BOOKS & REPORTS

Competitive Advantage; Michael E. Porter
The Free Press, New York, NY, 557 pp., $23.95.

The author, a professor at the Harvard Business School and a member of the President's Commission on Industrial Competitiveness, picks up where his earlier Competitive Strategy left off. That book presented techniques for analyzing industries and competitors, while his new one shows how a firm can actually create and sustain a competitive advantage in its industry. Porter explains how managers can evaluate their competitive position and implement the specific actions necessary to improve it. He introduces the value chain and shows how managers of technical as well as other companies can use value-chain analysis to separate the underlying activities a firm performs which ultimately lead to competitive advantage—designing, producing, marketing, and servicing its product. Using value analysis Porter shows how, for example, to create competitive advantage through corporate strategy by harnessing interrelationships among related industries. (Japan's NEC Corporation, for example, has exploited interrelationships among its telecommunications, computer, electronic component, and consumer electronics businesses to become a world-class competitor against the likes of IBM, AT&T and Philips.)

Intrapreneuring;

This book is aimed at those who wish to innovate within an organization (or despite it) as well as those managers who would like to create an environment supportive of innovation and "intrapreneuring." Consultant Pinchot tells the would-be intrapreneur how to choose an idea, how to get it approved, where to find the money for it, and how to make the project succeed. Through such case histories as 3M's Post-it Notes, Intel's magnetic bubbles, and IBM's personal computer, he provides guidelines for building an intrapreneurial corporation—"the true Renaissance Corporation of the 1980s."

Managing Creative People;

Drawing upon extensive research, case studies and his own consulting experience, Prof. Savoia makes specific suggestions for: Hiring professionals (when using reference networks note that good performers tend to be members of social circles that have values and norms that elicit high performance); motivating professionals (very productive people need and seek diversity; deliberate steps should be taken to encourage and assign diverse tasks, including a number of projects, a mix of administrative and professional work, and a mix of functions); performance evaluation (treat the formal evaluation system as only one part of a comprehensive feedback system in which frequent, informal feedback sessions bear the brunt of the coaching and criticism effort); enhancing creativity (managers should assign tough deadlines but stay out of the operating details of a project; creative people resist closure because they may see new possibilities as the project unfolds). Managers will also learn how to cope with—and prevent—the problems of "technical obsolescence," "burnout," and "midcareer crisis" that can cut the productive life of the professional worker. (Savoia's chapter on creativity was digested in the March-April issue of Research Management, pp. 25-28.)

Who Owns Innovation? The Rights and Obligations of Employers and Employees; Robert A. Spanner; Dow Jones-Irwin, Homewood, IL, 149 pp., $27.50.

Silicon Valley attorney Spanner warns employers and employees alike that because courts have failed to provide consistent guidelines for proper conduct in the fast-growing area of trade secret law, technology companies and their employees increasingly risk the possibility of disastrously expensive lawsuits. He examines the conflicts that stem from the joint possession of valuable information, and gives corporate managers and employees step-by-step advice on how to preserve corporate information secrets and negotiate the legal minefields of trade secrets law. The book starts with an overview of trade secrets, followed by an analysis of their social and economic policy implications. An extensive section then details the types of information considered proprietary and lists the measures companies have employed to successfully keep them secret. The book also covers confidentiality and invention assignment agreements, as well as the severance of the employment relationship. There is a detailed index of topics and legal cases.

How To Keep Product Costs in Line; Nathan Gutman; Marcel Dekker Inc., New York, NY, 208 pp., $35.

This seventh volume in a series on cost engineering describes practical ways to reduce operating costs in manufacturing organizations. It offers an approach to cost analysis and introduces several techniques intended to help engineers and manufacturing managers identify high cost elements of a product. Several chapters deal exclusively with human relations.


Historian McMahon recounts the growth of the electrical engineering profession by following the careers of representative engineering figures like Charles Steinmetz, David Sarnoff and the educator Frederick Terman, and by examining pivotal events in the history of the American engineering societies and the collective profession. The history of the American Institute
The future isn't what it used to be.

There's no future in believing something can't be done. The future is in making it happen.

A company called TRW has built a business by asking people to tackle the impossible. TRW people created the first spacecraft to leave the solar system. Pioneer 10. We fit up to 100,000 electronic parts on a single computer chip. We built a financial and data service that handles 350,000 inquiries a day.

Along the way, there were those who knew all the reasons these things couldn't be done. Fortunately, there were those who knew enough not to listen.

Tomorrow is taking shape at a company called TRW.
AUSTIN, Tex.—With the skill and savvy that once made him Washington's consummate high technocrat, retired admiral Bobby Ray Inman has turned his talents from the classified to the proprietary. The man who managed this country's most sophisticated national security technologies—he ran the National Security Agency from 1977 to 1981 and served as deputy director of the CIA—has glided smoothly to the private sector, where he now bids to become the unofficial U.S. ambassador of innovation.

"Much to my surprise, I haven't needed to adapt my management style at all," said Inman, with a disarming deployment of his gap-toothed grin. "The management skills I've acquired through trial and painful error are serving me well here."

Inman is chairman and chief executive officer of MCC—the Microelectronics and Computer Technology Corp. research consortium—which presents itself as the American computer industry's response to Japan's highly publicized "Fifth Generation" computer challenge for global supremacy in the information-processing industry.

The creation of Control Data Corp. Chairman William C. Norris in 1982, MCC was seen as a new cooperative venture by American companies to achieve breakthroughs in areas of basic research crucial to the evolution of information technology. The idea was that member companies would finance establishment of the venture, undertake its research programs, and lend it some of their top scientists and engineers. Norris argued that a combined approach would prove more cost-effective than any one company's individual efforts in this risky and capital intensive industry.

In many respects, MCC is the forerunner and model of what may prove to be the next generation of industry research and development—a cooperative of companies that share first-level research and development efforts that later will become proprietary products. MCC has about 300 employees and an annual budget approaching $100 million but has not disclosed what is being spent on specific programs.

"Mid- and small-sized companies simply don't sustain long and broad-scaled research in an industry where the prospect for technological surprise is high," Inman said.

Inman, who had retired from public service in July 1982, was assiduously wooed by Norris and other MCC members. He formally came on board in January 1983.

A superb politician with an ability to implement an agenda, he surprised and annoyed many of the members of his board by consistently rejecting many of the researchers initially offered up by the member companies as simply not good enough.

Moreover, although MCC's seven research programs—which range from semiconductor packaging to new computer architectures to parallel processing—originally were supposed to be run by scientists from MCC member companies, it turns out that six of the seven are independent and highly re...
MCC Team ‘Right on Schedule’

Our shareholders now have uninhibited access to the development of new innovations in their programs," said Smidt. "And in 12 to 18 months I think we’ll see experimental uses and elements of our output in commercial use.

However, Inman concedes that MCC can succeed brilliantly as a research and development organization but ultimately fail in its mission if member companies are unwilling or unable to accommodate themselves to the flow of technologies that emerge from the consortium.

Indeed, Inman and Smidt agree that, with 21 major organizations participating, the odds are great that not all of them will prove adept at swiftly assimilating MCC technology. That could mean that four or five of the most aggressive corporations with a clear technology transfer plan reap the commercial benefits of the investments made by the other members. In essence, the slower companies effectively will have subsidized their competitors', advantage. That could lead to several companies choosing to drop out over the near term.

In other words, MCC’s very success could sow the seeds of discord. Inman says the consortium "could be visible with 14 or 15 members," but he hastens to add that he doesn’t expect more than two or three of the 21 companies to drop out over the near term.

Actually, Inman seems more intent on attracting and keeping key researchers than mollifying certain shareholder problems. "I’ve tried to give them the feeling that they’re the members of a club—an exclusive group, an elite group," far more so than a group of competitors. "We’re working with some of the top researchers in computer science and a reputation as an intellectually exciting place to work. That kind of reputation will attract talented people who are exploring futuristic forms of computer software that would immediately be capable of solving problems that computers today can’t solve,“ says Inman.

Inman unabashedly asserts that MCC is clearly a winner. "It’s the right on the schedule," said Inman. "It’s a threat to innovation, Inman says. "MCC’s senior vice president of plans and programs. "There’s more competition out there now. Revenue life cycles are down, product life cycles are down. That creates an inherent tension for MCC, Smidt concudes. As computer product life cycles shrink with the pace of technological change, finding out what constitutes useful long-range research becomes increasingly difficult. When done in "long range" research blurs into something with immediate commercial possibilities.

Inman and Smidt are leaving that up to the individual companies to decide.