Looking Ahead: Implications of the Present

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Paul Saffo, Peter M. Senge

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LOOKING AHEAD: IMPLICATIONS OF THE PRESENT

PETER F. DRUCKER CLAIMS TO have made his last prediction late in 1929 when he forecast a quick recovery for the stock market, thereby inoculating himself against the folly of making further predictions. Nevertheless, the instinct to look ahead is profoundly human. We, the editors of the *Harvard Business Review*, have thus chosen the occasion of the magazine's seventy-fifth anniversary to ask five powerful thinkers and observers of our world – including Drucker – to tell us what problems and challenges they see *already taking shape* for executives as they move into the next century.

What is perhaps most interesting about their comments is how each thinker, in his or her own way, has identified challenges that are not so much technical or rational as they are cultural: how to lead the organi-

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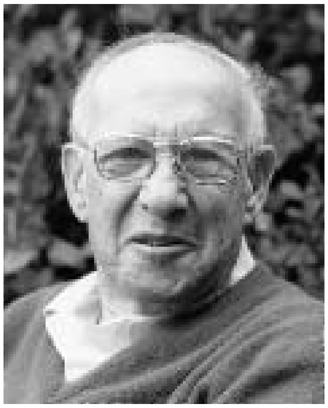
zations that create and nurture knowledge; how to know when to set our machines aside and rely on instinct and judgment; how to live in a world in which companies have ever increasing visibility; and how to maintain, as individuals and organizations, our ability to learn. The continuing challenge for executives, their collective observations suggest, is not technology, but the art of human – and humane – management.

For this look ahead, HBR spoke with Drucker – a teacher, consultant, and writer for several generations of managers – who for more than 60 years has combined his ability to look systemically at the science of management with his keen insight into the human condition; Esther Dyson, publisher of the newsletter *Release 1.0* and widely acknowledged since the beginning of the personal computer revolution as one of the most insightful technology analysts; Charles Handy, once an oil company executive and now a social philosopher and prolific writer who, as the *New Statesman* recently put it, "struggles to reconcile the ideals of his Christian humanism with the dirty, practical stuff with which businessmen and women have to deal"; Paul Saffo, a director of the Institute for the Future in California; and Peter M. Senge, a lecturer and pioneer in organizational learning at the Massachusetts Institute of Technology, who was recently named chairman of the new Society for Organizational Learning.

The Future That Has Already Happened

by Peter F. Drucker



In human affairs – political, social, economic, or business – it is pointless to try to predict the future, let alone attempt to look ahead 75 years. But it is possible – and fruitful – to identify major events that have already happened, irrevocably, and that will have predictable effects in the next decade or two. It is possible, in other words, to identify and prepare for the future *that has already happened.*

The dominant factor for business in the next two decades – absent war, pestilence, or collision with a comet – is not going to be economics or technology. It will be demographics. The key factor for business will not be the *over*population of the world, which we have been warned of these last 40 years. It will be the increasing *under*population of the developed countries – Japan and the nations of Europe and North America.

The developed world is in the process of committing collective suicide. Its citizens are not having enough babies to reproduce themselves, and the cause is quite clear: its younger people are no longer able to bear the increasing burden of supporting a growing population of older nonworking people. They can offset that rising burden only by cutting back at the other end of the dependence spectrum, which means having fewer or no children.

Only in the United States is the number of births – 2.4 or so per woman – enough barely to maintain the current population; but even in the United States, the birthrate of the native-born population is far below the overall reproduction rate. In southern Europe – Greece, Italy, Portugal, Spain – the birthrate hovers just above 1. By no coincidence, those countries have the earliest retirement ages and the highest retirement benefits. In Germany and Japan, the figure is 1.5. In those six countries, the populations are already past their peak and are declining. The U.S. population also would decline, but for the massive immigration from south of the U.S. border and from Asia.

Specifically, the official forecast of the European Union is for a drop in Italy's population from what is currently around 60 million to fewer than 40 million in 50 years and to below 20 million in 100 years. Statisticians for the Japanese government predict a drop in their country's population from the present 125 million to 55 million – a 56% drop – within the twenty-first century. Perhaps even more important, the mix between younger people of prime working age and older people in all those countries, including the United States, will deteriorate about twice as fast as the drop in population. Of course, birthrates may go up again, although so far there is not the slightest sign of a new baby boom in any developed country. But even if birthrates jumped up overnight to the three-plus figure of the U.S. baby boom that began 50 years ago, it would take 25 years before those new babies would become fully educated and productive adults. For the next 25 years, in other words, the underpopulation of the developed countries is an accomplished fact and has the following implications for their societies and economies:

- Actual retirement age – the age at which people stop working – will go up in all the developed countries to 75 for healthy people, who are the great majority. That rise in retirement age will occur well before the year 2010.
- Economic growth can no longer come either from putting more people to work – that is, from more resource input, as much of it has come in the past – or from an increase in consumers' demands. It can come only from a very sharp and continuing increase in the productivity of the one resource in which the developed countries still have a competitive edge (and which they are likely to maintain for a few more decades): knowledge work and knowledge workers.
- There will be no single dominant world-economic power, because no developed country has the popu-

The countries of the developed world are in the process of committing collective suicide.

lation base to support such a role. There can be no long-term competitive advantage for any country, industry, or company, because neither money nor technology can for any length of time offset the growing imbalances in labor resources. The training methodologies developed during the two world wars – mostly in the United States – now make it possible to raise the productivity of a preindustrial and unskilled manual-labor force to world-class levels in virtually no time, as Korea demonstrated 30 years ago and Thailand is demonstrating now. Technology – brand-new technology – is available, as a rule, quite cheaply on the open market.

The only comparative advantage of the developed countries is in the supply of knowledge workers. It is not a qualitative advantage: the educated people in the emerging countries are every whit as knowledgeable as their counterparts in the developed world. But quantitatively, the developed countries have an enormous lead. The number of college and university students in all of China, which has a population of 1.25 billion, is no more than 3 million. Compare that figure with the 12.5 million students in the United States, which has one-fifth of China's population. To convert this quantitative lead into a qualitative lead is one – and perhaps the only – way for the developed countries to maintain their competitive position in the world economy. This means continual, systematic work on the productivity of knowledge and knowledge workers, which is still neglected and abysmally low.

Knowledge is different from all other kinds of resources. It constantly makes itself obsolete, with the result that today's advanced knowledge is tomorrow's ignorance. And the knowledge that matters is subject to rapid and abrupt shifts – from pharmacology to genetics in the health care industry, for example, and from PCs to the Internet in the computer industry.

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The productivity of knowledge and knowledge workers will not be the only competitive factor in the world economy. It is, however, likely to become the decisive factor, at least for most industries in the developed countries. The likelihood that this prediction will come true holds implications for businesses as well as for executives.

The first – and overarching – implication is that the world economy will continue to be highly turbulent and highly competitive, prone to abrupt shifts as both the nature and the content of relevant knowledge continually change.

The information needs of businesses and of executives are likely to change rapidly. We have concentrated these past years on improving traditional information, which is almost exclusively information about what goes on *inside* an organization. Accounting – the traditional information system and the one on which most executives still depend – records what happens within the company. All recent changes and improvements in accounting – such as activity-based costing, the executive scorecard, and economic value analysis – still aim at providing better information about events inside the company. The data produced by most new information systems also have that purpose. In fact, approximately 90% or more of the information any organization collects is about inside events. Increasingly, a winning strategy will require information about events and conditions *outside* the institution: noncustomers, technologies other than those currently used by the company and its present competitors, markets not currently served, and so on. Only with this information can a business decide how to allocate its knowledge resources in order to produce the highest yield. Only with such information can a business also prepare for new changes and challenges arising from sudden shifts in the world economy and in the nature and content of knowledge itself. The development of rigorous methods for gathering and analyzing outside information will increasingly become a major challenge for businesses and for information experts.

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Knowledge makes resources mobile. Knowledge workers, unlike manufacturing workers, own the means of production: they carry their knowledge in their heads and therefore can take it with them. At the same time, the knowledge needs of organizations are likely to change continually. As a result, in the developed countries more and more of the critical workforce – and the most highly paid part of it – will increasingly consist of people who cannot be "managed" in the traditional sense of the word. In many cases, they will not even be employees of the organizations for which they work, but rather contractors, experts, consultants, part-timers, joint-venture partners, and so on. An increasing number of these people will identify themselves by their own knowledge rather than by the organizations that pay them.

Implicit in that new workforce mobility is a change in the very meaning of the word *organization.* For more than a century – from J.P. Morgan and John D. Rockefeller in the United States, Georg Siemens in Germany, Henri Fayol in France, through Alfred Sloan at GM, and up to the present infatuation with teams – we have been searching for the one "right" organization for our companies. There can no longer be any such thing. There will only be "organizations" – as different from one another as a petroleum refinery, a cathedral, and a suburban bungalow are from one another, even though all three are "buildings." Every organization in the developed countries (and not only businesses) will have to be designed for a specific task, time, and place (or culture).

There also are implications for the art and science of management. Management will increasingly extend beyond business enterprises, where it originated some 125 years ago as an attempt to organize the production of *things.* The most important area for developing new concepts, methods, and practices will be in the management of society's *knowledge resources* – specifically, education and health care, both of which are today over-administered and undermanaged.

Predictions? Not at all. Those are solely the reasonable implications for a future *that has already happened.*

Mirror, Mirror on the Wall

by Esther Dyson

Managers have been thinking a great deal about the many opportunities the Internet offers. But they also will have to engage in a fundamental mind shift to live successfully in a networked world. Simply put, executives and their organizations will have to learn to live with increased visibility and, perhaps even more scary, a loss of control over corporate image.

Companies have always tried with varying degrees of success to control how they are perceived by the outside world; witness the profusion of public relations, investor relations, corporate relations, and other "relations" people. Their task will become even tougher. While the Internet allows companies to talk directly with their customers without the aid of distribution channels and mass advertising or the mediation of the press, it also allows outsiders to reach one another and talk about companies among themselves without going through those same intermediaries.

In the networked world, you cannot – and cannot expect to – control your company's image; the best you can do is influence it. Anything and everything about a company can be known – every slipup, every policy, every practice. You can't control what people say about your company. On the Internet, they'll say anything they like, which may be a mixture of fact, fiction, and opinion. Living with this transparency requires executives to change their thinking fundamentally: they have to learn that their company is what people see it to be and that they must figure out how to turn that visibility to their advantage.

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Consider what is already happening on-line. Already appearing on the Internet are corporate "fan" sites – and also anti-fan sites – run by individuals who are neither employed nor managed by the company. Instinctively, some companies are going after those rogue sites, most often by suing them for copyright or trademark violations. Retaliation is the wrong tack, except in the most egregious cases. It is far better to acknowledge that you can't have a firm hold on everything created in your image. Fan sites can be a company's best advertisers. Isn't it better to work *with* their creators to influence their activities? And isn't answering people's legitimate or even unjustified complaints a better practice than just trying to silence them?

When so much about you is known or knowable, candor is the best way to earn credibility. Roman Stanek, an executive at Sybase, did just that at a conference I recently ran in Europe. To a gathering of computer- and software-company executives (including some from archcompetitor Oracle), he spoke frankly about his company's recent performance in Eastern Europe. He said, in essence, Our customers know we screwed up, our competitors know we screwed up, and we want you to understand that *we* know we screwed up. Let me explain to you the measures we're taking to fix the situation. Stanek's honesty won him a lot of points that day with listeners, who had been prepared to hear – and dismiss – the usual corporate public-relations speech.

Furthermore, because people can communicate so freely on the Internet, how you deal with your employees will be just as visible as how you deal with customers. Theoretically, you could enforce a policy of reading every electronic message your employees send out over their corporate PCs. It is perfectly legitimate to do so, provided you disclose the practice to your employees. But how could you hope to attract and retain talented people with such policies? And besides, whom would you trust to read all those messages?

In other words, in a company's relations with customers and employees, the boundaries of what can be held private are narrowing. The world can easily see organizations for what they are, not for what they pretend to be. For executives, this involuntary feedback, like seeing themselves in a mirror, may at first be uncomfortable, but it is inevitable – and it might even prove useful. Those companies and business leaders who will succeed in the years ahead will learn to respond to feedback rather than crush it, and they will become adept at influencing what they can no longer control.

The Citizen Corporation

by Charles Handy

"Language is the dress of thought," said Samuel Johnson 200 years ago. The way we talk colors the way we think, and the way we think shapes the way we act. We are the unconscious prisoners of our language. While most of the time this constraint matters little, at times of momentous change in culture or society, our use of old words to describe new things can hide the emerging future from our eyes.

The old language of property and ownership no longer serves us in modern society because it no longer describes what a company really is. The old language suggests the wrong priorities, leads to inappropriate policies, and screens out new possibilities. The idea of a corporation as the property of the current holders of its shares is confusing because it does not make clear where power lies. As such, the notion is an affront to natural justice because it gives inadequate recognition to the people who work in the corporation and who are, increasingly, its principal assets. To talk of owning other people, as shareholders implicitly do, might even be considered immoral. Moreover, the language of property and ownership is an insult to democracy. One of the great paradoxes of our time is that it is totalitarian, centrally planned organizations, owned by outsiders, that are providing the material wherewithal of the great democracies. Free people do not relish

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being the instruments of others. The best of them will, increasingly, either refuse to join such institutions or demand a high price for the sacrifice of their rights.

We need a new language to release our thinking, and I suggest that it be the language of polity. A public corporation should now be regarded not as a piece of property but as a community – although a community created by common purpose rather than by common place. No one owns a community.

The old language of property and ownership is an insult to democracy.

Communities, as democracies know them, have constitutions that recognize the rights of their different constituencies and that lay down the methods of governance. The core members of communities are more properly regarded as citizens rather than as employees or "human resources" – citizens with responsibilities as well as rights. Even where organizational entities such as the Internet have already taken on new forms – which may be models for the future – we lack the language to describe them. No one "owns" the Internet. It is indeed a community of common purpose, which serves its constituencies and is supported by them.

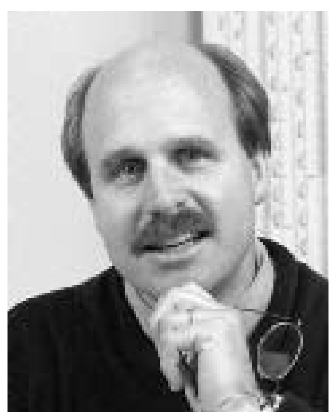
The corporation is changing, but it is still spoken of as if it were a licensed, self-appointed oligopoly, dominated, in the Anglo-Saxon world, by the pressures of the stock market. Yet the research on long-lasting and successful organizations (see "The Living Company," by Arie de Geus, HBR March-April 1997) suggests that what enables a corporation to succeed in the longer term is a wish for immortality, or at least a long life; a consistent set of values based on an awareness of the organization's own identity; a willingness to change; and a passionate concern for developing the capacity and self-confidence of its core inhabitants, whom the company values more than its physical assets. I suggest that those conditions are best met when organizations live up to the literal meaning of the word *company* – "the sharing of bread" – and regard themselves as communities, not property.

What difference would it make if we were to regard corporations as communities, as sovereign states within states? The key difference is that a community is something to which one belongs, while it, in turn, belongs to no one. This inversion of the property concept has implications for the way in which the community is governed. It requires a clearer definition of the bond between individual and organization – something that could be called the *citizen contract* – as well as of the relationships with the other stakeholders, particularly the providers of capital, who must receive their due rewards. Last, the culture and the purpose of the community have to pervade the organization.

In time, a new theory of the corporation will develop. Profits are the lifeblood of any business, but life consists of more than keeping the blood flowing; otherwise, it would not be worth living. As more corporations realize this truth, they will become increasingly interested in enriching the lives of the people who work in them. In time, the laws governing corporations will change to reflect the new reality. First, however, we need a language to explain this new theory – a language of community and citizenship, not of property. As Ludwig Wittgenstein said, "Words enable deeds."

Are You Machine Wise?

by Paul Saffo



"Are you machine wise?" The question stares out at me from an ad pitching mimeograph machines in the issue of the *Literary Digest* dated June 11, 1927. Its unknown author answers the question with a comforting certainty that the "machine wise" will buy the mimeograph, trusting as a matter of faith that it will perform important new work in the service of lower operating costs and increased efficiency.

Naturally, computer and software companies are making the same pitch today: Buy our machines to improve your business. But today's and tomorrow's machine-wise managers will be wary of that claim, because the nature of the machine and the challenge has changed.

In 1927, the challenge was to reduce the labor cost of collecting and disseminating information. Freed from the drudgery of manual reproduction, human clerks could be assigned to higher-value tasks. Tools were simpler then, and their benefits were more obvious.

Seventy years later, the challenge is very different. Machine use is essential but not sufficient. As our tools become ever more complex and interconnected and more central to the conduct of business, their benefits also become harder to recognize. Furthermore, executives need to know and understand the logic of the work done by machines – and, above all else, the limits beyond which those tools cannot be pushed.

Meanwhile, the volume of information continues to expand exponentially, generated by machines conversing with other machines on our behalf. Every business activity leaves behind a wake of information, from data spinning off production-line process controllers to transaction records generated over retail-credit-card networks. And the growing centrality of the Internet for business purposes will only add to the flood.

All our innovations have left us afloat in a growing sea of information, which we must navigate with tools that are far from being up to the task. We don't even fully appreciate our predicament, wrongly labeling it "information overload" when it is not a consequence of the amount of information confronting us but rather of the gap between the volume of information and the effectiveness of the sense-making tools that technology has built for us.

Better tools can narrow the gap. In the next decade, the most important new sense-making tools will be those that help people visualize and simulate. Visualization techniques reduce vast and obscure pools of data into easily comprehended images. And simulation systems will become intellectual training wheels for executives, allowing them to experiment with strategies in the forgiving world of cyberspace, in much the same way that pilots in the Gulf War ran practice missions before flying the real thing.

The gap can be narrowed, but the machine wise also know that it can never be closed, for the very tools we use for sense making generate even more information of their own. Information breeds yet more information, and information tools are formidable breeders.

If we are not careful, we will chase our new tools, Alice-like, down a digital rabbit hole of infinite information regress, and here is how it may happen. The temptation, as simulation and other sense-making tools become more sophisticated, will be to substitute them for human judgment. That would be a mistake.

Today's machine-wise executives will know when to switch off their computers and take their own counsel.

Seven decades ago, machine-wise managers could embrace nearly any information technology, such as the mimeograph, with the faith that it would help them collect and disseminate information – the more information the better – and thus improve their businesses. Today machine-wise executives will not only know when and how to use the new tools technology brings them but also when to switch off their computers and take their own counsel.

Communities of Leaders and Learners

by Peter M. Senge

Almost everyone agrees that the command-and-control corporate model will not carry us into the twenty-first century. In a world of increasing interdependence and rapid change, it is no longer possible to figure it out from the top. Nor, as today's CEOs keep discovering, is it possible to *command* people to make the profound systemic changes needed to transform industrial-age institutions for the next business era. Increasingly, successful organizations are building competitive advantage through less controlling and more learning – that is, through continually creating and sharing new knowledge. The implications this change will have for the theory and practice of management are impossible for us to overestimate. But, we can start by rethinking our most basic concepts of leadership and learning.

Leadership first. In the knowledge era, we will finally have to surrender the myth of leaders as isolated heroes commanding their organizations from on high. Top-down directives, even when they are implemented, reinforce an environment of fear, distrust, and internal competitiveness that reduces collaboration and cooperation. They foster compliance instead of commitment, yet only genuine commitment can bring about the courage, imagination, patience, and perseverance necessary in a knowledge-creating organization. For those reasons, leadership in the future will be distributed among diverse individuals and teams who share responsibility for creating the organization's future.

We will finally have to surrender the myth of leaders as isolated heroes.

Building a *community* of leaders within an organization requires recognizing and developing

- local line leaders, managers with significant bottom-line responsibility, such as business unit managers, who introduce, and implement new ideas;
- executive leaders, top-level managers who mentor local line leaders and become their "thinking partners," who steward cultural change through shifts in their own behavior and that of top-level teams, and who use their authority to invest in new knowledge infrastructures, such as learning laboratories; and
- internal networkers, people, often with no formal authority, such as internal consultants or human resources professionals and frontline workers, who move about the organization spreading and fostering commitment to new ideas and practices.

In knowledge-creating organizations, these three types of leaders absolutely rely on one another. None alone can create an environment that ensures continual innovation and diffusion of knowledge.

As for learning, after six years of collaborative experimentation as part of the MIT Organizational Learning Center (OLC), companies such as Ford, Shell Oil, Harley-Davidson, Hewlett-Packard, Chrysler, EDS, FedEx, and Intel are finding that enduring institutional learning arises only from three interrelated activities:

research, the disciplined pursuit of discovery and understanding that leads to generalizable theory and method;

capacity building, the enhancement of people's capabilities and knowledge to achieve results in line with their deepest personal and professional aspirations; and

practice, the stuff that happens in organizations every day – people working together to achieve practical outcomes and building practical know-how in the process.

Today the knowledge-creating process has become deeply fragmented. The three core activities are typically carried out by specialized, disconnected, often antagonistic institutions: universities, consulting firms, and businesses. Too often, the results are ivory-tower research that is rarely applied, consulting projects that offer recommendations for solving problems but rarely build people's ability to stop creating the problems in the first place, and nonstop fire fighting as managers carom from crisis to crisis.

The deep systemic problems that afflict our institutions and society are not likely to be remedied until we rediscover what has been lost in this age of specialization: the ability to honor and integrate theory, personal development, and practical results. In fact, the former corporate members of the OLC, along with MIT, have re-formed as the Society for Organizational Learning to do just that.

In a sense, such a change involves returning to an older model of community: traditional societies that gave equal respect to elders for their wisdom; teachers for their ability to help people grow; and warriors, weavers, and growers for their life skills.

Poised at the millennium, we confront two critical challenges: how to address deep problems for which hierarchical leadership alone is insufficient and how to harness the intelligence and spirit of people at all levels of an organization to continually build and share knowledge. Our responses may lead us, ironically, to a future based on more ancient – and more natural – ways of organizing: communities of diverse and effective leaders who empower their organizations to learn with head, heart, and hand.

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