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DIGITAL EQUIPMENT CORPORATION

A Prescription for Troubled I.B.M.

I.B.M.'s problems will worsen unless it takes strong medicine.

By JOHN MARKOFF

BY all accounts, the International Business Machines Corporation is in trouble. Drastic measures are now in order if it is to keep its dominance in computers. Some would even argue that the time has finally arrived for it to drop its stubborn preoccupation with the mainframe, maybe even spin off its minicomputers.

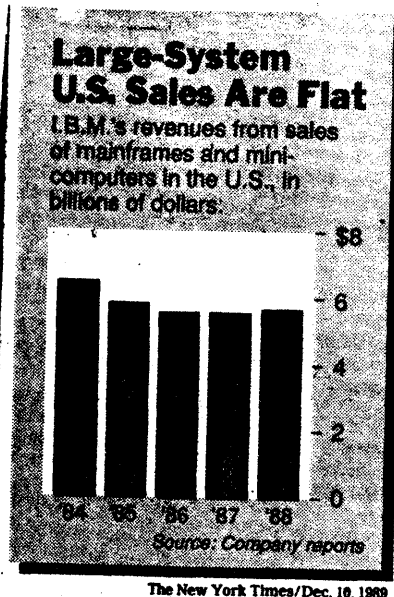
Its ailing condition has become an obsession on Wall Street. I.B.M.'s earnings have been sliding for several years, falling to \$5.8 billion last year, from \$6.58 billion in 1984. The stock, once the darling of Wall Street and a symbol of stability, has never recovered from the stock market crash of 1987. It closed Friday at 96%, down from a high of 175% just before the crash.

The company's efforts to reverse its fortunes have been greeted unenthusiastically. Just last week, I.B.M.'s chairman, John F. Akers, told a group of analysts that the company planned to induce 10,000 workers to leave the company, would take a \$2.3 billion special charge to improve the company's finances and would spend up to \$4 billion to buy back its stock. "We are fully prepared to take further actions if dictated by economic or business conditions," he said, suggesting that things could get worse.

When one I.B.M. watcher pointedly asked Mr. Akers if the company's senior management were not the real culprit for its financial malaise, the chief executive bristled. "I believe that a management team is measured by its ability to deal with the problems, and I believe we are identifying the problems and dealing with them," he shot back.

Many financial analysts called for far more draconian measures: staff cuts of 30,000, or even 50,000 employees, among other things.

But technology experts have come to their own disturbing consensus. At a time of increasing global competition that is driven by technological developments, I.B.M. has risked its long-term position, preoccupied with meeting Wall Street's demands for quarterly results. They think I.B.M. can preserve its standing as the nation's supreme high-tech company



Street's brand of cost-cutting. Here is one blueprint.

Stop Cutting Workers

First, I.B.M. should drop its "thousand cuts" strategy for gradually shrinking its work force in the United States. I.B.M. chose this path rather than a layoff strategy in an effort to preserve morale. But recently departing executives say the strategy has backfired. Some of the company's best and brightest employees have accepted the inducements, and left. And many workers who remain are paralyzed by fear that voluntary actions might eventually be replaced by the involuntary cuts.

Rather than relying on random and voluntary resignations, I.B.M. would be smarter to slim down rationally, by spinning off unpromising product lines, like minicomputers.

Minimize the Mainframe

I.B.M. should confront the reality that the era of mainframe computing is ending. Less expensive desktop computers may not eliminate mainframes any time soon, but they are dramatically slowing their growth. The expanded horsepower of microprocessors has enabled personal computers and work stations to handle applications from payroll processing to exotic document processing that were once possible only with mainframes. The company, there-

fore, would be smart to embrace the philosophy proposed several years ago by John Sculley, the chairman of Apple Computer Inc., who says he

Spin Off the Mini

The company should spin off its AS/400 line and other minicomputer systems. Like mainframes, minicomputers are a dying breed, highly vulnerable to the cheap processing power of personal computers and work stations. But unlike the mainframe, which will continue to serve a vital role as a speedy librarian handling data storage and special tasks, minicomputers are headed for extinction. In fact, jettisoning the product line could slash more than \$4 billion in expenses for the company without any loss in growth.

Take the AS/400 line. When introduced in 1988, the line enjoyed initial success by encouraging I.B.M.'s existing minicomputer customers to upgrade, but the business is now exhausted. And the introduction of ever more powerful new desktop computers will mean increasingly rough sledding for the line in the 1990's.

Stress the Desktop

Instead, I.B.M. should shore up its weaknesses in faster-growing segments of the business, like desktop computing. The computer maker took an important step in the desktop direction earlier this year, when it put James Cannavino, an esteemed veteran of the mainframe division, in charge of both personal computer and work-station development.

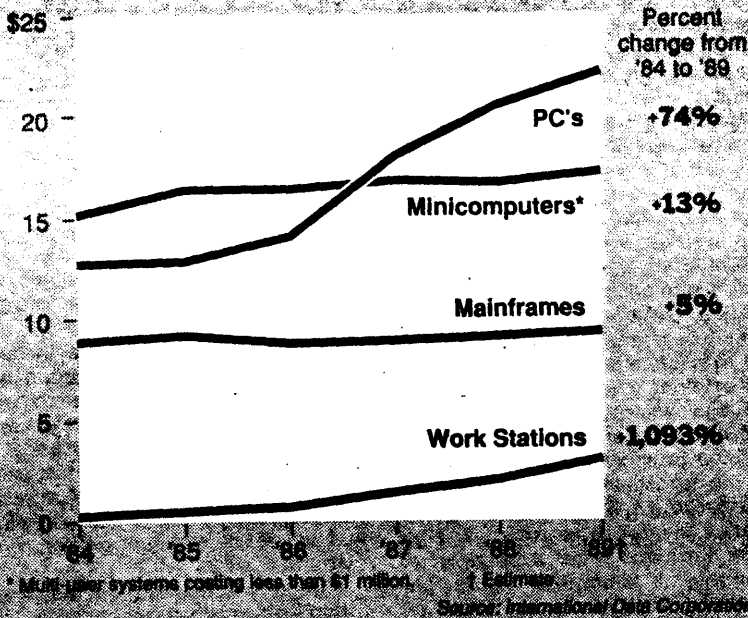
And, wisely, I.B.M. over the last four years has invested heavily to become a low-cost producer of personal computers in an effort to fight off the onslaught of clones. Its share of that market has recently begun to bounce back.

But the company has bungled its efforts to compete in work stations, the industry's fastest-growing segment, because it was shamefully timid in exploiting a technology it developed that offered faster processing through simplified hardware design. The vaunted technology, known as RISC, for reduced instruction set computing, was pioneered by John Cocke at I.B.M.'s Watson labs in the mid-70's. As early as 1981, the company had working prototypes of the technology that were far faster than anything that existed.

Yet I.B.M.'s first commercial product based on RISC was a disappointment. The product, the PC/RT work station, was not introduced until early 1986 — after a dozen of I.B.M.'s toughest competitors, including Sun, Digital Equipment and Hewlett Packard, had already released their own RISC-

The Changing Domestic Computer Market

Hardware sales in the U.S. by U.S. vendors, in billions of dollars.



The New York Times/Dec. 10, 1989

Take Gates to Task

I.B.M. should shock the computer industry out of complacency and show that it is prepared to take risks on new technology by siding with Steven Jobs in his battle to break the stranglehold Microsoft's William Gates has on the desktop software market. No one in the computer industry packages technology more brilliantly than Mr. Jobs. And I.B.M. should take full advantage of its license to Mr. Jobs' Nextstep software, a innovative visual control panel. If the computer giant used Nextstep as the standard "dashboard" for all of its computers, its could spur and bring order to its far-flung designs.

But so far, the company has been sketchy about how it will use the software for fear of offending Mr. Gates, who has developed software for I.B.M. personal computers including a competing, albeit more bland, alternative to Nextstep, known as the presentation manager. To borrow a phrase that Kenneth Olsen, the president of Digital Equipment, used to describe the Unix operating system, presentation manager is "about as exciting as a Russian truck."

By endorsing Nextstep, I.B.M. could in a single audacious stroke declare its independence from Microsoft, which has slowed development applications for I.B.M.'s new desktop computer operating system by sending mixed signals about which program software developers should write for first.

Step Into Laptops

I.B.M. must also step into the laptop and notebook computer markets. Already generating \$2 billion a year, the business is growing by more than 40 percent annually. Once thought of as toys, or worse, as useful only to journalists, laptops now match virtually all the features of their bulkier, desktop cousins. In fact, many believe that the next generation of laptops, with their improved convenience and features, may even begin to displace desktops.

The recent purchase of the Zenith Computer Corporation by a French concern, leaves the Compaq Computer Corporation as the only major laptop player in the United States. But if Americans abdicate the market, they may ultimately lose the expanding desktop market as well.

For its part, I.B.M. has failed abysmally in the market; its offerings are heavier and less functional than most. Rather than losing precious time by developing a product internally, the company should license or purchase outright technologies needed to build state-of-the-art laptops now being developed by any of a half-dozen start-up companies in Silicon Valley. Because the Japanese still lead in portable displays, I.B.M. should embark on a crash research program in flat panel displays, monitors that are slimmer and lighter-weight than cathode-ray terminals. That work would dovetail neatly with the nation's need for high-definition television technology.

Bring Back I.B.U.'s

To invigorate development efforts, the computer giant should bring back its Independent Business Units, or I.B.U.'s., the independent ventures formed to nurture new businesses. An organizational tool intended to foster entrepreneurial thinking within I.B.M.'s larger, slower-moving corporate structure, these units made it possible for I.B.M.'s "wild ducks," the creative managers who chose not to "fly in formation," to spread their wings. Both the I.B.M. Personal Computer and the new line of computer work stations evolved from these units, which at their peak numbered 15. I.B.M. has now disbanded all but two of them. Yet it has not had a blockbuster product since the personal computer.

Accept Open Systems

Lastly, I.B.M. must abandoned its preoccupation with account control, under which it pushes proprietary products to lock in customers to its systems, and move quickly to put its open-systems house in order. Open systems, computer hardware and software combinations that meet generally accepted industry standards, are rapidly becoming the wave of the future. Just last month, the Open Software Foundation, an industry consortium attempting to form a new standard operating system, rejected I.B.M.'s AIX.

I.B.M. should now drop AIX and support the choice of the Open Software Foundation and A.T.&T., which are close to an agreement on a single operating system. If it doesn't, the computer maker will be locked out of open systems entirely, isolated with two closed systems, AIX and System Application Architecture.