

Book Reviews

The key element in determining whether information technology will enhance or diminish the quality of life for American citizens between now and the turn of the century is human volition. The technology has the capacity to either further concentrate power and control or to increase the accountability of political elites and decentralize social responsibility.

The most critical factor in determining the application of information technology is the industry itself. As Clement Bezold and Robert Olson, two political scientists whose Institute for Alternative Futures (Alexandria, Virginia) released a new Information Industry Association (IIA) report, put it, "We are responsible for the outcomes." They correctly identify the challenge as "to lead change rather than follow it."

This report is to the information industry what the album "We Are the World" was for the entertainment industry—a great number of the industry's brightest stars turning out to sing a chorus or two on behalf of humankind. IIA members participated in the construction of the report at workshops held during the four IIA meetings in 1986, and a number of members reviewed early drafts.

The organizations and companies most critical to this common effort were



Dun & Bradstreet, Dataquest, Pacific Telesis, Link Resources, and the Congressional Office of Technology Assessment. The report is the first product

of a strategic planning process developed by the IIA in cooperation with the Institute for Alternative Futures.

It is organized in five chapters, starting with a forecast of technological capabilities in the year 2000, then considering the information marketplace and social impacts of potential changes. A chapter on information policy is further broken down into privacy, the role of government, intellectual property rights, and the question of information literacy.

Finally, the report concludes with four alternative futures, ranging from what can best be described as the "We All Become California Yuppies" scenario all the way down to the "We All Become Blacks in South Africa" scenario. An appendix dealing with the problem of defining and placing boundaries on the information industry is very useful for any researcher grappling with this problem.

What's ahead

The foundation of this project is technological forecast. We are witnessing a phenomenal rate of progress in information processing and storage that the authors believe will continue through the end of the century. There is nothing else in the economy that even comes close to the rapidity of change in the information industry.

As Norman Augustine, president of Martin Marietta puts it, if automobiles had increased in performance by 20 to 50 percent a year for the last 20 years and their price and size had declined at the same rate, "there would be two-cent cars measuring a quarter inch on a side, and no parking problems." In fact the cost of computing power has been declining by 20 percent a year for mainframes and 50 percent a year for micros. The cost of semiconductor memory has been falling by 35 percent a year.

Potential breakthroughs are also identified along with conservative extrapolative projections in the areas of microelectronics, computer processing power, software, storage, artificial intelligence, telecommunications, input/output devices, and systems integration. According to the report, the circuit complexity of today's large mainframes will fit into a single chip computer the size of a book or credit card by the millennium. Potential breakthroughs in neural networks (circuitry that replicates the way neurons and synapses operate in the human brain), optoelectronics, or integrated circuits made of new materials (such as gallium arsenide or molybdenum) could bring an order of magnitude increase in computing power beyond that.

As a hedge against "complex and unpredictable patterns of technology competition," the report advises information content-oriented companies to follow a strategy of media independence. That is extremely good counsel. If intelligent networks evolve in a competitive environment (the report calls planning for the all-digital Integrated Services Digital Network "the most comprehensive attempt at international technical cooperation in human history"),

you will not want to have bet the farm on CD-ROM.

In the information products market, the report reveals continued dominance by the business sector, growing at twice the rate of GNP, while the household sector grows at the same rate as GNP.

The consideration of information policy is straightforward. Those issues have been identified by IIA members as "most important for the future." Privacy is the greatest concern to people not affiliated with the industry. In a poll done by Louis Harris, more than 75 percent of the public say they are "very" or "somewhat" concerned about threats to their personal privacy and security. Thus the home market for online services, as so many people have proved, is a tough nut to crack.

Value choices

On the principle that "attractive images of the future will be the driving forces for change," the report concludes with four scenarios. The most optimistic scenario makes your head spin with images of humankind transcending centuries of painful material progress. The most pessimistic scenario is positively obscene—AIDS infections reach 100 million people, local police departments have the kind of technology now available only to the federal intelligence agencies, and the Bell system is re-united.

Will information technology be guided by an industry that has broader sights than its own aggrandizement? The record is not good. Since World War II, we've built both transportation and communications systems that serve individual needs but that, collectively, none of us would have chosen. Think about that the next time you turn on your television set or sit in a traffic jam.

"The point is," say Bezold and Olson, "that what happens depends on what we do, not simply on the inexorable impacts of technology.... What happens will depend more on the larger context of value choices and actions by business and government than the technology itself."

Ultimately, I think, they are correct in believing that "attractive, coherent images" of the future exert upon the present a kind of "magnetic pull" towards the future, bringing themselves into existence. They quote European cultural historian Fred Polak to amplify this key insight: "The rise and fall of images of the future precedes or accompanies the rise and fall of cultures. The image of the future can act as a regulative mechanism which alternatively opens and shuts the dampers on the mighty blast furnace of culture. It not only indicates alternative choices and possibilities, but actively promotes certain choices and in effect puts them to work in determining the future. The task before us is to reawaken the almost dormant awareness of the future and to find the best nourishment for a starving social imagination." □

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Introduce Online Searching by Videotape

Going Online

An Introduction to the World of Online Information

A simple, clear, and concise introduction to online information

This new video provides an overall introduction to online information systems. GOING ONLINE presents an actual search. It looks at how information is stored and transmitted and how you can tap into this expanding world.

GOING ONLINE presents the novice with a good introduction to this exciting field.

- An idea of the strategy involved in going online and the power and complexity available in the online search process by seeing an actual search conducted.
- A basic understanding of the computer and telecommunications technology that make it all possible.
- A sense of the kinds of information that are available online.

Online information is expanding! Electronic mail, numeric, bibliographic, and fulltext databases are just some of the areas available. Going Online is efficient, informative, affordable, convenient, and exciting! GOING ONLINE takes away the mystery. It encourages the novice to get online...to experience the phenomenon...to join the online information world! Lists of sources covering online services, books, journals and newspapers, and front-end software are included. Cost: \$85 (includes postage and handling). The video may be viewed for 10 days at a cost of \$15 (non-refundable but applicable towards the purchase price). Available in VHS and Beta.



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