the network organization is about not only structural upheaval, but also a new managerial ethos. Networks are not tolerant to traditional instruments of

¹For example, knowledge and knowledge workers are recognized easily as the core strategic assets of companies such as Microsoft. The consumption environment too is charged with an increasing knowledge component. Knowledge products, such as smart homes, appliances, cars, and roads, are around the corner. We anticipate being overwhelmed with knowledge and anxiously await knowledge surrogates such as artificial intelligence and intelligent agents, or "knowbots."

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authority and control. Hierarchy, power, and contracts recede in managerial significance and are supplanted by relational mechanisms of governance.²

The implications for marketing are likely to be radical and pervasive. To appreciate this, it is useful to distinguish among marketing as a business function, a set of skills, and a philosophy. Consider first the implications for marketing as a business function. Until recently, venerable companies such as Ford, Procter & Gamble, and General Electric were organized as classic hierarchies. They exhibited a strong center of control, unity of purpose, and many levels of management. The AT&T of old had 16 levels of management between the senior officers and the lowest-paid workers. The companies sought to minimize their dependence on suppliers and extended their control over those resources considered important to the flow of production and the quality of their products. At one time, Ford even owned a sheep farm (to supply wool for car seats) and a glass company. When these companies did outsource, they avoided long-term commitments and preferred to deal with multiple suppliers that competed for their business.

The marketing function in these companies evolved in the same integrated, hierarchical fashion. Over time, the marketing hierarchy spawned product, brand, and category managers, market segment managers, geographic market managers, national account managers, mail order experts, telemarketers, database marketers, and specialists in marketing research, advertising, sales promotion, and public relations. A sales and logistics hierarchy paralleled this marketing hierarchy.

²Conventional economic theory is founded on the assumption that, in the absence of suitable safeguards, economic agents are prone to opportunistic and self-interest-seeking behaviors (Williamson 1975). In contrast, network theories emphasize the normative and social structure in which exchanges are embedded as the primary determinant of behavior (Baron and Hannan 1994). Concepts such as trust play a prominent role in network explanations.

All this worked as long as markets were growing and technology was more or less predictable. But hierarchical organizations have not proved adept in today's turbulent global environment at sensing market shifts and creating knowledge or in the speed of their response to change. To enhance innovation and flexibility, companies are focusing their resources on core competencies and outsourcing all other activities. In sharp contrast to a midcentury AT&T or Ford, the modern-day Nike or Galoob Toys does practically no manufacturing of its own and focuses all its energies on marketing. Today's companies work closely with dedicated partners on the supply side (often using single supplier partners) and the distributor side of their business, expecting them to play proactive roles in designing winning technologies, services, and marketing strategies.

How will this transformation in functional organization affect the set of skills that marketers will need in the next century? George Day has labeled these skills "market-sensing," a deep ability to understand customers, and "market-relating," an ability to maintain and enhance customer relationships (Day 1994). Conventional market-sensing skills in consumer and market research will continue to be important, but in a knowledge-intensive environment, we foresee the need for bigger strides in forecasting technological change and how consumer needs and market structures evolve in response.

Likewise, market-relating skills, such as brand and image building, marketing communications, customer service, and loyalty programs, will continue to be salient. However, because networks distribute business functions among firms that are functionally specialized and related by informal authority structures, marketing skills in negotiation, interorganizational coordination, and conflict management will be highlighted. Also, marketing in networks is a semiautonomous function and far more exposed to tests of its economic productivity. This means marketing will need to incorporate financial criteria more explicitly in its theory and decision calculus.

The philosophy of marketing is likely to retain its core values and beliefs—those that espouse the view that customer welfare is the ultimate goal of all marketing activities. Successful networks will be more customer-focused and market-driven and will deliver better value and satisfaction than ever before. However, in network organizations, marketing is pushed closer to being an agent of the customer as opposed to the agent of the firm or seller. Marketing on behalf of consumers, as opposed to marketing to consumers, means marketers will devote more time and resources to organizing consumers and consumer information, as well as to managing product, consumption, and lifestyle-related information that is useful to the consumer.

The objective of this article is to explore the organization and functioning of marketing in a network economy. For analytical purposes, the network phenomenon can be studied at four levels of aggregation: internal, vertical, intermarket, and opportunity networks. In this article, we describe the emerging structure of these networks and their economic rationale and hypothesize about the changing role of marketing in each. We conclude with brief comments on

how the changes are likely to affect the direction of theory development in marketing.

Network Organizations

There is growing literature on network theory in marketing (e.g., Achrol 1991; Achrol, Reve, and Stern 1983; Anderson, Hakansson, and Johanson 1994; Gadde and Mattson 1987; Hakansson and Snehota 1995; Iacobucci and Hopkins 1992; Webster 1992). The field has evolved in significant ways during the past three decades (Galaskiewicz 1996; Nohria 1992). Much of the early work focused on mapping the pattern of interpersonal ties within and between organizations. These networks consisted of informal social ties, more a collection of dyadic bonds than a formal network, and functioned in the shadows of the formal organization. What has changed the field significantly in recent years is the emergence of large-scale managed networks. The basis of the paradigm shift is the move away from studying networks as informal social structures to studying them as formal governance structures that represent a legitimate alternative to markets or hierarchy (Galaskiewicz 1996; Powell 1990).

Markets gave way to hierarchies following the Industrial Revolution. As the technology of production became more and more complex, the costs of coordinating across market interfaces became too high. Whereas the evolution of the hierarchical firm was driven by the technology of production, information technology is driving the evolution of network organization. Even the military, the bastion of hierarchical organization, is being driven toward a network structure (as described in the Appendix).

Large, vertically integrated hierarchies are inefficient means of governance in knowledge-rich and turbulent environments. They are overcommitted to specialized asset structures and a series of upstream and downstream technologies along the value chain. Adaptation is slow and costly because of entrenched interests eager to preserve their power and prerogatives.

Maximizing organizational learning and adaptive flexibility rather than economizing on transaction costs becomes the critical organizing imperative in turbulent environments. Networks are more adaptable and flexible because of loose coupling (Weick 1976) and openness to information. Environmental disturbances transfer imperfectly through loosely coupled networks and tend to dissipate in intensity as they spread through the system. Each unit in the network must deal with and respond to a small component of the disturbance. Networks also dampen turbulence by moving information efficiently through the system, thus reducing discontinuities and enabling members to adapt more or less continuously to change.

The network organization is also a superior learning organization because it organizes functional components so that each fits better with its external knowledge environment. Hierarchy creates strong ties within and among functional units. Strong ties cause members to think and act alike, and thus, information that flows in the system becomes largely redundant over time (Burt 1980; Granovetter 1973). In contrast, networks create dense but weak ties

with members with different functions, interests, and knowledge bases. Each link transmits new and different information, and for the network as a whole, this means superior knowledge assimilation. We define a network organization as follows:

A *network organization* is an interdependent coalition of task- or skill-specialized economic entities (independent firms or autonomous organizational units) that operates without hierarchical control but is embedded, by dense lateral connections, mutuality, and reciprocity, in a shared value system that defines “membership” roles and responsibilities.

Embeddedness is the fundamental concept differentiating network from economic theories of organization (Granovetter 1985). Understanding marketing in networks requires understanding the structure in which it is embedded. Internal networks involving process teams or autonomous units can be created within so-called hierarchical organizations, and there are opportunity networks that come close to replicating market systems. In this article, we distinguish four categories of network organizations on theoretical and practical grounds:

- *Internal networks* that are designed to reduce hierarchy and open firms to their environments;
- *Vertical networks* that maximize the productivity of serially dependent functions by creating partnerships among independent skill-specialized firms;
- *Intermarket networks* that seek to leverage horizontal synergies across industries; and
- *Opportunity networks* that are organized around customer needs and market opportunities and designed to search for the best solutions to them.

Internal Networks Designed to Open Firms to Their Environments

The classic hierarchical organization of the twentieth century is focused on the technologies of production. It is designed to economize on the bounded rationality of top management and minimize the governance costs of sequential adaptations to contingencies (Williamson 1975). But the challenge posed by knowledge-rich and dynamic industries is to create organizations that are maximally open to their environments and can approach a state of more or less continuous adaptation to fluid environments. This calls for organizations that are focused on processing information and creating knowledge.

Knowledge organizations are characterized by weak hierarchies, dense lateral connections, low departmental walls, and openness to the environment. These traits are well illustrated in professional organizations, such as hospitals, medical firms, law firms, consulting firms, and research universities, and in innovative firms in the fast-paced computer and biotechnology industries. Organizational boundaries are permeable, and operating units are networked by lateral connections, both internally and externally. Firms are experimenting with replacing hierarchy with two forms of internal network structures: the team-based and the internal market organizations.

Layered Networks

Brand management in leading marketing companies has been evolving toward team structure for some time now, moving from product managers to product teams to category management to customer-need management (Kotler 1997, p. 753). For example, Kraft Foods now operates a multilayered structure of process teams, category teams, and customer teams. Day (1997) proposes that there are three core marketing process around which team-based organizations will be structured: consumer management (to replace brand management), customer process management (to replace the sales function), and supply management (to replace logistics).

There is a growing literature in marketing on cross-functional teams and their relationship to organizational learning (e.g., Day 1997; Sinkula 1994; Slater and Narver 1995; Workman, Homburg, and Gruner 1998). But team-based organizations are unlikely to be sufficient vehicles for deep learning and next generation knowledge. Team-based organizations favor the development of generalist skills and adaptive learning. Over a period of time, specialist skills and proactive learning are likely to atrophy, and long-term investments in next generation technologies could suffer. The firm's future adaptive capability is seriously endangered. Team-based structures must be supported by functional or knowledge silos.

One solution is a hybrid or colateral type of organization referred to as the “layered network” (Huber 1984; Nonaka and Takeuchi 1995; Zand 1974). It can be defined as follows:

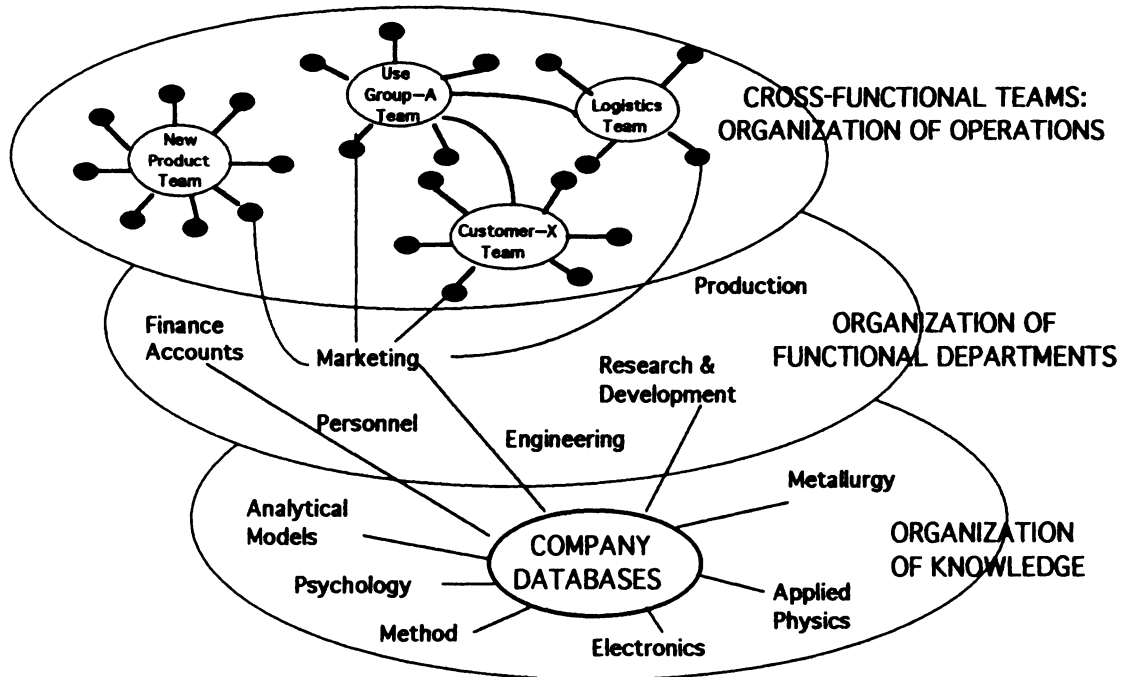
A *layered network* is a firm composed of an operational layer of cross-functional teams on the one hand and a knowledge creating layer of functional silos on the other, connected internally and externally through an extensive data bank of knowledge and transparent information flows.

Sharp Electronics and Kao Corporation of Japan are pioneering examples of layered organizations (Nonaka and Takeuchi 1995). In Figure 1, we depict the structure of a layered network organization. The operational layer of the organization is composed of cross-functional teams drawn from all relevant functional areas and responsible for managing key organizational outputs such as new product development and customer relations.

The layered network is an information-processing organization. Thus, the operational level sits atop an extensive, companywide data bank of scientific knowledge and financial, operations, and marketing data. To foster transparency, the bank is accessible to most employees, irrespective of rank or departmental affiliation.

Below these layers is the knowledge creating layer of the organization, which consists of the functional silos. These could involve pioneering areas of science, such as Sharp Electronic's focus on what it calls “optoelectronics” (combining optical and electronic sciences). Or, they could involve conventional fields of science underlying the core technology of the firm, such as fat and oil science, surface science, polymer science, biological science, and applied physics for Kao, a leading manufacturer of toiletries and cosmetics in Japan (Nonaka and Takeuchi 1995, p. 176). This layer includes areas of management science, such as

FIGURE 1
The Layered Network Organization



marketing or finance. The functional silos are the home bases for members operating in teams at other layers of the organization, and members often rotate in and out of their home bases for reorientation and immersion.

Layered organizations are characterized by extensive lateral and vertical connections across and among its layers, as well as between layers and the external environment. The connections are information intensive and not hierarchically ordered. The idea is to develop a self-monitoring and self-controlling organization through transparency of information and shared responsibility. Thus, the layered organization relies on the relationship model of interpersonal and interfunctional linkages. The links are more effective the greater the interdependence, mutuality, mobility, trust, and transparency of relationships among individuals and teams (Achrol 1997).

Internal Market Networks

A second innovation in organizational networking is the internal market structure (Ackoff 1993; Halal 1998). In Figure 2, we picture the organization of transactions in an internal market network, which can be defined as follows:

An internal market network is a firm organized into internal enterprise units that operate as semiautonomous profit centers buying from, selling to, or investing in other internal and external units as best serves their needs on market-determined terms of trade but subject to firm policy.

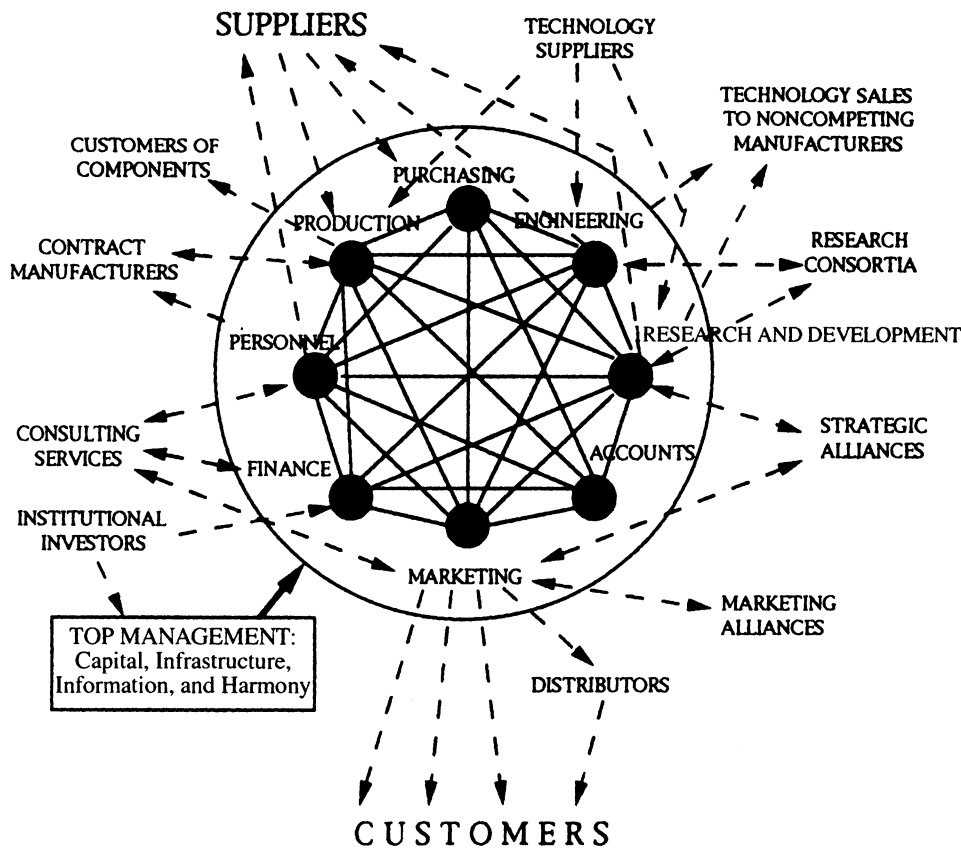
There are few internal monopolies in the firm. Profit centers have the freedom to buy any product or service they need from any internal or external source, but they also must compete to sell their own outputs in markets both internal

and external to the firm. Thus, for example, AC-Rochester, one of eight component manufacturing divisions of General Motors, which now is organized as an internal market, also sells to Mitsubishi in Japan, Daewoo in Korea, and Opel in Europe (Snow, Miles, and Coleman 1992).

In some forms of internal market organizations, each unit maintains and publishes its own financial statements, and compensation is tied to the competitive performance of each unit. Lufthansa Airlines has gone so far as to incorporate its passenger, cargo, maintenance, and data processing divisions into legally separate companies (Lehrer 1998). They transact business with one another as customers and suppliers and are connected by transparent cost accounting and informal networking at lower levels and a common governing board at the top.

Another example is Alcoa Aluminum, which has organized its manufacturing, engineering, and research and design (R&D) units into input or supplier units and its business units, which package and market its products, as customer units (Starr 1998). An interesting experience with Alcoa was that its supplier units adapted quickly to the internal market structure, but the business units caused considerable friction with the demands they made on supplier units. Thus, decentralized networks are unlikely to function smoothly without an overarching structure and leadership at the top. In addition, Alcoa found that adopting an internal market structure automatically pushed accountability and responsibility down through the organization, leading to the development of work teams that developed direct links with their customers and supervised their own activities. It is possible that market- and team-based networks will coalesce in various ways over time.

FIGURE 2
Organization of Transactions in the Internal Market Network



The Role of Marketing in Internal Network Firms

In both team-based and internal market structures, the functions of marketing are distributed throughout the organization. Process teams are organized around specific customers or use categories and, thus, focus the energies of all their members—production or design engineers, financial analysts, salespersons, or logisticians—on satisfying consumer needs. Likewise, in the internal market, each unit is a customer of its inputs and a marketer of its outputs to other units inside and outside the firm. Exchanges among the firm's internal units are subject to substitution by external exchanges, and the units themselves are liable to be spun out of the organization. Therefore, each unit is responsible for marketing itself.

Several scholars have noted that, as marketing becomes an organizationwide responsibility, it is confronted with the possibility of losing its functional identity (Day 1996). A major question for the discipline in the twenty-first century is whether marketing will cease to be an identifiable functional area and disappear into general management. One danger is that if everyone is responsible for marketing, then no one is responsible for marketing. Consequently, in the majority of organizations, marketing is likely to remain a defined and powerful functional area, but the role and function of marketing will change significantly.

The marketing "department" itself increasingly will become a functional silo, the creator and repository of the

firm's marketing skills and knowledge base and the keeper of the faith. It will operate the firm's market information system, databases, and analytical models; conduct research commissioned by its process teams or market units; and be responsible for environmental scanning. It will be the home base for marketing specialists assigned to various teams or units, to which they rotate back periodically or return for sabbaticals and immersions. It will have the opportunity to lead the training and education of technical and nontechnical members of the organization in marketing. Thus, its most important function will be to create marketing know-how, the latest in concepts and methods that operational levels of the organization will find invaluable to their success. Marketing's role in the layered network will change in the following important ways.

Real-time marketing. The kinds of data flowing through even sophisticated business information systems are little more than descriptive information. Marketing's most significant contribution as a business function will be enabling the firm to process information into knowledge. Marketing must bring the information as close to real time as possible by connecting all units of the firm to sales forces, resellers, suppliers, and customers. Today's information systems are largely vertical in nature. To be effective as network systems, they must have dense lateral connections among functional teams and support units such as those depicted for the Marines in the Appendix. Marketing's other great opportu-

nity is developing expert systems and decision models that can present analyzed data and decision scenarios on an interactive basis to personnel in the field and a "battlefield view" of the entire market to top management.

Marketing as internal Infomediary. Firms gradually are accepting that consumer information is not a free good but a business asset. It is quite likely that independent firms, called "Infomediaries," will emerge to manage and market information about their member consumers to businesses willing to pay for it (Hagel and Singer 1999). In the network organization, the marketing department can assume the role of internal Infomediary. Thus, marketing will need to search for ways to develop customer relationships of the kind in which customers value membership in the firm's data bank. Such consumer cooperation also will be necessary to support real-time market information systems. In addition to offering a "return" to customers for contributing to the firm's information assets, the marketing department will act as a privacy guard. It will need to guarantee the security of the customer's information, and even departments in the firm will have access only to aggregated and analyzed data.

Marketing as a creator of marketing knowledge. To date, marketing management has operated primarily as an applied science. Preoccupied with day-to-day operational responsibilities, it has not developed a depth of strategic understanding about its customers, competitors, product technologies, and environmental trends. Work in this area often is assigned piecemeal to outside agencies. The separation of operations from marketing knowledge creation, coupled with the advent of database and relationship marketing, is likely to catapult marketing practice to a higher plane of market analysis and strategic understanding. We predict that there will be some reintegration of marketing activities that have been sourced out to consulting, advertising, and marketing research agencies. In addition, marketing will need to develop stronger involvement with other sources of knowledge, including theoretical knowledge such as that produced by universities and research institutions.

Marketing as an organizational educator. Because marketing in the network firm is everyone's responsibility, a major role of the "department" will be to train and educate technical and nontechnical members of the organization in marketing. Marketing will need to develop formal and informal training programs and keep the organization abreast of the latest in marketing management practices and theory, as well as the operation of its data banks and decision models. Again, it will benefit by building close relationships with universities and research institutions.

Marketing as an integrator. Marketing also will be in a unique position to become the integrating function for the firm. The concept of decentralized exchange in internal networks relies on a system of dense lateral connections, transparency, and accountability at lower levels of the organization. However, there is always the potential that the interest of specific teams will run counter to the overall interest of the firm. As mentioned previously, Alcoa found that the business units responsible for packaging and marketing the outputs of its network proved to be the most troublesome in adapting to an internal market structure. Thus, the lack of hi-

erarchical control must be supplanted by an overarching integrating function. We anticipate that, because of its networkwide role of information manager and educator, marketing will be best positioned to function as network integrator. The inherent nature of its knowledge base also positions it to make critical strategic decisions, such as in what markets and technologies the firm should be, what its core competencies should be, and in shaping the firm's external network of partnerships and alliances. The "department" will have the opportunity to reach its potential as the strategic core of the organization.

Marketing as coordinator and conflict manager. In the conventional firm, the flow of resources (goods, services, capital, personnel, technology, information, and materials) is controlled by hierarchical decision-making and budgeting processes. But in the new organizations, resources are distributed by processes that resemble interorganizational exchange, namely, bargaining and negotiation among teams and units that are characterized by varying degrees of interdependence and organizational power. Conflicts and disagreements are resolved by horizontal or peer processes rather than by hierarchical processes. Marketing, because of its experience with managing interorganizational relations, should be ideally positioned to integrate and mediate internal network relations. In many situations, marketing will act as consultant and marketer for the products and services of individual units to other internal units, as well as to external customers. It could consult for other noncompeting businesses and create strategic alliances to market their products when there is a synergy between their products and the firm's own products, sales force, distribution channels, or promotional strategies.

In summary, the potential exists for marketing to rise to functional prominence in the new organizations. However, in a nonhierarchical organization, marketing can rise to power only because it serves the needs and solves the problems of other organizational constituents. The key resource of the future is information and knowledge. The more comprehensive the databases and decision models that marketing develops for its constituents and the more useful the fund of knowledge it develops, the more powerful its role will be in the internal network organization.

Networks Based on Maximizing Vertical Synergies

Until the 1970s, industrial organization was driven by the principles of mass production. The mass production organization is most efficient when serially interdependent activities are organized internally so that sequential operations can be performed repetitively and continuously without variation or interruption. This model favors investment in highly specialized assets that are linked by rigid transfer mechanisms. Direct labor skills and costs of monitoring production assets are low, but indirect labor skills and costs of designing, maintaining, and reconfiguring systems are high.

The advent of computer-controlled Flexible Manufacturing Systems (FMS) has revolutionized the economics of organization. With FMS, variety-driven costs are sharply reduced, along with the minimum efficient scale. According to

Jaikumar (1986), the minimum efficient scale for FMS is a cell of roughly six machines and fewer than a half a dozen people. The logic of long production runs and vertical integration is no longer compelling. Asset specificity is not a cause of great concern that requires elaborate safeguards or governance structures. Rather, asset generality becomes an effective instrument for focusing the firm's activities around its core competencies, reducing hierarchy and structural inertia, and making it more open to the environment.

The result has been two decades of organizational downsizing and outsourcing. The vertically integrated, multidivisional firm has been transformed into a network of alliances among suppliers, distributors, and competitors. The network firms are smaller companies that are focused on core technologies and functions. Peter Drucker predicts that "in 10 or 15 years, organizations may be outsourcing all work that is 'support' rather than revenue-producing, and all activities that do not offer career opportunities into senior management."³

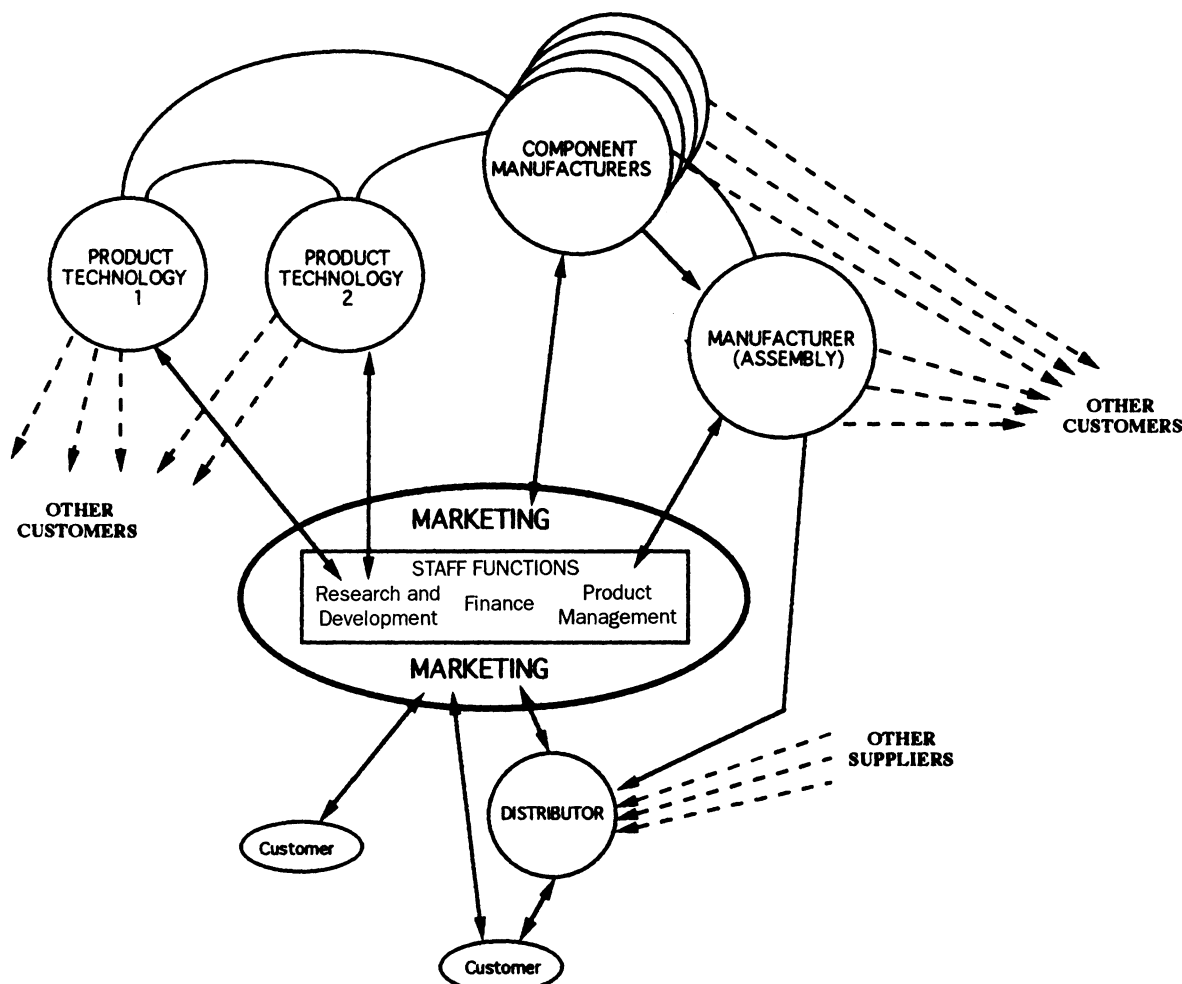
³Quoted in "The Network Society," *The Wall Street Journal*, (March 29, 1995).

In many vertical networks, the focal organization performs few manufacturing functions and is referred to as an "integrator," acting as the organizing and coordinating hub of the network. Well-known vertical networks organized by firms that specialize in marketing and do virtually no manufacturing of their own are Galoob Toys, Casio, and Nike. Many erstwhile manufacturing giants are loath to admit that they do little or no manufacturing. For example, practically all of IBM's manufacturing is done by a little-known firm called Solectron. Solectron has 21 manufacturing plants worldwide that turn out a variety of high-technology electronic products, including personal computers, cellular telephones, printers, and medical equipment for big name brands such as Intel, Compaq, Hewlett-Packard, Motorola, Nortel, and Mitsubishi. It provides complete preproduction planning and design, manufacturing, and distribution for its network customers.

In Figure 3, we depict a vertical network organized around an integrator that specializes in the marketing function. It can be defined as follows:

A vertical market network comprises a group of resource firms specializing in the various products, technologies, or services that constitute the inputs of a particular industry,

FIGURE 3
Organization of Transactions in the Vertical Network



organized around a focal company (sometimes a “virtual” company) that focuses on monitoring and managing the critical contingencies faced by the network participants in that market.

An interesting case is offered by the electric utility industry, which, similar to most monopolies, is integrated heavily. But facing deregulation, the environment is suddenly volatile, and the power companies are disaggregating. Some are focusing on power generation, others are primarily distributors that own and maintain the transmission infrastructure, and still others are becoming power retailers and marketers. As integrated firms disaggregate into specialized businesses, the emergent network is far more complex than a hierarchical structure being replaced with an interorganizational one. Power manufacturers may continue to market directly to regional consumers along with marketing companies. Marketing companies will buy power from the least expensive source nationally, possibly on an hour-by-hour basis. In networks, there is also the natural tendency to search for horizontal synergies as opposed to the vertical synergies of a hierarchy. This tendency is to define the business from the consumer’s point of view rather than the product’s or industry’s. Power marketers begin to consider their product as anything that travels electronically in and out of a consumer’s home. Pepco of Maryland, which recently announced it was selling its power plants and becoming a marketing company, is part of a joint venture called Star-Power, which also sells cable television, long-distance telephone, and Internet access services. Thus, the tendency of vertical market networks is to become intermarket networks or opportunity networks, which will be discussed subsequently.

The Role of Marketing in Vertical Networks

A vertical network derives its competitive advantage from a quasi-organizational division of function. Manufacturing, product technologies, marketing, and support services are specialized in member firms. Each member is able to optimize its operations and the knowledge associated with its function.

Revival of production and product-oriented business philosophies. One implication is that functional specialists in vertical networks will draw more on product- and production-oriented thinking than on marketing concept-inspired thinking. A production specialist strives to remain at the forefront of manufacturing technology and deliver high-quality, low-cost production. And because it manufactures to customer’s orders, it can employ a more mechanistic organization structure and invest in process development research but devote few resources to marketing or product R&D. Flextronics International is a manufacturing specialist serving the electronic industry. Of its 1400 employees, only 50 or so hold marketing, finance, or administrative jobs. Likewise, Solectron manufactures for several companies, including Compaq. Its overhead is only 4% of sales, compared with 18% at Compaq.

Similarly, a supplier of components and product technology can focus on being an innovative leader in its field.

It concentrates resources on basic research and aims to excel in innovative product design. Its ranks bulge with engineers and research scientists, and its organizational culture and resource allocation patterns reflect a product orientation. It is a technology-driving rather than a market-driven firm. For example, Weitek is a small Silicon Valley firm specializing in designing state-of-the-art math-intensive chips. It does not have any chip production facilities of its own but uses various domestic and Japanese manufacturers. Most biotechnology firms are focused similarly.

Marketing as network integrator. However, both product and production orientations are known to cause marketing myopia, which can be fatal in complex and dynamic markets. If the specialized skills of the network are to be rapidly and continuously adapted to changing consumer preferences, distribution structures, and competition, the integrator firm itself must be a marketing-oriented firm. Thus, it is likely that marketing will play a focal role in the organization and management of vertical networks. The marketing integrator will develop conventional strengths in customer research, forecasting, pricing, distribution, advertising, and promotion. But a key change is its role as network coordinator. Because the network members are highly specialized and interdependent and there is no hierarchical authority, the burden rests on marketing managers to organize information and resource flows, coordinate decisions and activities, expand opportunities for network members, and nurture the social culture of the network.

Marketing long has struggled with the paradox of how to integrate R&D and product design with consumer research better. The paradox arises because the closer the integration, the more applied and less innovative the technology tends to become. Conversely, the lower the integration, the higher the risks of product failure in the marketplace are. Some scholars believe there is need for a market-driving model of marketing as an alternative to the market-driven. This problem does not go away in vertical networks. Focal firms must decide how much of the design function they will retain and how much they will rely on their partners to perform. Some focal firms, such as Nike, retain all product design and engineering functions and outsource only the manufacturing. But in more complex products, such as automobiles, retaining technological functions defeats the objective of vertical networks. Networks tend to be far more innovative when their technology suppliers are design-independent.

Technology forecasting and risk management. To accommodate the tension between marketing and technology independence in vertical networks, marketing will require more proactive and less adaptive research techniques for evaluating investments in future technologies. It may not be feasible in many cases to test radical new ideas on consumers, and marketing will need to develop and rely on more rigorous methodologies for technology forecasting and risk assessment. It may be feasible in the near future to create virtual simulations to test certain kinds of future technologies on consumers, but in general, marketing will need a stronger toolbox of techniques for conducting industry and risk analysis, assuming alternative technological and competitive scenarios.

Measuring performance and transfer pricing. Another problem that arises in vertical networks is transfer pricing, which is not simply the pricing of current exchanges, but pricing investments in basic research, high-risk R&D, and even brand equity. For example, brand equity is tied most closely to the focal firm responsible for marketing. Yet over time, it is also a function of superior production quality, product design, and innovation contributed by network partners. One set of solutions to this problem is through cross-investments and equity holding among partners. The trade-off is that the higher the mutual investment among network partners, the less likely it is that upstream partners will attract many outside customers and, thus, the lower their exposure to their knowledge environments. There is also greater risk of violating antitrust regulations. In any event, sharing on the basis of financial investments alone does not account for the many intangible contributions involved in knowledge-rich exchanges. Marketing will need to develop more elaborate models of how tangible and intangible resource inputs and outputs can be measured and rewards shared in collaborative relationships among firms.

The multifunctional marketing manager. The competitive advantage of the vertical network depends on augmenting the functional expertise of its upstream specialists. This is enhanced when the upstream partners deal with a variety of downstream marketing companies in different industries. Marketers will act as marketing consultants to their partners, search for new business opportunities, and even directly assist partners in marketing to other customers.

Although dealing with multiple customers strengthens the specialist firm's orientation to its technology and sources of knowledge, as well as enhances its economic viability, it also makes it more difficult for the system to retain the close and committed relationships that shape the social norms by which the network is governed as a superorganization. This is the internal contradiction of the vertical market network and determines the trade-off between how much flexibility versus cohesiveness is designed into the system. Intermarket networks, which are discussed next, offer one solution to this network dilemma. They also boast highly developed social structures.

Required to work closely and consult with production companies and technology companies, marketing managers will need new skills, such as degrees in engineering as well as management. Marketers also will play a new role as social engineers, responsible for creating a network culture and mediating network conflict. The twenty-first century will demand a new breed of marketing manager, one trained in the functions of marketing, negotiation, interorganizational management, social science, and some branch of engineering.

Networks Designed to Exploit Intermarket Synergies

Mid-twentieth century business organizations vigorously pursued intermarket opportunities. As a result, the multidivisional (M-form) corporation became the dominant form of organization in the West, and the *keiretsu*-type enterprise group became the dominant form in the East. The former is

a vehicle for creating intermarket synergies in hierarchies, and the latter a network vehicle.

One of the more elegant explanations of the M-form hierarchy is in terms of an "internal capital market" (Williamson 1975), in which corporate managers allocate surplus resources among a firm's business units. Williamson argues that corporate managers are more efficient than capital markets in allocating financial resources among alternative market uses because they are privy to internal information not available to investors or financial institutions and therefore are better able to analyze and monitor sequential adaptations to contingencies.

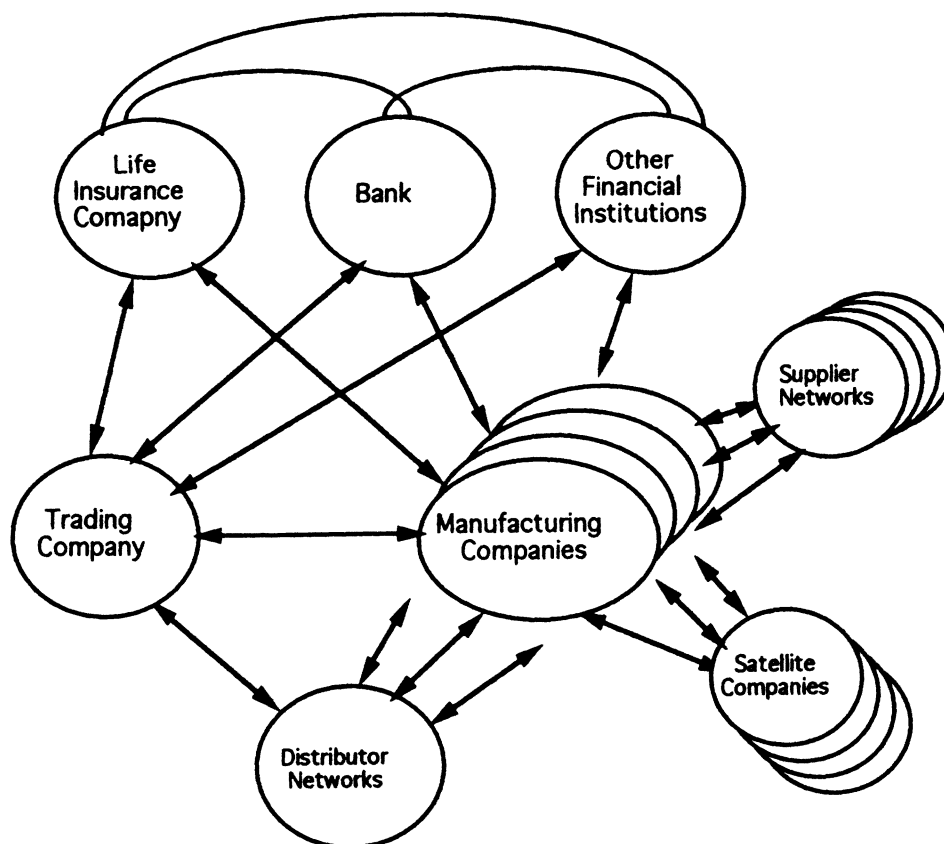
Of late, there has been much evidence that internal capital markets are also prone to inefficiencies and myopic investment decisions. The large fortunes made by takeover specialists, which aggressively bought and spun off assets from M-form firms, revealed the magnitude of overinvestment and underuse of assets in the M-form. The 1990s are witnessing a self-declared redundancy or incompatibility among divisions of many conglomerate firms in the West (see Markides 1995). Sears has divested its insurance, real estate, and financial services to focus on retailing. Hewlett-Packard is spinning off its measurement instruments division to focus on computers.

A new form of intermarket organization, the leveraged buy out (LBO) association, has emerged as an alternative to the M-form corporation (Jensen 1989). The LBO organization is an unusual hybrid of network and hierarchical structures. The LBO firm is a private company whose members are large institutional investors and entrepreneurial investors. Unlike investors in a public corporation, who are restricted by a variety of laws from direct involvement in company management, LBO investors are connected directly by strong, active ties to management. These ties are closer because the bulk of LBO finances are in the form of debt rather than equity. Furthermore, the ties are reciprocal because top management has significant equity interest in the division it manages. Thus, the LBO replaces arm's-length transactions with a network of close relationships with the financial market.⁴ But unlike the M-form company, each division of the LBO is an independent company whose management is under an explicit contractual relationship with the LBO firm and investors, and transfer of resources between divisions is not permitted.

A second type of intermarket network, the enterprise group, is largely a phenomenon of the collectivist cultures of the East and includes a variety of forms (e.g., the *chaebol* of Korea), of which the most prominent is the Japanese *keiretsu*. As depicted in Figure 4, the typical enterprise group consists of independent manufacturing firms from a wide cross-section of industry organized around several financial institutions and a general trading company (*sogo shosha*). The financial institutions maintain intimate relationships

⁴According to leading financial economists, such as Jensen (1989), the LBO represents a shift toward the more effective types of relationships between sources of finance and management found in Germany and Japan. Ironically, Japan's long and serious economic depression, coupled with pressure from Western economists, is causing its corporations to begin looking more and more similar to U.S. corporations of the past.

FIGURE 4
Organization of Transactions in the Intermarket Network



with member firms and are the principal source of long-term debt and equity capital for the network. (This feature of close connections and reciprocity between financial and manufacturing firms is also prominent in the networked economies of Italy and Germany).⁵ The manufacturing affiliates have large vertical networks of subcontractors, distributors, and satellite companies. We define the enterprise group network as follows:

An *enterprise group* consists of institutionalized affiliations among firms that operate in several related and unrelated industries, centered around a bank and trading company, and held together by interlocking managements, shared resources and strategic decisions, periodic patterns of collective action, and strong social ties.

The enterprise network is a coalition of independent firms, but its members are bound together by an elaborate pattern of lateral ties at all levels. The ties include extensive cross-investment and reciprocity in buying and selling. The

⁵For example, Germany's three major banks control approximately 60% of the share capital of the larger companies, partly through investments and partly through the holdings of their customers (which, under German law, the banks manage and vote on). But their interest is not so much in share prices and capital gains, because investments are long term and the banks do not intend to sell. The bank's income from companies to which it is the *hausbank* comes through everyday-type services, such as letters of credit, rather than through stock ownership (see Drucker 1991).

amount of equity that a commercial bank holds in a member company is proportional to the loan, fee, or other business it does with the member. Manufacturing companies also maintain equity cross-holdings in the banks and place their own and employee accounts with them. Likewise, manufacturing companies buy raw material from the trading company in proportion to the amount of finished goods the trading company sells. The interdependencies of the network reach beyond economic relationships and include strong interconnections of culture and identity among the employees of member firms.

Despite the elaborate network connections, the enterprise groups also made inefficient investment decisions. The burden of these decisions was felt after the boom years of the 1980s, and they often are blamed as the major causes of Japan's persisting economic depression.

Finance may have been a scarce and concentrated resource in the past, but investment vehicles and information systems have become sophisticated, and capital moves much more freely across borders. Consequently, we believe financial synergies will offer less intermarket efficiency or competitive advantages in the future. Even the LBO may be a short-lived form. In the global markets of tomorrow, marketing and technology will represent the principal sources of uncertainty and dynamism, as well as the principal opportunities. Successful networks are likely to be those that can leverage marketing and technological synergies. Although the financial implications of marketing decisions will be in-

creasingly important in network development, we argue that the control of capital will be less important.

The Role of Marketing in the Intermarket Network.

In the typical intermarket network, marketing is practiced in the same manner as in a vertical network. The focal firm in each manufacturing division develops its own marketing capabilities, distribution, brand image, and promotional programs. Power in the network centers around the financial firms. There appears to be little effort to exploit brand synergies or networkwide marketing efficiencies.

The intermarket networks also failed to leverage the extensive experience of the *sogo shosha* in global operations and information management. As the *keiretsu* companies turned more and more to technology and product leadership strategies, the *sogo shosha* should have transformed into marketing companies for the network; they, rather than the financial companies, should have emerged as the coordinating hub of the network.

Marketing accounts for an increasing percentage of the delivered price of products and services. Efficiency in marketing will offer important competitive advantages in the future. Even independent firms in the United States have discovered important synergies through marketing alliances and comarketing programs. Coordinated marketing in intermarket networks also will offer significant advantages in designing relationship marketing incentives and programs.

What will be the critical functions for the marketing hub of an intermarket network? We believe the strategic plane has shifted to marketing, technology, and information management. Successful intermarket networks will create synergies in one or more of these areas. The marketing function will need to be proficient in all the areas required to coordinate vertical networks successfully, that is, engineering knowledge to coordinate technical transactions and investments and skill in the social sciences to manage multilateral negotiations, interorganizational harmony, and networkwide cultural norms. In addition, marketing in the intermarket network increasingly will be shaped by the following realities.

Multilateral marketing. A significant opportunity for marketing in intermarket networks lies in brokering complex, nontraditional deals among nations, for example, barter, countertrade, and "third-country" trade (e.g., helping a Malaysian firm sell rubber in Chile). Global transactions such as switch trading, buy backs, counterpurchase, and offset agreements (Stern, El-Ansary, and Coughlan 1996, p. 528) involve complex financial arrangements. Multilateral marketing demands an extensive global network of information-gathering and processing offices staffed with requisite marketing, information management, technical, and financial expertise. It would be ideally positioned to engineer multilateral exchanges of surplus products across two, three, four, or more markets. Some *keiretsu* managers visualized a similar transformation for the networks' trading companies. One executive observed:

Ultimately, the *sogo shosha* should become sort of a multinational corporation with its subsidiaries and affiliates operating in widely diversified industries throughout the world. It should play the role of a satellite: gathering, re-

laying and transmitting necessary information on economic and human activities, as well as money, goods and resources (see Gerlach 1992, p. 141).

Marketing as driver of technology. More and more industries are experiencing the effects of technological convergence. The later part of the twentieth century has been dominated by digital convergence. The market for personal computers continues to converge with television, telecommunications, and the Internet. Polaroid's long reign in the instant photography market is being challenged by the instant technology of digital cameras. Its competitors now include, for example, Nikon from the conventional camera market, Sony from the electronic home products market, Microsoft and Adobe in photographic software, and manufacturers of printers such as Hewlett-Packard.

The twenty-first century is said to belong to biotechnology. Convergence effects already are visible in the agriculture, food, and health industries. Firms in the chemical (e.g., Monsanto, Dow Chemical, DuPont), pharmaceutical (e.g., Hoechst, Rhone-Poulenc, Novartis), and seed (e.g., Pioneer Hybrid) industries suddenly find themselves facing one another and a host of biotech start-ups, resulting in a flurry of mergers and alliances.

Marketing in the intermarket network will need to develop strong technology-forecasting tools to map shifts in market structure and to be more aggressive in driving network configuration to match changing structures. It will need to organize coalitions among firms from relevant primary technologies and take the lead in shaping product standards from a consumer viewpoint. Marketing will need to be a more aggressive driver of markets and technology than in the past. Strategic marketing theory will need to shift from predicting which technologies are likely to be successful, given consumer needs and preferences, to predicting how consumer needs and market boundaries will evolve, given various technological futures.

Integrated financial marketing. Successful intermarket networks are likely to be those that integrate the financial and marketing functions. The kinds of strategic decisions marketers will make require such an integration. Multilateral global transactions involve complex financing in an often volatile currency exchange environment. Organizing technological coalitions in the face of shifting market structures demands sophisticated investment analysis of long-term market potential and revenue flows in the face of uncertainty. Marketing theory and decision models will benefit from more directly incorporating financial theory and models. For example, there appears to be considerable scope for modeling and evaluating marketing strategy decisions using financial options theory and the capital asset pricing model.

E-marketing. Finally, the continued growth and globalization of electronic marketing promises to be the single biggest threat and opportunity facing almost every industry in the twenty-first century. Intermarket networks, with their multiproduct, multi-industry offerings, will have an advantage in marketing directly to consumers over the Internet. They are in a stronger position to provide customer search shopping convenience; bundle products and promotions;

and offer frequency and cumulative incentives, relational programs, customer service, and reputational safeguards.

Networks Designed to Optimize Customer Opportunity

The opportunity network is organized around customers rather than suppliers. At its core is a marketing organization specializing in collecting and disseminating market information about customers, markets, and suppliers. It negotiates, brokers, and processes transactions and coordinates custom purchases and projects for customers. It plays the key role in regulating product standards, network security, and exchange behaviors for its customers and participant supplier companies. The quality of its market knowledge (about consumers, consumption, and lifestyle-related information, products, and suppliers) represents its primary source of coordinating power. The goal of the focal marketing firm is to obtain the best match between customer needs and available products and services at the best value. We define it as follows:

A customer opportunity network is a body of customers organized around a central information company that serves as a clearing house for the marketing transactions it brokers and regulates on behalf of its member customers and participating suppliers, which represent a range of products, technologies, and services.

Prototype customer opportunity networks include direct-marketing companies that use various media, such as dedicated television channels, 800-number telephone lines, and the Internet, to market a wide variety of consumer products (e.g., Citibank's Comp-U-Store). These companies have followed the department store model of general merchandising but emphasize hard goods. The new breed of customer opportunity networks includes firms such as Amazon.com, e-Trade, Travelocity, and CDNow that provide their customers access to practically the entire output of an industry or use category through the Internet. They are electronic versions of the "category killer." However, network structures over the Internet are in an early stage of evolution. Various types of access and search services (such as America Online and Yahoo) are creating giant networks that link consumers, e-retailers, and thousands of direct channels operated by manufacturers. And companies such as GeoCities have organized large electronic interest groups, or "virtual communities," and are networking the communities with related commercial interests.

Evolution of opportunity networks in consumer markets is hampered because of uncertainty as to the pace at which consumers will switch to e-shopping. Manufacturers are faced with the dilemma of having to protect their physical channels while they hedge their bets in the electronic marketplace. In contrast, opportunity networks are growing rapidly in business markets. Networks such as Baxter Travenol in hospital supplies, McKesson in pharmaceuticals, and Sysco in food supplies were among the first opportunity-type structures (see also Malone, Yates, and Benjamin 1989). They used proprietary computer networks to link thousands of customers in a particular industry to thousands of suppliers representing almost the entire spec-

trum of their supply needs. Initially, customers were restricted to participating suppliers, but this is changing. The logic of opportunity networks is to optimize customer choice. Thus, they tend to evolve away from restricted, supplier-oriented networks to more open, customer-oriented networks. Networks that started as single-source sales channels, such as United Airlines's flight-booking system Apollo, quickly gave way to industrywide channels, such as American Airlines's Sabre system. The Sabre group is now an independent division and has evolved into a customer opportunity network called Travelocity.

The Role of Marketing in the Customer Opportunity Network.

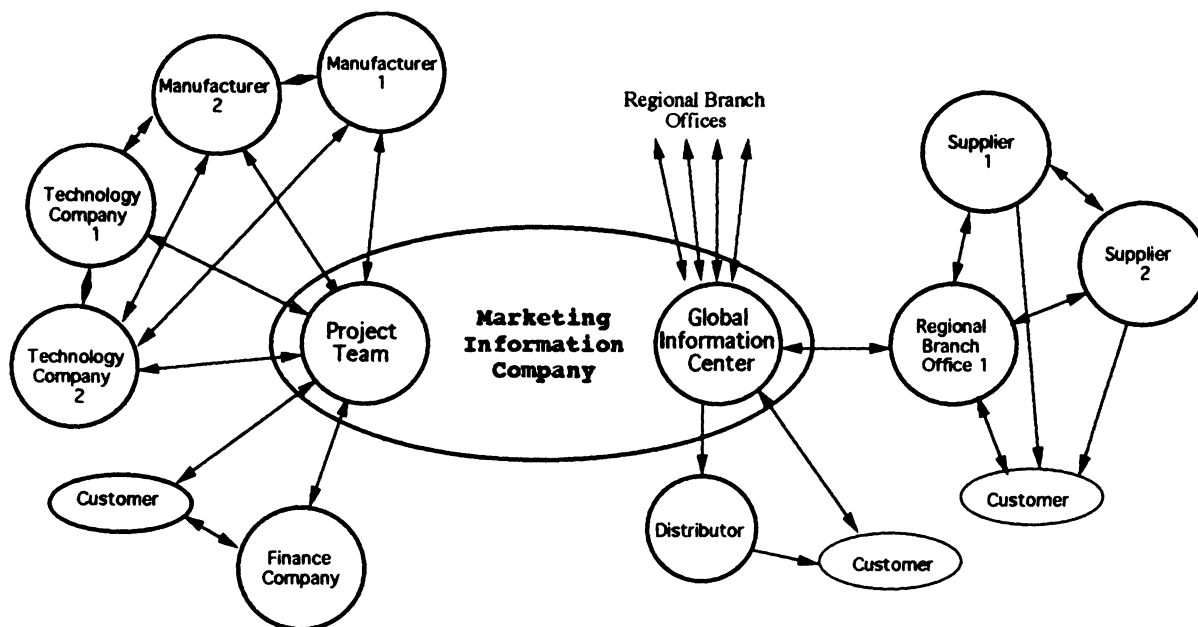
As opportunity networks evolve, they are likely to follow two broad directions. For business products, and to a lesser degree for custom consumer products, the core competency of the focal organization is knowledge—not just information, but expert knowledge about product technology and the technology of use. The firm will have specialists on its staff who can grasp complex technical issues, possess an extensive understanding of worldwide suppliers and their technical peculiarities and capabilities, and are able to broker custom solutions for buyers.

Such an opportunity network will consist of a global network of marketing offices and information centers connected together by satellite and a computerized information system. The marketing offices operate as semiautonomous brokerage firms dealing among themselves, similar to a computerized stock exchange. At one end, consumer needs and inquiries, market intelligence, and economic trends are monitored and fed into the system. At the other end, the marketing company is hooked into a worldwide directory of suppliers of products, with all relevant information about product specification, custom design possibilities, prices, existing inventory and locations, production time, and terms of trade. Existing and potential matches between customer needs and suppliers are sorted by expert system software and instantly relayed to marketing offices to negotiate transactions. The negotiations could be conducted in a matter of hours by linking together online customers, network marketing offices, financial or design specialists, and suppliers of products or technology. The transaction can be completed and simultaneously spliced into the supplier's or network company's distribution and delivery systems.

In this form, the marketing function may reach its highest level of development as a customer consulting function. Just as professional relationships, such as doctor-patient, lawyer-client, or financial consultant-investor, are infused with the best interests of the customer, the marketing-consumer relationship will become dominant over the marketing-producer relationship. Because they are dealing with multiple supply options rather than marketing one company's products, marketing consultants will be positioned to design custom products tailored to the customer's need, put these up for bid before (or negotiate with) suitable suppliers worldwide, and place the order with the best source.

In Figure 5, we portray the pattern of exchanges in a business opportunity network (Type I). Because the main function of the firm is centered on brokering knowledge, it

FIGURE 5
Organization of Transactions in Business Opportunity Networks (Type I)



will need to screen prospective suppliers continually, test their products, and become an agent in the industry for setting standards and certifying quality. Consequently, the product assortment is likely to be large but focused on a use category and related technologies, for example, robotic industrial machinery or industrial metals, alloys, and fabrications. Similar global networks also may emerge for complex consumer products such as electronic systems for the home and small businesses.

In contrast to business networks, there is no limit in theory to the width and depth of assortments that the opportunity networker can broker for commodities and relatively standardized consumer goods. Instead of depth of knowledge about product and use technology, the core competency of the network company here is the efficient processing of transactions. One scenario is that the marketing of standardized products will approximate the operation of a commodity exchange, reducing the global marketplace into a giant electronic trading pit (Kuttner 1989). The core functions of marketing in such networks will revert to the rudimentary market functions such as facilitating perfect information, product standardization through sorting and grading, and regulating the terms of trade. In this event, the world of business will have made an incredible full circle to nearly perfectly competitive markets after more than a century of progressive "market failure" and increasing vertical integration. Marketing will shift from organizing product assortments to organizing markets.

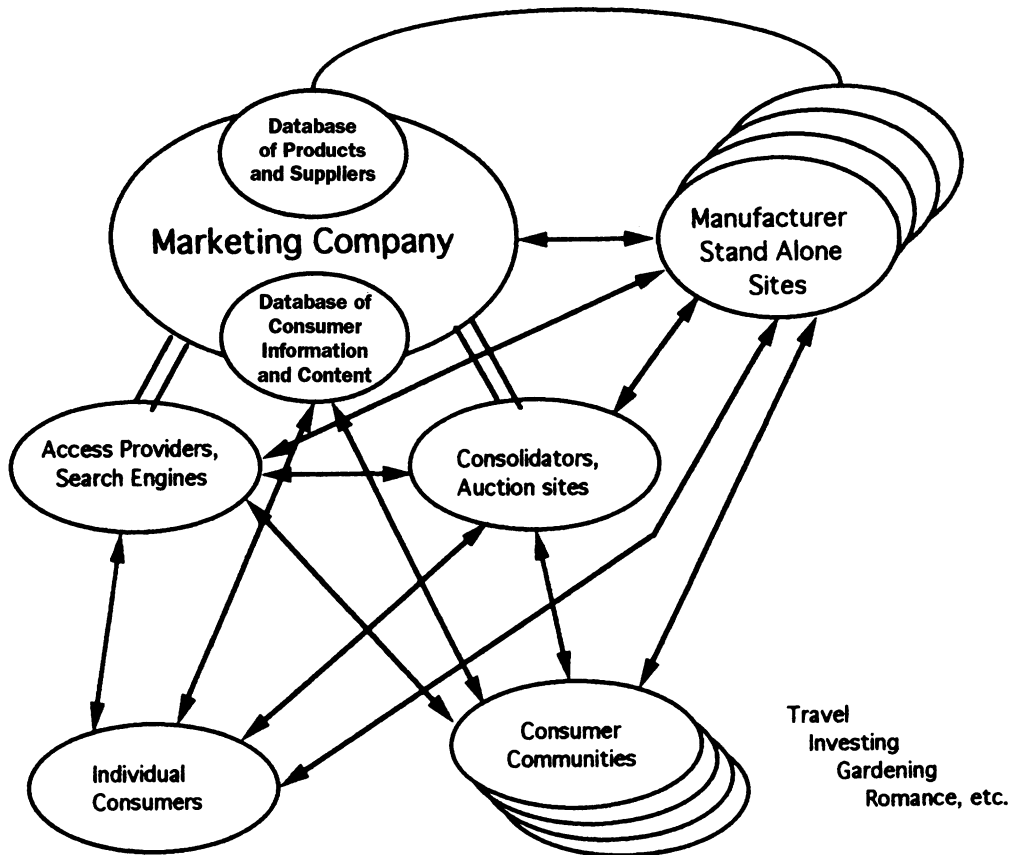
History suggests, however, that successful marketers are those that can differentiate their products and services and thus establish buffers against direct price competition. Excessive price competition in electronic markets could be injurious to product quality and innovation because it is difficult to verify or promote intangibles through this medium

(Alba et al. 1997). This suggests an alternative scenario in which marketing seeks a differential advantage from organizing consumers and consumer information instead of organizing markets and product information.

Organizing marketing around the consumer offers at least three important opportunities. First is the opportunity to capitalize on information about consumers as a business asset and, on the basis of its market value, realize appropriate economic rents for consumers for the use of this information. The information also could be used to shield consumers, who so choose, from unwanted advertising. Second is the opportunity to provide consumers with content and use information pertaining to products. Consumers would have access to product performance data, repair and warranty histories, customer comments, sale prices, and promotional offers. For example, customers of Amazon.com can access media reviews and reader comments and get recommendations for gifts. Third is the opportunity to facilitate such interaction by organizing consumers into lifestyle-related virtual communities (Hagel and Armstrong 1997), such as communities of retirees, sports fans, or outdoor enthusiasts. Gardening enthusiasts can join sites such as Garden Web, where other gardeners congregate and exchange experiences and tips, share ideas, request seeds, and ask questions of one another.

In Figure 6, we depict the structure of consumer opportunity networks (Type II). At this stage of evolution, various functions of the marketing company, such as providing Internet access, search engines, demand aggregation, and entertainment and content information and managing consumer communities, are being performed by independent firms. We predict these will coalesce rapidly. Already, there has been a spate of mergers. Some, such as that between the search engine Lycos and the Home Shopping Network or

FIGURE 6
Organization of Transactions in Consumer Opportunity Networks (Type II)



between Walt Disney and Web portal Infoseek, have the character of traditional vertical integration. In contrast, search engine Yahoo's purchase of GeoCities (one of the largest virtual communities, with 40 different neighborhoods such as Yosemite for nature lovers and Hollywood and Broadway for movie and theater buffs) and Broadcast.com (the largest provider of television, radio, and other entertainment over the Web) is more along the lines we predict opportunity networks will evolve.

What will be the major marketing challenges and core functions of the consumer opportunity networker? There is a dramatic change in moving from marketing as seller's agent to marketing as consumer agent. Here, we focus on the three with the most sweeping effects: marketing as Infomediary, brand mediator, and manager of consumer communities.

Mediating information. The Internet confronted marketing with the prospect of large-scale disintermediation. This fear was short-lived because commerce on the Internet was overcome rapidly by reintermediation. The future may belong to infomediation. Marketing will face one of its biggest ethical dilemmas as the battle over consumer information versus privacy is waged on the Internet. Consumer information is a valuable business asset, yet its owners receive no economic rents for it in the current marketing model. This presents an opportunity for the emergence of Infomediaries, firms that collect information from participating consumers and make it available to companies willing to pay for the in-

formation in the form of price or value benefits for the consumers (Hagel and Singer 1999). The opportunity may be greater for the network company to assume a more consumer-privacy-oriented role in the information exchange process. The company would offer secure portals and protective software and facilitate financial transactions so that customers could search commercial Web sites without personal information becoming known to the sites and without the risk of monitoring agents ("cookies") being implanted in their computers. SuperProfile and PrivaSeek are among the first Web-based Infomediary start-ups to emerge, and financial services companies such as Citigroup and First USA, with their large existing databases, are experimenting with the concept.

The opportunity network, with the consent of its member consumers, also could perform many traditional marketing functions for supplier firms. These functions might include marketing research, profiling and segmentation, new product testing, the creation of advertising, and targeted communications. At a time when consumers are increasingly sensitive about being bothered at home and skeptical of the use to which information about themselves is put, it will become difficult for manufacturing firms and their advertising and research agencies to perform these functions.

Thus, the opportunity networker must to safeguard its role and image as consumer representative and remain independent of supplier companies. The disclosure that Ama-

zon.com had been selling prominent display space to publishers rattled investors and consumers. The most valuable stock in trade of the opportunity network is consumer trust. The network will need to create special mechanisms for nurturing trust and establish clear contractual obligations to its members in terms of protection and use of member information (e.g., what happens if the networker is bought or merged?).

Brand mediation. Brokering information about consumers is only one side of the information equation. The Infomediary has an equally important role to play in mediating information about product performance, uses, new technologies, and consumer experiences and lifestyles. In an electronic marketplace, with its low entry barriers, consumers will be inundated with product alternatives, product information, and multiple channel alternatives. The consumer is faced with a lot more choices and information but not necessarily with the ability to make better choices.

Thus, a major opportunity for the networker is to minimize the consumer's effort in searching for, evaluating, and negotiating the best value. Sheth and Parvatiyar (1995) argue that consumers often enter into loyalty relationships with marketers to reduce choices. The network company will screen suppliers, evaluate their products, compare and rate them, and collect information on product performance and consumer complaints. Some observers believe this will lead to the death of conventional vendorcentric branding because Infomediaries will be ideally positioned to develop customercentric brands (Hagel and Singer 1999). However, in developing brand associations and interests of its own, the company risks a potential loss in the degree of its objective orientation to its consumers and their trust.

Consumer opportunity networks will change the way products are marketed. All but the most differentiated suppliers will find it increasingly difficult to market directly to consumers. More companies will find that consumer marketing is similar to marketing to professional firms, for example, marketing pharmaceutical products to doctors. The task is to market the supplier's capabilities, products, and unique benefits to the network company, which then analyzes its consumer database to evaluate the fit of the product with the needs and profiles of its member consumers.

At other times, suppliers will find themselves facing reverse markets. The network companies will become marketers of aggregated demand. Business firms receive large savings from suppliers for quantity orders and exclusivity arrangements. Similarly, network companies will consolidate consumer needs—for example, the travel or grocery needs of a network for a year—and seek bids from qualified suppliers. Suppliers will market by bidding.

Managing customer communities. The asset structure of the consumer opportunity network is founded on the trust of its consumer members. The mechanisms that are fundamental to building trust and commitment among firms (e.g., Achrol 1997) can be used to structure the relationship between marketer and customer. These mechanisms, including transparency of information, self-regulation, rich social interactions among members, and a sense of involvement in determining the future of the relationship, do not function

well in vertical or hierarchical systems. To flourish, the mechanisms require the creation of a customer community.

A customer community is a body of consumers who are involved with a company in a social relationship. They are involved because the product represents a significant aspect of their lifestyle and because they can enhance their satisfaction by participating in information- and experience-rich exchanges with the company and among themselves. The key feature is the ability of customers to interact among themselves. It is also the key distinction between conventional one-to-one relationship marketing programs that focus on strengthening vertical relationships with customers and the concept of relational networks.

Japan's intermarket networks were the first to develop large customer communities. The networks take care of virtually all needs for food, clothing, housing, medical care, travel, insurance, credit, and leisure for almost a million employees and their families. Network membership determines the beer they drink, the car they drive, where they invest their savings, and even whom they marry. Services provided by the Sanwa group include marriage facilitation, tennis and baseball tournaments, study groups, and art classes.

Marketers of recreational vehicles (RVs) have been early practitioners of relational networking in the United States. They hold large conventions at which thousands of RV owners congregate to socialize, exchange experiences, and participate in seminars on RV ownership and recreation. They organize sight-seeing caravan tours that owners can join and enjoy as a community.

It is difficult to get customers to contribute the time, energy, and commitment to form viable customer communities around a single brand of product unless that product is significant in defining a particular lifestyle (RVs) or pastime (gardening, cooking, auto repairing). There are exceptions, of course, such as the strong brand communities identified with Apple Computers, Harley-Davidson, Shiesedo, and Nintendo (Kotler 1999). But in most cases, opportunity networks offering products of many manufacturers and covering the full range of needs of a customer segment (elderly customers) or interest group (outdoor enthusiasts) have a better chance of developing committed, interactive, and participative communities of customers. These communities become part of the marketing network through membership rules they themselves formulate and regulate.

Customer communities are not self-sustaining and require considerable maintenance. Travelocity employs 110 telephone representatives and answers some 1000 e-mail questions a day. But this kind of corporate maintenance is expensive and too hierarchical. Typical Internet communities are maintained by the enthusiasm and energy of one or more community leaders. The task is to formalize and motivate this grassroots leadership. Thus far, many organizing firms have been able to get away with offering the leaders special recognition and titles. For example, community leaders in Canadian beer marketer Labat's network are recognized on Internet boards with a crown next to their names. But at some point, it is likely that community leaders will need to be rewarded financially, either with stipends tied to group membership or with a percentage of sales generated through their community group. An interesting variation is a

program by GeoCities that allows "citizens" to open their own electronic store fronts (for a small monthly fee) in their neighborhoods and use GeoCities' order-processing system (for 5% of sales).

Opportunity networks integrated with customer communities represent the most dramatic scenario of change for marketing in the next millennium. If it should work out this way, the implications for marketing theory, research, and practice are revolutionary. Markets will be marketers, and marketing will become a two-way activity. Practically all the tools of micro analysis will need to be overhauled, not merely from individual- to dyadic-level concepts, but beyond that to network-level concepts that encompass full-fledged customer communities with their own political, economic, and social processes.

Conclusion

As the twenty-first century dawns, the Industrial Revolution is fast giving way to the Information Revolution. Many giant, vertically integrated manufacturing firms, which were the product of the Industrial Revolution, are morphing into internal and external networks. These managed networks promise superior information processing, knowledge creation, and adaptive properties to conventional firms. But they also create unique operating environments distinguished by reciprocity, interdependence of ties, and non-hierarchical means of control. The theory of networks will draw more on sociological theory and the politics of coalition behavior than on neoclassical economic theory and power-dependent explanations.

As network forms grow and multiply, many theoretical and managerial questions will arise. For example, are networks that consist of stable relationships among single-source partners more flexible in adapting than networks of competing multiple partners?⁶ Are strong, single-source ties with suppliers more effective for knowledge generation and transfer across technological interfaces? Are weak, multiple ties more effective in processing information across diverse interfaces, such as the marketing interface with customers? Are members more committed and less opportunistic in networks with strong "family" values? Are more committed networks slower to adapt to discontinuous change? What is the trade-off between how flexible a network is and how cohesive its social norms are? How strong are the consumer relationships forged by transparency of information, self-regulation, social interaction, and involvement in determining the firm's consumer policies? Are such relationships stronger than relationships based on financial incentives?

⁶The U.S. auto industry is creating an electronic network called the Automotive Network Exchange (ANX), which will link together all auto manufacturers and several thousand automotive suppliers (Evans and Wurster 1997). This industrywide opportunity network will reduce information asymmetry and switching costs, intensify competition, and improve efficiency (estimated savings are \$1 billion a year). But this represents an abrupt reversal of the industry's recent moves toward close, single-source relationships with suppliers. The question is, what will ANX do to relationships that involve technology development and cooperative design?

Because network organizations are at an early stage of evolution, it is premature to hypothesize about which network structure is likely to predominate in which industry or environment. But a few generalizations can be ventured. The layered network structure is likely to be most appropriate for firms in consumer goods industries in which product and production technologies are relatively simple (e.g., cereals, detergents, cosmetics) and markets tend to change in small ways. The internal market network will be the structure of choice for companies in more technical fields in which it is necessary to maintain in-house expertise in various core technologies (e.g., automobiles, air services). Vertical market networks are likely to predominate in markets in which competition demands leadership in production cost as well as product innovation and in which marketing is often the critical difference (e.g., personal computers). The intermarket network is not industry-specific but may be culture-specific (being a product of the consensual culture of Far Eastern economies). These networks may loosen their cohesiveness and adopt more internal market processes as they emerge from the prolonged economic depression in Japan. In the West, the preferred mode of intermarket organization is through conglomerate firms, though the degree of conglomerate diversification and interdivisional sharing of resources is decreasing. The Type I opportunity networks are likely to be successful in markets for industrial products or complex, custom, or highly differentiated consumer products, whereas the Type II will predominate in consumer nondurables, relatively standardized products, or differentiated products that consumers are comfortable evaluating by specifications. Both types are adapted uniquely to those consumer segments that are comfortable conducting business through electronic media.

It goes without saying that network organizations also have their limitations. For example, close-knit, reciprocal relationships among firms can undermine objectivity and lead to ill-advised investments and myopic strategies. Many analysts believe that so-called crony capitalism is responsible in large measure for the severe economic problems afflicting Asian economies. But it is open to inquiry how fallible investments and strategic decisions are with arm's-length banking, the internal capital market of the multidivisional firm, the fraternal banking systems of the Far East and Germany, or the hybrid model of the new LBO-type corporations. Each has a different degree of access to privileged information, ability to assess a firm's strategy and management, and long- versus short-term orientation. What seems clear is that the nature of commitment in networks slows down the process of renewal when cathartic solutions are called for (contrast, for example, the handling of the banking crises brought on by the collapse of real estate bubbles in the United States and Japan in the 1980s).

The implications for marketing management in each type of network organization were discussed in the article. To summarize, the two most important and general implications are as follows: More and more marketing activities will be characterized by the management of interorganizational relations. The firm has dissolved into a network of internal units, suppliers, allies, and distributors. Even customers will enjoy an increasing capacity to become

organized. In addition, marketing will be more a consumer-consulting function than a marketer of goods and services. In all the networks, marketing operates less in the service of a given function or unit than it does on behalf of the marketplace as a whole and its customers. It is likely we will experience power transfer to a more organized consumer. Such a consumer environment will exacerbate some latent conflicts between producers and consumers, and it will be marketing's role to mediate these conflicts.

The very nature of network organization, the kinds of theories useful to its understanding, and the potential impact on the organization of consumption all suggest that a paradigm shift for marketing may not be far over the horizon.

Appendix

From Hierarchy to Networks in the Military

The hierarchical line-and-staff business organization owes its genesis to the elaborate control and planning systems developed by the military to manage the largest organized operation in human history, the Second World War. Today, even this bastion of hierarchy is crumbling in the face of the power of information-based networks. The following is the scenario of what future Marine operations may look like, some of which were tested in a recent exercise in California called "Urban Warrior."

The Marines burst from their landing craft, M-16s held high, vests stuffed with ammunition, and a computer the size of a spread hand strapped to their chests. The computer screen pops open like a foldout tray. It directly connects

each Marine by satellite to the entire Marine Corps and supporting units. On a color map, it shows each Marine where he or she is and where his or her buddies are. When they move, their respective dots move with them. Soon, the Marine will be able to plug laser range finders or a digital camera with cross-hairs into the network. If a Marine locates an enemy target, it is immediately visible to everyone—fellow Marines in the field and in the command room, the pilots in the attack jets overhead, the artillery gunners and tacticians manning the precision missiles aboard naval ships over the horizon. These data could be enhanced with information from robots in the field and tiny, almost invisible, unmanned aircraft. Back in the command center, computers integrate all these reports in a three-dimensional picture of the battlefield.

This is command, control, and execution in real time. It makes every soldier in the field a commander ("the strategic corporal") and gives every general a God's-eye view of the battlefield. It will give the Marines unprecedented flexibility, adaptability, and speed of response. It will make redundant the many layers of the traditional military hierarchy, from lieutenants to colonels, and transform it into a reflexive, self-organizing human network that can metamorphose on the fly.

Although the new network structures are technology-laden systems, planners realize that the key elements to their success are the teams and informal human networks that operate the technology. Human networks are bound together by patterns of trust. Mafias, sororities, and military platoons all demonstrate predictable patterns of trust, sometimes almost a religious fervor, guiding what they do and how.

(Garreau 1999)

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