

Questions Loom on Future Of Other Competitors In Disk-Drive Business

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NEW YORK--The problems of Storage Technology Corp. illustrate the chronic difficulties of many competitors intent on loosening the tight grip that International Business Machines Corp. holds over the market for large computers and accessories.

The Chapter 11 filing clouds the future of Storage Technology, the largest IBM competitor in the market for information-storing disk drives that plug into IBM mainframe computers. It comes only one month after Control Data Corp., the third-largest IBM disk-drive rival, took a \$70.3 million charge and abandoned the same business.

Now some industry experts wonder if any company can succeed in such an IBM-dominated market and whether any remaining competitors—Burroughs Corp. and its Memorex unit; Hitachi Ltd.; Fujitsu Ltd. and others—will be next to quit. "The question is whether there's anyone even left—it's down to us and the Japanese," said Philip S. Dauber, president and chief operating officer of Memorex.

"From IBM's point of view," said James N. Porter of Disk/Trend Report, "these are all parasites living off the IBM customer base. Anybody who chooses to live under IBM's umbrella is gonna get wet when IBM moves it, that's all."

In New York Stock Exchange composite trading yesterday, IBM closed at \$124.625 a share, down \$1. Burroughs closed at \$56.375, up 12.5 cents. Hitachi fell 50 cents to \$36.125.

Storage Technology's biggest troubles started in 1982 when it was delayed by almost two years in coming out with a product to match IBM's newest and most powerful disk drive, the 3380.

IBM, which introduced the 3380 in late 1981, had a head start of more than two years before any competitors came out with compatible devices. The technology involved was so difficult that IBM itself was 12 months late in shipping its 3380.

"When you're dealing with complex technologies, everybody has trouble with scheduling. You make your best guess, and it's almost always too optimistic," Mr. Dauber of Memorex, said.

Storage Technology and Control Data, however, are only the two latest casualties in the disk-drive battle against IBM. "We've had corpses all over the landscape for 15 years in this area," said Mr. Porter, whose Disk/Trend Report tracks annual market

share in the disk-drive business. Numerous concerns left the IBM disk-drive market in the 1960s and 1970s, he said.

Like companies that have failed before it, Storage Technology was squeezed by several critical, IBM-controlled factors: IBM's new-generation technology, its aggressive pricing, and its mammoth manufacturing efficiency.

IBM dwarfs the combined shipments of all the other disk-drive competitors. In 1983, IBM shipped 55,000 units compared with a total of 5,400 units for all other makers, according to Disk/Trend Report. In 1984, Mr. Porter estimates, IBM will ship 35,000 units of the 3380; competitors will ship an additional 10,000 compatible devices.

Each time IBM introduces a new-generation disk drive—which essentially is an electronic filing cabinet—the pattern is the same, industry experts say: Customers delay buying any drives for about nine months until IBM begins shipping the new product, which usually cuts customers' memory costs about 30% to 40%, pressuring IBM competitors.

Rivals then take 18 months or more to produce their own comparable products, giving IBM time to reach full-scale production and begin to reduce prices, further pressuring competitors.

Within another year or two, IBM announces yet another new generation. "Then it all goes to hell in a hand basket again," Disk/Trend's Mr. Porter said. "It's extremely difficult to match IBM technology on a quick-step basis."

Worse for IBM's competitors, they must undercut IBM prices 15% to 20% regularly and usually must offer better product features to get big customers to consider forsaking those three initials, industry executives say.

For those same reasons, Memorex intentionally avoids large-scale efforts to take a bigger share of the disk-drive market, said Mr. Dauber, its president. "We aren't market-share driven. We'd rather ship a smaller number of boxes and make them profitable than ship a larger number and take a big risk," he said.

Such factors also prompted the exit of Control Data, which originally sought the IBM-compatible market merely as an incremental business. "In the large-scale IBM-compatible business today, technological advances and pricing pressures have meant it's no longer just an incremental business; it requires increasing amounts of research, marketing in its own right," a Control Data spokesman said.