A cataclysmic shift, driven by a revolution in technology, is under way in the world of work. Organizations modeled on industrial-age assumptions of control, hierarchy, and clocklike regularity are being eclipsed by flat, networked organizations that change shape and direction faster than ever before. Both organizations and their leaders face a steep learning curve in trying to adapt to this groundswell of change.

To get a sense of how steep the learning curve is, consider the following projections from Forrester Research:

• Worldwide sales of goods and services over the Internet will top $6.8 trillion in 2004. Business-to-business sales will account for $6.3 trillion of that.
• The bulk of U.S. business-to-business trade in 2004—$1.4 trillion worth—will be conducted through electronic marketplaces, and nearly half of e-marketplace trade will be done through pricing venues such as auctions, bids, and exchanges.
• As companies hook into e-marketplaces and adopt more dynamic business practices, existing supply chain relationships will be blown apart.
• On-line retail sales in the United States will surpass $450 billion annually by 2004, with 70 million households on-line and 55 million having shopped on-line.

So the electronic handwriting is on the wall for organizations. U.S. commerce secretary William M. Daley acknowledged as much at midyear when he said the digital economy “has become the driving force of the American economy.” And a recent Federal Reserve Bank of New York study found that the business-to-business boom will increase efficiency and productivity and decrease labor costs for companies that successfully tap into it. Those that don’t will be at a disadvantage and in danger of being left in the dust on the information highway.

With change occurring at such a rapid pace, can the leaders of today, in the midst of a technological revolution, rely on the same skills and tools and follow the same maxims that were effective during the agricultural and industrial revolutions?

In this article, we will look at the radically different landscape of the networked economy and...
some approaches leaders can take to help their organizations succeed in this new environment.

The Changing Context of Leadership
Throughout history, societies have organized around the tools available. The invention of the plow about 7,000 years ago, for instance, vastly increased the productivity of land and hastened the transition to an agrarian way of life. Similarly, the invention of the steam engine in 1769 sparked the move away from an agriculture-centered society and toward the mechanized factory system of the industrial revolution, which dramatically altered the economic and social structures. The technology explosion currently under way—at a pace that dwarfs that of the industrial revolution—has introduced a new set of tools that redefine leadership and dictate a need to organize work in entirely new ways.

Principal among these tools is the Internet. In the industrial economy the prevailing view has been that businesses are like machines, with various gears, pistons, and moving parts that function together precisely and without variation toward a clearly defined product or goal. Now, in the networked economy, that view is rapidly shifting toward what could be called a biological or ecological perspective, of businesses as living, breathing entities that have the resilience and tenacity to adapt quickly to circumstances. This changing context means that leaders must begin to think and act in different ways.

Perspectives at Opposite Poles
A mechanistic perspective makes the following assumptions about organizations and their leaders:

• Organizations are composed of distinct parts or functions, and the job of each individual in the organization is a clearly defined cluster of tasks. The leader’s role is to keep the organization running like a well-oiled machine, making sure that the functions, tasks, and people all fit together and do their parts.
• Boundaries between the organization and its surrounding environment are clearly defined and closed, and boundaries within the organization are rigid. In this environment, individuals are able to stake out turf based on their allotted roles and relationships.

• The strategy of the organization itself is to stake out its own turf in a monolithic attempt to capture and increase market share, thinking only in terms of its own profitability. Any expertise and advantages gained are jealously guarded by the organization.
• The organization is static and stable. In 1984, the average product development cycle was three years. Employees assumed that if they performed well and were loyal to the organization they would keep their jobs for life.

The Web is a metaphor for what organizations strive to be in the networked economy.
customers outside the traditional organizational boundaries through the Internet. (Ironically, howev-
er, many organizations are miring themselves in the past by becoming embroiled in internal turf wars regarding the Web. Functional departments such as information technology, communications, and mar-
ketin are trying to gain control over a realm that is inherently uncontrollable and unbounded.)

- The strategy of the organization is Web-centric, which means more than just having a Web site. It
means building core business processes on-line and creating extended networks—of customers, suppli-
cers, partners, and even competitors—that span geographical distance and industries. This results
in exponential returns created and shared by all members of the network.

Forrester Research calls these extended net-
works e-business networks, which are structures of interdependent players cooperating in real time
over the Internet. A recent poll of 280 e-business executives found that 53 percent of them planned

**E-business networks are**

**structures of interdependent players cooperating in real time over the Internet.**

to extend five or more core business processes—
such as ordering, account inquiries, inventory, and
logistics—to include customers or business partners. And nearly three-fourths of those who planned to
do so expected that these externalized business processes would be managed by a third party.

- Organizations are fluid and adaptable. By
1997, the average product development cycle had
dropped to six months, and that figure continues to
shrink. Recent college graduates can expect to change
jobs every three to seven years and to have three to
different careers in their lifetimes, so they must
continue to learn new skills and leave outmoded
roles behind. Some observers believe that as many
as half the jobs that will be in demand in 2010 don’t
even exist today.

**Packing In the Pecking Order**

Communication via a network is incompatible with
the notion of hierarchy. Hierarchies filter information
to keep the system orderly. They move it through
channels, where it’s edited, delayed, politicized,
and sometimes destroyed.

**Electronic leadership is hyperlinked rather than hierarchical.** Within and beyond an organiza-
tion, communities of practice can spawn that are
based on skills, personalities, knowledge bases, and
interests rather than on titles or functional roles.

One example is HoustonStreet Exchange, a
company that operates a Web site for on-line trading
of energy resources. One hundred people work for
HoustonStreet, but only forty of them are company
employees. The others are teams assigned by partner
firms such as the marketing provider and the infra-
structure provider. Thus the role of leadership has
shifted from controlling and managing discrete
resources to influencing loose networks of self-
interested people outside the organizational
boundaries. The degree to which this flattens and
circumvents traditional channels of communication
and information can be terrifying to conventional
managers, who place a premium on control.

**E-leadership can come from anywhere within a hyperlinked system.** Individuals no longer require
traditional forms of authority—such as position,
longevity, or expertise—to wield influence.
Everybody in the organization faces the same issues,
such as deciding when it is proper to sit back and
watch events transpire and when it is time to step
forward and say, “This train is about to wreck!”

Bruce Bonnevier, vice president of human
resources at Shipley, a fast-growing company that
provides materials to manufacturers of semiconduc-
tors and printed wiring boards, notes that much of
his coaching in the company involves building the
confidence of junior members in the organization—
and even of team members outside the organiza-
tion—to assume authority by taking a visible stance
on-line rather than just observing passively.

**The language of the Web is dialogue—**
authentic conversations in which people realize
that behind the technology are human beings.
E-leaders need to foster an atmosphere that promotes
such communication to achieve collective understand-
ing and keep people moving in the same direction.

An attention-getting Web site whose ideas
were transferred to a book published last year, *The
Cluetrain Manifesto: The End of Business as Usual,*
expounds on the emergence of networked markets
whose members share any and all knowledge at
light speed and in language that is genuinely human
and completely open. The authors take companies
to task for failing to latch onto this powerful new
style of communication and instead remaining stuck
in the homogenized, artificial, contrived language of mission statements and promotional brochures. They make the point that in today’s hyperlinked world, markets themselves are conversations and that employees and customers are organizing and becoming better informed faster than public relations departments could ever control.

Speed Is of the Essence

Speed is the most salient feature of the networked economy. Moore’s Law—which states that the data-holding capacity of microchips doubles every eighteen months—continues to drive the pace of innovation in computer hardware technology thirty-five years after it was first noticed by semiconductor pioneer and Intel co-founder Gordon Moore. Perhaps even more significant for the networked economy is Metcalfe’s Law—posited by 3Com founder Bob Metcalfe—which states that the value of a network is a function of the number of nodes connected to the network and that the value grows exponentially with each new node connected.

Customers are adopting products faster and dropping them just as quickly when those products are replaceable by new technology. In business-to-business transactions, deadlines for multimillion-dollar contracts are tracked to the minute. Sun Microsystems, when it was vying with America Online to buy Netscape Communications, was frustrated by AOL’s ability to stay a step ahead in the negotiations. Sun later learned that AOL was using instant messaging software to gain an edge. Sun now has a license to use this technology companywide.

The need for speed is redefining trust. Taking the time to develop trust through long-term relationships—with employees and customers, for instance—is a luxury that leaders in the Web-centric world can no longer afford. Now trust must be established at the outset. If it is not, it may be lost for good.

Planning—especially long-range planning—is rapidly becoming outdated. Even setting short-term scenarios is too time consuming in a Web-centric environment. The skills that today’s leaders need are the ability to pay attention, learn quickly, seek new opportunities, and adapt by making corrections in midcourse. Leaders need to make daily decisions based on what they know at the moment.

Leadership by Network

The Web is the tool that allows for connectivity, which occurs through the relationships that form between people, whether they are employees, customers, suppliers, partners, or competitors. In a Web-centric environment, teams form and re-form continuously. This fluid connectivity radically redefines leadership, so that the locus of leadership shifts from individuals to the network of relationships.

The focus of e-leadership is collective tasks and perspectives that move an organization in a particular direction.

Thus the human element of the changing landscape emerges as one of the most important factors in e-leadership. Grasping the technology itself is only a starting point; organizations that apply the tools of technology through human interaction will be the ones best able to leverage success.

In a Web-centric organization, leadership stems from the system. Just as no single computer controls the Web, no single individual is “in charge” of the organization. The focus of e-leadership is collective tasks and perspectives that move an organization in a particular direction, not individual characteristics or traits.

Rather than being based on one individual’s vision or charisma, e-leadership arises from a community of people that creates its own leaders.

Communication is critical to connectivity via relationships. In the networked economy, everyone is subjected to information overload. People need to be able to screen out what is important and what is not, so that a meaningful pattern can emerge to bind the organization together. Each piece of information is like a thread: by itself it is of little use, but combined with other information it takes on meaning and utility, like a woven fabric.

Traditional relationship skills—such as self-awareness, empathy, influencing, and collaboration—remain important in the context of e-leadership, but there is an added imperative of being able to form and re-form relationships that span time, distance, and other organizations, while always listening to the pulse of the customer.

An example of a company that is doing this is JetForm, which provides software that helps firms automate their business processes by transforming those activities into e-processes. JetForm is using Web-based seminars to draw in customers. “We’re
broadcasting to hundreds of potential customers all over the place, and we’re getting great results,” says Eric Stevens, vice president of research and technology evangelism. “We’re averaging three to five solid deals at the end of every seminar. They either immediately sign up for one of our conferences—where we do a lot of business—or they request a follow-up with a sales rep in their area. I think our customers have responded so positively because they can make a decision without having a sales rep hassling them or sitting across a table from them. They can listen and ask questions and proceed from there, without having to leave their desks.”

E-leadership requires fluency with a variety of communication technologies, ranging from the old-reliable telephone to e-mail and videoconferencing to whatever may emerge in the future. Knowing when to use which communication channel is critical.

Says Shipley’s Bonnevier: “You need to know when to change modes between text, voice, and face-to-face communication, and when to pick up the phone rather than send an e-mail. You need to know when the right leadership act is to watch the action unfold, when it’s time to intervene in some way, and which intervention will be the most effective. And you need to be able to make these decisions very quickly.”

The Transition to E-Leadership

We have seen how the shift from the industrial economy to the networked economy is causing fundamental changes in the concept of leadership and its practice. Despite the pace of change and the need to modify behaviors, however, it would be difficult for organizations to do a leadership U-turn, and it’s probably to the benefit of most that they don’t.

There are still times when a traditional approach to leadership is needed. A manager may need to issue a unilateral directive in the interest of a customer or to avoid a potential safety hazard, for instance. For now, at least, the key for organizations may be having the breadth to span both the old and the new perspectives on leadership and to operate in a way that is appropriate for each individual situation.

Here are some tasks that leaders face in the transition to an e-leadership perspective:

- Setting a strategic direction for the organization in the face of considerable ambiguity, without having all the facts at hand, and keeping in mind that the direction might need to be changed. Being clear about the core purpose of the business and creative about how to generate momentum toward that purpose. Enabling and participating in processes that generate profit, creativity, and energy, and putting a halt to those that don’t show promise.
- Gaining commitment from employees and maintaining or increasing the organization’s focus on the customer. Retaining employees and motivating them to be productive and innovative, even while acknowledging that their relationship to the organization is probably temporary. Finding ways to match individuals’ passions with the organization’s needs. Realizing that knowledge workers are motivated by building their professional reputations, by challenging projects that
broaden their skills and marketability, and by achieving a greater balance between their work and their personal lives.

- Realizing that most business challenges and problems faced today are too complex to be met or solved by one person or through simple analysis.

Traditional approaches to problems often not only fail to solve the problems but intensify them. In the networked environment there is a sense of complete novelty, of facing issues never faced before. One business leader put it this way: “We had a meeting yesterday and had to choose between three things without having a clue about which would win. It’s an all-new world, we’re doing things we’ve never done before, and it’s moving fast.”

**E-Leadership Best Practices**

E-leadership is a new territory, and there is little to go on in establishing how best to approach it. But there are a number of steps that organizations and leaders can take to help them understand and operate successfully in this brave new world:

- Become a master connector by networking within and beyond your organization.
- Use practical tools and symbolic gestures that signal a shift toward e-leadership. These can come in several areas:

  - **Personal knowledge and vision.** Take the time and make the effort to become technologically literate and to establish priorities in the organization’s strategy for the networked economy. To be successful, e-leaders must have an in-depth understanding of the Internet and must make it an integral part of carrying out their day-to-day managerial tasks. G. Richard Wagener Jr., president and CEO of General Motors, for instance, now spends about 25 percent of his time looking at e-business issues and strategies. In addition, top managers can demonstrate their commitment to new communication tools such as instant messaging and Web-based collaboration software by using the products themselves.

  - **Staffing.** Michael Dell, chairman and CEO of Dell Computer, hired a technical assistant to help him better understand the Web and to craft a Web-centric business strategy. Some companies have established baseline technology requirements for new employees.

  - **Budgeting.** Consider carving out funding for an e-business strategy or forming a separate venture-capital-backed company. Chevron, for instance, has funded internal projects to improve its own e-business operations and has set up a venture capital group to finance its work in independent petroleum industry marketplaces.

- Create an organizational culture that allows for both standardization and innovation. Without standardization, organizations can’t deploy automated tools or technologies. Without innovation, organizations will fall behind.

**What’s Next?**

The networked economy has become a complete, increasingly ubiquitous system, and it is not going away. In fact, it may be difficult for us to conceive of its ultimate size and scope. As it expands, the old, industrial economy perceptions of leadership become increasingly untenable and irrelevant. But the concept of e-leadership is still in its infancy and has a lot of evolving to do. The areas we have touched on here may be just scratching the surface of the ways in which leadership will be affected.

**Suggested Reading**


Mary Lynn Pulley is a senior program associate at CCL in Greensboro. She holds a doctorate in human and organizational development from Vanderbilt University and formerly was president of Linkages Workplace Consulting.

John McCarthy is group director, research, at Forrester Research in Cambridge, Massachusetts, where he spearheads the organization’s efforts to analyze government’s role in the development of the Internet economy and the impact of technology on government administration and electoral politics. He holds a B.A. degree from Connecticut College.

Sylvester Taylor is director of technology innovation projects at CCL in Greensboro. Previously, he was leader of the center’s information technology group for six years. He holds a B.S. degree from the University of North Carolina at Chapel Hill.