

## Digital's Mastery in Computers

By THOMAS C. HAYES Special to The New York Times

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**Kenneth H. Olsen, the president of  
Digital Equipment Corporation.**

The New York Times/Ira Wymann

## Was it Novel Management or Brisk Demand?

By THOMAS C. HAYES

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MAYNARD, Mass. — It is considered one of the great business success stories of the century.

Kenneth H. Olsen, a graduate engineer at the Massachusetts Institute of Technology, leaves the lab in 1957 to build a multibillion dollar company and create a burgeoning new industry. His idea: replacing the giant computers of the day with networks of smaller computers.

Today, despite some bruises evident from its impressive growth to date, his Digital Equipment Corporation is firmly ensconced as the dominant company in the minicomputer industry

with 39 percent of the market. Also, analysts expect the industry to grow at more than 30 percent a year through the 1980's. That combination of market dominance in a fast-growth business is only a pipe dream for most executives.

The company's free-form structure, with fewer executives and central controls than most organizations of its size, is credited in some management circles for enabling Digital (commonly called "Deck" for its initials D.E.C.) to sustain its rapid growth.

"They are paving the way on some new ground in organization development," said Paul Lawrence, a professor at the Harvard Business School, Digital consultant and specialist in organization design.

But some critics say the world's thirst for the productive minicomputers manufactured by Digital is so strong that it covers up what they say is really an ungainly planning system.

"The world's perception of D.E.C. is largely inaccurate," chided Donald W. Mitchell, an independent strategy consultant for many companies in the high-technology field. "I fault them for suboptimizing one of the world's greatest growth opportunities."

He and others assert that Digital, with its executive ranks steeped in high-powered engineering talent but short on marketing skills, may not have the agility to hold its market position amid changes in the minicomputer industry.

Mr. Olsen, a portly, unassuming man known as "Ken" around Digital's headquarters, is unperturbed by such talk.

"We are not interested in growth simply for growth's sake. We make mistakes once in awhile, but we go overboard to try to be honest," he said in a recent interview at company headquarters, an old textile mill that once turned out uniforms for the Union Army.

Digital's sales last year were \$1.8 billion, up at an average yearly rate of 33 percent since 1974. Profits were \$178.4 million, an average annual increase of 32 percent in the same period. However, its 17.6 percent return on capital and 16.4 percent pretax profit margin, while above average for the country's manufacturers, lags the performance of its major competitors.

Minicomputers are small, low-cost data processors. They have soared in

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# Tracing Digital's Mastery Of the Minicomputer Market

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demand as companies have devised a multitude of applications in efforts to improve productivity. They differ from the larger, mainframe computers, where the International Business Machines Corporation, followed by the Burroughs Corporation, dominate the field.

Mr. Mitchell and others contend that Digital's preoccupation with big customers and exotic engineering has enabled smaller competitors to nibble away at a more exciting sector of the minicomputer business — the medium and smaller-sized companies that are buying computers for the first time. This is because Digital is not adept at planning, he asserted.

"When you look at the cutting edge of competition, you find that D.E.C. is amazingly ineffective for its size," said Mr. Mitchell, a former member of the Boston Consulting Group, a major business strategy consulting firm, who now heads his own business, Mitchell & Company of Cambridge, Mass.

"D.E.C. has built their business on the highly technical sell," added Kenneth G. Fisher, president of Prime Computer Inc. "But in the big growth areas that lie ahead, their biggest challenge will be providing the solution sell," meaning helping companies apply computer technology to their operations.

## Prime Computer's Strategy

Prime Computer, which has modeled its polished sales staff after I.B.M.'s, has been a benefactor of Digital's posture, zeroing in on the part of the business that Digital largely ignores. Last year, Prime Computer's sales jumped 63 percent, to \$153 million.

In response, Mr. Olsen points out that

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| Three months ended |               |               |
|--------------------|---------------|---------------|
| Dec. 31            | 1979          | 1978          |
| Revenues           | \$553,896,000 | \$425,973,000 |
| Net income         | 53,932,000    | 37,917,000    |
| Earnings per share | \$1.21        | \$0.88        |

| Year ended         |                 |                 |
|--------------------|-----------------|-----------------|
| June 30            | 1979            | 1978            |
| Revenues           | \$1,804,092,000 | \$1,436,562,000 |
| Net income         | 178,434,000     | 142,189,000     |
| Earnings per share | \$4.10          | \$3.40          |

## Main lines of business

Percent contribution to fiscal 1979 revenues

|                            |     |
|----------------------------|-----|
| Equipment sales            | 77% |
| Service and other revenues | 23% |

|                             |                 |
|-----------------------------|-----------------|
| Total assets, June 30, 1979 | \$1,863,180,000 |
| Current assets              | 1,463,971,000   |
| Current liabilities         | 387,120,000     |
| Stock price, April 3, 1980  |                 |
| N.Y.S.E. consolidated close | 64 1/4          |
| Stock price, 52-week range  | 82 1/2-31 1/2   |
| Employees, 1979 average     | 41,500          |
| Headquarters                | Maynard, Mass.  |

Digital cannot do everything, and that as long as it produces quality products, it will always have a bright future.

Setting and straining for specific growth targets is alien to Digital's management. "We don't get committed to numbers until we can get close to them," Winston R. Hindle Jr., vice president for corporate operations, said. "Above all, we want to be regarded as a quality organization that doesn't have anything to with a set growth rate."

As Mr. Olsen indicated, Digital has more orders than it can handle. Backlogs for some of its popular PDP-11 and VAX-11/780 computers and VT-100 video terminals have stretched to a year in recent months.

## Digital's Growth Continues

Digital, however, is doubling its size within every three years, a pace Mr. Olsen believes is difficult enough to manage. "We plan in detail two years ahead. In that time we have to balance everything and do it perfectly," he said.

"It's unusual to find a \$2 billion company growing at 30 percent a year," said Stuart Johnson, vice president for research at Wertheim & Company, an investment concern. "Managing it is no small feat."

The unit responsible for planning is a 13-member policy committee. The participants include Digital's top officers, a young group, most of whom have

been in the company 10 years or more.

The committee meets alone once every five or six weeks in isolated settings, in part, to clear away the clutter of daily business. One recent meeting covered a day on technology changes in minicomputers, as well as the United States and international economies.

The sessions are regarded as vital to the group's workings.

"They've learned in these sessions how to spend a lot of time with each other," said Edgar H. Schein, a professor of organization psychology at M.I.T.'s Sloan School of Management, who has worked with Digital's policy committee for 15 years.

## Management Meetings Monitored

"It is not what you would call a peaceful environment," he said. "Often they muddle, muddle and muddle until they reach the right decision. It's their commitment to understanding a problem that has made them a healthy company."

Both Mr. Schein and Sheldon A. Davis, the company's chief personnel executive, monitor the meetings for signs of personality clashes and miscommunication.

Occasionally, Mr. Schein interviews officers separately after meetings, collecting thoughts they kept to themselves during the meeting. The comments are reviewed at the next meeting — without attribution.

"People see me as a way of protecting against retaliation," he said. "It's a way of getting important issues up for discussion that might otherwise be passed by."

Meanwhile, competitors delight in the prospects of taking some of Digital's potential business away. And, indeed, Mr. Olsen concedes this is probably happening.

According to Mr. Mitchell, Digital is most vulnerable in peripherals — the printers, video display terminals and storage devices that plug into the computers. These are expected to be a booming segment of the minicomputer industry in coming years.

Still, forecasts of broad customer defections in 1976 did not pan out, although Digital was slow to expand capacity following the recession, according to Mr. Johnson of Wertheim.

## Loyalty of Computer Customers

That is because customers in the computer industry are intensely loyal. Often they have little choice, since the safest way to insure compatibility is by sticking with the original supplier. Digital was the first company in the minicomputing business, and many of the country's major finance and industrial companies have been buying Digital equipment for 20 years.

Selling to universities, major research institutions and the Government has helped Digital secure its dominant position in the minicomputer field, Mr. Mitchell said.

"It's surprising how little they've caused their own growth," he said. "For years they were dragged along by

interesting solutions their customers came up with."

Norman S. Zimbel, a senior consultant with Arthur D. Little Inc., the management consulting company, is less harsh. He applauds Ken Olsen for shep-

herding Digital smoothly across the \$200 million and \$500 million sales thresholds where other computer companies have tripped up. But he, too, is uncertain about its future.

"The stresses at D.E.C. are severe

because of the complexities of size and the high rate of growth," he said. "Their style has been among the most successful in the business, but they may be entering a time where that style will have to change."

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