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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	014492
Date:	09-Jul-1990 02:59pm EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO, JOHN SIMS

TO: See Below

Subject: OUR NEED FOR A CONSULTANT

****
DIGITAL CONFIDENTIAL

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****

A few months ago, you asked if we could use Pete Kaufman on a
consulting basis. At the time, I could not think of anything,
but now, there is some consulting I would like to have done, and
he may be an ideal person to do it.

I'd like a study made of the results of our latest cost-cutting
activities. First, I'd like to know what has been the results
and wisdom of our cutting the old timers and our maintenance
staff and doing the maintenance with outside contract workers?
Does it really pay to get rid of the people who knew every wire,
pipe, and nail in the Mill, and who had their heart and soul in
keeping the Mill going? How much cheaper is it to use outside
contractors? Do we need extra overhead in order to supervise the
outsiders and make contracts? Do we save money? If we do, how
long will it be before we see a return on the cost of cutting the
staff? What is getting done today? How many things that we
became used to over the years are getting done now, or never get
done at all?

I'd also like Pete to study the results of our cost-saving
purchasing. How much have we really saved now that we have set
about to destroy those smaller companies who serviced us well,
had a real interest in us, maintained knowledge about our needs,
and worked hard to keep us happy, and we turned to minority
groups or to very large companies who are quite distant? How
much have we lost in respect to our employees and neighbors?

Some of the suppliers who, for many years, have been in business
to serve us, probably will not be around long enough for Pete to

talk to. Others plan to hang on because they say that over the
last thirty years, every time there is a group of new purchasing
people, they try large companies. But, in time, they just cannot
give the service needed, and Digital always comes back to them
because of the frustration and inefficiencies of large companies
dealing with large companies on little things that are run, on
both sides, by managers who don't know what they are dealing with
and don't care.

We might also have Pete look at the effect of other policies we
have on the neighborhoods we live in. When we decided with our
health insurance that people had to go through OSCO or CVS, what
has been the effect on the neighborhood drug stores, and will our
policies cause a demise of all neighborhood drug stores?

He also could look at how we manage those things which are not
the main stream of our business such as maintenance of buildings,
purchasing, communications, etc. We probably don't give them the
time of day, nor do we give them any philosophy, guidance,
strategy, or company attitudes. We don't review them; when we
get unhappy with them, we tend to take care of it by centralizing
all activities. Centralization is a strategy opposite from what
we normally consider as successful.

KHO:eh
KO:4269
DICTATED ON 7/5/90, BUT NOT READ

Distribution:

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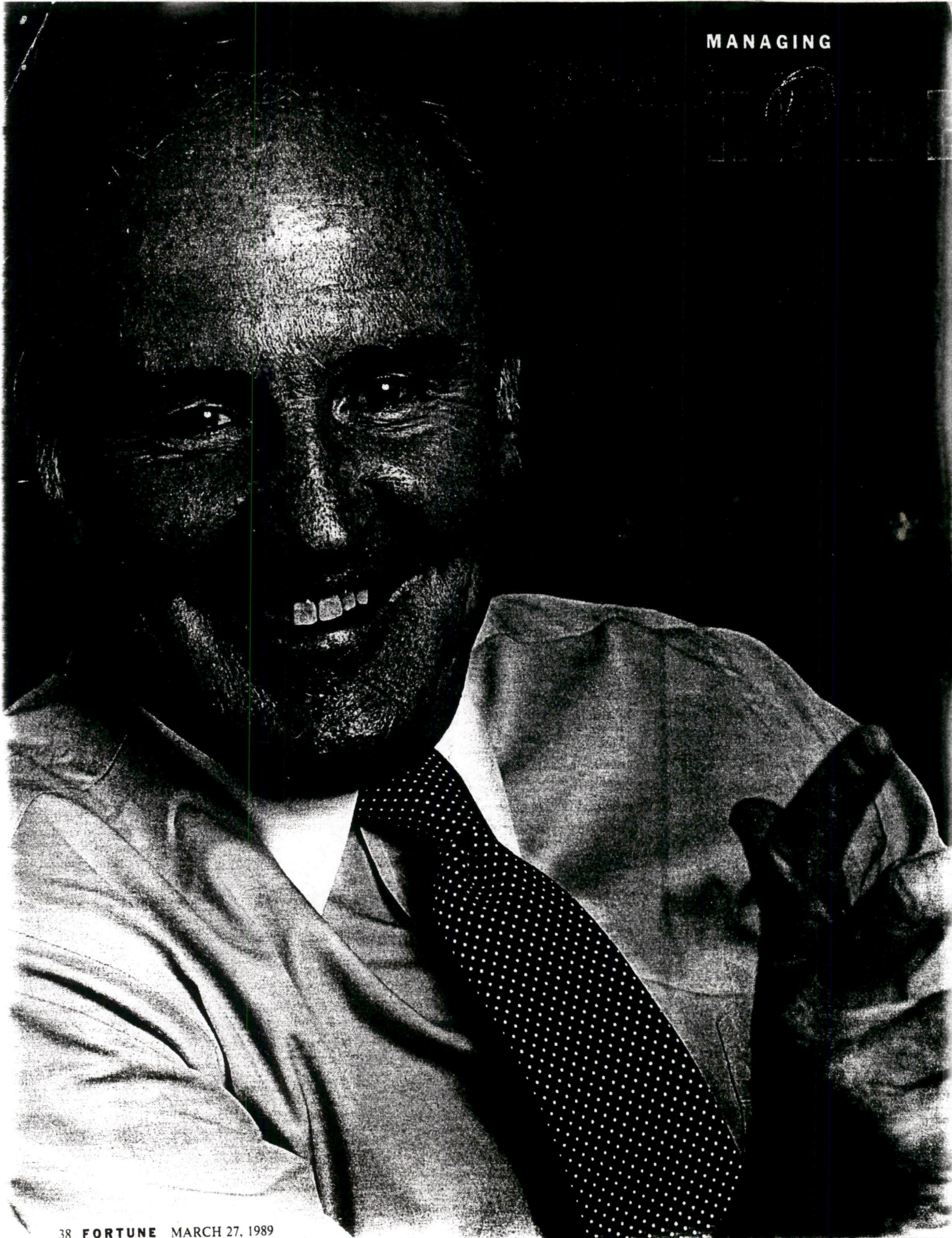
Winston Hindle

06 July 1990

TO: Executive Committee
       Bill Johnson
       Pete Smith
       Bill Steul

This article expresses something
I'd like to get out of our
Business Unit system.

/dao

DIGITAL EQUIPMENT CORPORATION

THE MIND OF JACK WELCH

His ideas are simple: Face reality. Communicate clearly. Control your own destiny. But put together, they could rewrite the book on how to run a big company. ■ *by Stratford P. Sherman*

I WAS AN ONLY CHILD," says Jack Welch. "My parents were about 40 when they had me, and they had been trying for 16 years. My father was a railroad conductor, a good man, hardworking, passive. He went to work at 5 A.M., got home at 7:30 at night. My mother and I would drive down to the train station in Salem, Massachusetts, to pick him up. Often the train would be late, so we'd sit for hours and talk. I was very close to her. She was a dominant mother. She always felt I could do anything. It was my mother who trained me, taught me the facts of life. She wanted me to be independent. Control your own destiny—she always had that idea. Saw reality. No mincing words. Whenever I got out of line she would whack me one. But always positive. Always constructive. Always uplifting. And I was just nuts about her."

According to Sigmund Freud, who was supposed to know, a man certain of his mother's loving approval keeps for life "the feeling of a conqueror, that confidence of success that often induces real success." In the case of John Francis Welch Jr., at least, theory may coincide with fact. A charming firebrand with hot Irish blood, Welch seized the General Electric Co.'s vast bureaucracy by the scruff of the neck and shook it till it saw stars.

Noel Tichy, a consultant who often works for GE, says Welch stoked the fire beneath the corporate caldron to avoid "the boiled-frog syndrome." Tichy explains, "If you put a frog in a pan of water and turn up the heat gradually, the frog will just stay put till it dies. But try to put a frog into boiling water and it will jump right out—and survive."

The high-heat treatment is hard to appreciate when you're the one jumping, but

REPORTER ASSOCIATE *Cynthia Hutton*

it saved GE from mediocrity, which Welch regards as the first sign of doom. In the eight years since he became chief executive at 45, Welch has remade the world's tenth-largest industrial corporation, focusing its portfolio of major businesses from about 100 sometimes marginal competitors to 14 with commanding shares of markets ranging from light bulbs and major appliances to aircraft engines, military electronics, and TV broadcasting (see table). He eliminated well over 100,000 jobs, one-quarter of GE's total, through layoffs, attrition, and the sale of businesses. He bought companies worth $16 billion, notably RCA and investment banker Kidder Peabody. He sold operations worth $9 billion—coal mines and computer

The GE chairman with his main source of inspiration: his mother, Grace, in 1952
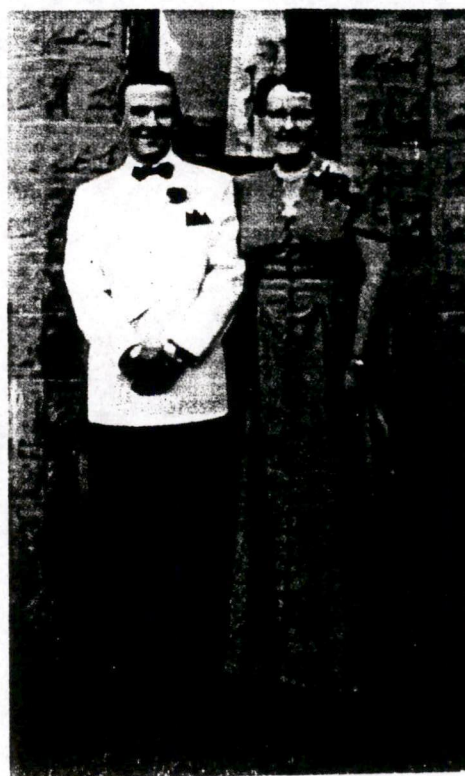
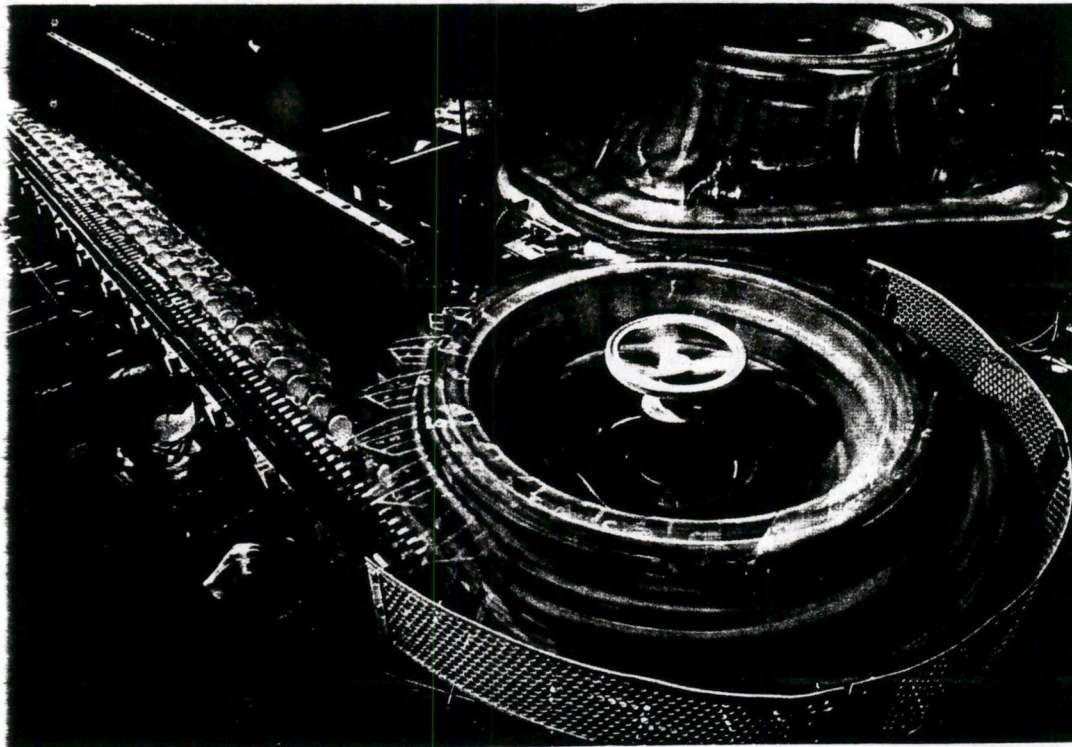chips, and lines like TV sets and toaster ovens that once seemed GE's heart and soul.

Yes, Welch has blown some big ones. He lost over $120 million trying to sell factory automation equipment to manufacturers that were unprepared to embrace his vision of the future. He wrote off more than that on two early acquisitions that turned out to be also-rans at producing computer chips and computer-aided design equipment. With the purchase of Kidder he unwittingly bought trouble in the form of an inside trader named Marty Siegel, who enmeshed the firm in his crimes. The feds forced GE to oust Kidder's management, and the firm has been hemorrhaging talent since.

But on the whole Welch's performance to date has been sterling. Adjusted for inflation, earnings per share have risen an average of 7.6% a year, vs. 4.9% under his predecessor, Reginald H. Jones, and 1.6% under *his* predecessor, Fred Borch. GE throws off so much cash that even after reinvesting $6 billion a year, Welch has $2 billion left—enough to buy a company the size of, say, Compaq Computer.

Neutron Jack, as he is sometimes called, is widely regarded as one of the world's most ruthless managers. The truth is more complex. Some of his actions are indeed harsh, and he antagonized people inside the company and out by fixing something they didn't think was broke. What is becoming clear only now is how those moves fit into a larger plan to strengthen the enterprise and make its remaining employees more secure. At the center of Welch's business ethic are his mother's wholesome values: Face reality, even when doing so is uncomfortable, and communicate candidly, even when doing so may sting. These are necessary means to achieve that all important end: controlling your own destiny. *continued*

Incandescent light bulbs spin by flames that fuse glass in GE's Winchester, Virginia, plant.

tive bureaucracy—"the cramping artifacts that pile up in the dusty attics of century-old companies: reports, meetings, rituals, approvals, and forests of paper that seem necessary until they are removed." All this slows response times, weighs workers down in trivial pursuits, and gets in the way of what Welch desperately wants to achieve. The war on bureaucracy cannot be won by fiat, in the way Welch could, say, obliterate a division with a single stroke. Now he must win his employees' hearts and minds with gentle persuasion. That's what is so fascinating about this piquant moment at GE: Welch is engaged in a struggle of ideas. These ideas and the force he is willing to put behind them—stressing competitive power and changing the bureaucratic character—put him on the leading edge of the art of management.

LIGHTING: Productivity grew 9% last year at GE's oldest business. Managers rely on low-cost improvements to make failures tolerable and successes plentiful.

PEOPLE who don't know Welch may fear him, but those who spend time with the man tend to like him. Smart, unpretentious, and eager to laugh, he stands five-eight but seems bigger, fit from 6:30 A.M. workouts at the GE gym plus weekend golf and skiing. He favors cover-your-eyes bright ties with handkerchiefs to match. He is losing his hair and is plainly unhappy about it. Vulnerable, and confident enough to show it, he speaks as often about his feelings as about his thoughts, and stammers infectiously when he gets excited.

Welch has hewn to those principles through years when most of the jobs he was facing and the facts he was communicating were extremely unpleasant. He is a sensitive man who views the world as tough. He sees global markets inevitably coming to be dominated by fewer, ever more formidable players—steamrollers like Philips and Siemens and Toshiba. To prosper in this world, Welch believes, GE must achieve competitive advantages that allow it to rank first or second in every market it serves. So often is this simple concept repeated around GE that people express it as a single, seven-syllable word: "number-one-an'-number-two."

While he is all for fair competition and level playing fields, Welch really wants to throw rocks down on rivals from above. If you don't see the world much the same way he does, he is willing to bet that you're deceiving yourself—and he would be happy to compete against you, anytime, anyplace.

Now that he has shucked off the losers and strengthened the winners, his revolution is moving inexorably onto new ground. During the height of the layoffs in Welch's first years, when one might have thought GE's productivity would have soared, it in fact crept along dishearteningly at less than 2.5% annually. In Welch's view, that's not nearly enough: GE must raise productivity 5% to 6% a year—every year—if it is to hold its own in the global marketplace.

This dictates an all-out war on what Welch regards as GE's excessive, obstruc-

Twelve of GE's 14 units are market leaders. Financial services and communications serve markets too fragmented to rank.

HOW A DOZEN GE BUSINESSES RANK . . .

	. . . IN THE U.S.	. . . AND IN THE WORLD
Aircraft engines	First	First
Broadcasting (NBC)	First	Not applicable
Circuit breakers	First tied with Square D and Westinghouse	First tied with Merlin Gerin, Siemens, Westinghouse
Defense electronics	Second behind GM's Hughes Electronics	Second behind GM's Hughes Electronics
Electric motors	First	First
Engineering plastics	First	First
Factory automation	Second behind Allen-Bradley	Third behind Siemens and Allen-Bradley
Industrial and power systems turbines, meters, drive systems, power transmission controls	First	First
Lighting	First	Second behind Philips
Locomotives	First	First tied with GM's Electro-Motive
Major appliances	First	Second behind Whirlpool tied with Electrolux
Medical diagnostic imaging	First	First

SOURCES: Avmark and Forecast Int'l; companies' reported data; National Electrical Manufacturers Assoc. (NEMA) and companies' reported data. Defense Electronics; companies' reported data. Society of the Plastics Industry; NEMA and companies' reported data. NEMA and companies' reported data. NEMA and companies' reported data. FORTUNE estimate based on units sold reported by Trains and Extra Twenty-Two Hundred South. First Boston and companies' reported data. FORTUNE estimate based on units sold reported by Diagnostic Imaging

If you are with him long enough, his eyes may lose their grip on yours for an instant and you may see the skull beneath the skin, the animal inside the man, driven and hungry. Robert Kunze, a GE alumnus who is now the San Francisco venture capitalist, has known Welch for nearly 30 years and describes him as having been "tormented" by the layoffs he ordered, in need of hand-holding from friends. "But that side of him," Kunze says, "is overwhelmed by wanting the company to be not just viable but outright sexy."

BACK IN SALEM, Welch says, he grew up as "an incredibly serious, believing Catholic"—a conviction he felt intensely until his mother died in 1966. He served as an altar boy into high school and met his first wife, Carolyn, attending Lenten masses as a graduate student at the University of Illinois in 1959. They had four children and divorced after 27 years of marriage. He is now engaged to Jane Beasley, 36, a mergers and acquisitions associate at the tony New York law firm of Shearman & Sterling. They met in 1987 on a blind date arranged by a GE director, former Citicorp chairman Walter Wriston, and his wife.

Welch is a scrapper. His ideas are a gauntlet thrown down before anyone who does not share them. Noel Tichy, the consultant, believes that sports help explain that side of Welch's management style. At the University of Massachusetts, where Welch got a B.S. in chemical engineering, he lived in a jock fraternity dominated by hockey players. These days, when Welch is locked in debate, no better metaphor than hockey comes to mind. "Hockey is the kind of game where people bang you up against the boards and then go out and have a drink with you after," says Tichy.

Neither of his parents, the children of Irish immigrants, finished high school. Welch's mother, Grace, pushed him to get an education, and he earned a Ph.D. at Illinois, where he says he learned to "wallow" in a problem intellectually until he found the solution that worked.

Upon graduation he took an engineering job in GE's plastics business in Pittsfield, Massachusetts. When he arrived, the facility had an engineering thermoplastic with great structural strength called Lexan, but no markets and virtually no sales. The operation, a kind of skunkworks designed to develop a new business without immediate pressure for profit, was distinctly unlike the rest of GE. In this safe backwater, Welch was allowed to follow his instincts, flout convention, and flourish. He proved a natural manager. He got his first profit-and-loss responsibility at 27 and rose fast.

Welch relied on unorthodox techniques to build the new business. Twenty years before the word "globalization" became popular, he formed joint ventures in Japan and the Netherlands. (For more on such strategic alliances, see Competition.) Pitching Lexan as a replacement for glass, he made a TV commercial with a bull in a china shop. Naturally, everything but Lexan broke. That image—rude havoc that reveals a Darwinian truth—is Welch in a nutshell.

He remained in Pittsfield for 17 years, earned bigger bonuses than his peers, fre-

AIRCRAFT ENGINES: Welch loves big, complex businesses with only a few competitors. GE has sprinted past United Technologies to rank No. 1 worldwide.

At a test site near Peebles, Ohio, GE checks a commercial-jet engine.
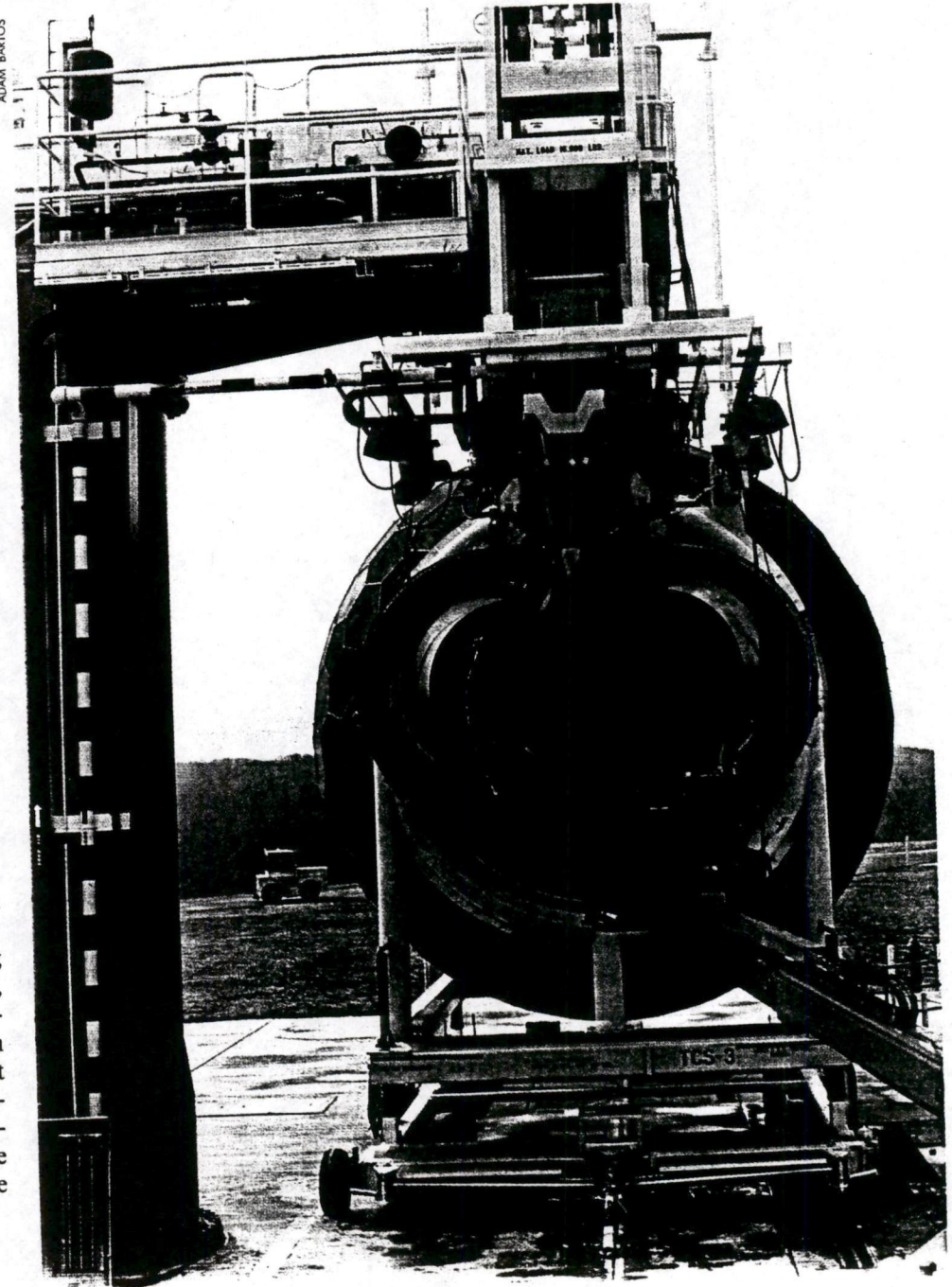
quently complained about the way GE treated him, and threatened to quit. In 1966, testing a new manufacturing process, he blew up a pilot plant. But such mishaps never dented his career. His secret? Performance: Once he got the plastics business off the ground, Welch produced average earnings growth of 33% a year.

In 1977 he moved to GE's headquarters in Fairfield, Connecticut, as a senior vice president for consumer products. There, in a building where the office doors of top executives whoosh open and close at the touch of a button, he encountered a bureaucracy that brings imperial Russia to mind. Three years earlier, when Jones asked his staff to

list 20 candidates to succeed him, Welch's name didn't come up. Too young. Too unusual. But the maverick's performance had attracted the CEO's attention.

Under the slender, soft-spoken Jones, a finance man who was considered one of the finest managers of his day, GE went from a chronic state of cash shortage to immense financial strength. But Jones built up the bureaucracy, adding more complex financial reporting to the military-style command-and-control systems GE already had in place. The new reports collected vast amounts of data—"I found you never get all the information you'd like," Jones recalls—and forced decisions through thickets of reviews.

Translated and amplified by his subordinates, Jones's thirst for data led to ridiculous excess. Dennis Dammerman, 43, now GE's chief financial officer, says that he had to stop computers in one GE business from spitting out seven daily reports. Just one made a stack of paper 12 feet high, containing product-by-product sales information—accurate to the penny—on hundreds of thousands of items.

The bureaucracy routinely emasculated top executives by overwhelming them with useless information and enslaved middle managers with the need to gather it. Old-timers say that as mastery of the facts became impossible, illusion sufficed. Briefing books had grown to such dense impenetrability that managers simply skipped reading them. Instead, they relied on staffers to feed them tough questions—"gotchas" in GE lingo—with which to intimidate subordinates at meetings.

Jones was realist enough to know that the company needed something more. In choosing Welch as his successor, he went for an engineer who was comfortable with technology, had a record of sizzling financial performance, and was a proven master at managing change.

PLASTICS: This is a marketing game. GE envisions processing waste plastic to replace construction materials like wood in a $150-billion-a-year U.S. market.

GE's demonstration plastic house is rising under a bubble in Pittsfield, Massachusetts.

WITH THE restructuring largely behind him, Welch is moving to the second phase of his plan: an attempt to ignite productivity. To measure productivity, GE begins by computing what might be called "real" revenues (revenues after the effects of price increases have been removed) and real costs (costs after discounting for the effect of inflation). GE then divides the real revenues by the real costs to determine a measure of efficiency, which it calls the level of productivity. The pace at which that

measure rises from year to year is what GE calls productivity growth.

Tiny changes in the growth rate can have phenomenal effects on profits. A single percentage point increase in productivity translates into an extra $300 million of pretax income. Welch sees productivity as crucial to GE's ability to control its destiny. The higher it is, the more cushion GE has to cut prices and go for market share. Welch has aggressively pursued just that policy since taking command: Over his eight years GE has held price increases to 0.5% a year while inflation has grown at 3.5%.

The key to future productivity growth, Welch believes, is to "liberate" and "empower" middle managers. GE still has 300,000 souls on the payroll, nearly a third of them professionals. Welch is confident that his ideas and beliefs are shared by the 2,000 or so highest-ranking executives. But that took eight years, a lot of hiring and firing, and leaves 99.33% of the organization still to conquer.

By GE's measures, productivity growth has improved since the early Eighties, to a 4.5% rate in 1988. But with the major restructuring accomplished and the company still shy of Welch's 6% goal, future gains will depend on the voluntary behavior of people, from the head of manufacturing at GE's Erie, Pennsylvania, locomotive plant to the marketing manager for Lexan in Japan. As Welch explains: "It has nothing to do with whips and chains and taking heads out. We're trying to unleash people to be self-confident, and so to take on more responsibility."

Welch's rationale is founded on his perception of how competitive forces will play out on a global scale: "The U.S. system has the most free enterprise in the world, with Britain next," he says. "After that, it falls off dramatically. In Japan the relationships between the government, the banks, and the companies are very intertwined. Your bank allows you to have low returns, and your government will support your R&D and finance your exports. Or take Europe.

Ronald Reagan goes to Russia, and he talks about reducing nuclear weapons. Then Helmut Kohl comes with all the German businessmen, and they sign contracts to do deals. That's their system.

"What our system has is freedom. It allows people like me to become chairman of GE in one generation, it allows the talented young engineers in our company to move up fast. If we put bureaucracy and rigidity

Servicemen practice compressor retrofits in Louisville, Kentucky.

APPLIANCES: GE is replacing faulty compressors for free. Says Welch: "Satisfied customers provide the best job security."

into our system, we play into our competitors' hands in global markets. Because we don't get the benefits of the protected markets, the government support, the presidential relationships. But if we let our people flourish and grow, if we use the best ideas they come up with, then we have the chance to win. The idea of liberation and empowerment for our work force is not enlightenment—it's a competitive necessity. When you look at the global arena"—Welch makes a sweeping gesture—"*that's what our competitive advantage is.*"

Making believers of GE's middle managers will not be that easy, if it is possible at all. On average, they joined the company five years before Welch became boss: They belong to a gentler era. A remarkably resilient organism, the bureaucracy continues to resist change. Many managers who survived the purges have kept the old ways alive, by attempting to do all the work once accomplished by many more people. If they are expecting thanks from Jack Welch, forget it. Much of that extra effort he views as wasted. Says he: "If someone tells me, 'I'm working 90 hours a week,' I say, 'You're doing something terribly wrong. *I* go skiing on the weekend, *I* go out with my buddies on Friday and party. *You've* got to do the same or you've got a bad deal. Put down a list of the 20 things you're doing that make you work 90 hours, and ten of them have to be nonsense, or else somebody else has got to do them for you.'"

This campaign brings out the full force of Welch's moral fervor. He regards bureaucracy as evil because it destroys productivity by distracting attention from useful work. It makes people look inward, at the organization, rather than outward, to the customer and the competition. As Welch, fuming, told an assembly of GE's top managers in January, "This internal focus has wasted our time, wasted our energy, frustrated us, made us so mad some nights over some bureaucratic jackass boss that we'd punch a hole in the wall."

Welch is doing all he can to bypass the bureaucracy to communicate directly with employees. He meets subordinates face to face as often as possible, primarily through the sophisticated management-training institute GE maintains on a secluded campus in Crotonville, New York. Once attended exclusively by high GE executives, it has been expanded by Welch to receive 5,000 GE employees annually, including everyone hired as a manager or promoted to that rank. Every three weeks or so Welch choppers over to pitch his ideas to a new group

and then debate them, rough-and-tumble, in an amphitheater called the Pit.

In an organization of GE's size, one has to organize to beat bureaucracy. Hence the first step in what Welch views as a long-term effort, a brand-new program called Work-Out. It is an elaborate, systematic attempt to wring unnecessary work out of the system. The idea is to get the heads of the 14 main business units to join their salaried employees in groups that must agree on lists of unnecessary meetings, reports, approvals, and tasks—and formally pledge to eliminate them. Then, soon, a follow-up meeting takes place. If the business chiefs don't make good on their commitments, they expose themselves to their subordinates' contempt.

The medical systems business's X-ray unit near Milwaukee ran a similar program recently and came up with 55 items that could be eliminated or improved. Small but telling example: The group determined that the head of the computer lab should be allowed to spend petty cash and sign for deliveries without approval from a superior.

Another exercise, in the company's finance organization, revealed that some 1,000 people worked nights and weekends at the end of every quarter to ensure that GE was the first company its size to publicly report earnings. Save your strength, said Welch: "Who the heck cares about reporting first? Maybe somebody did, once. Or maybe someone *thought* someone did."

WELCH INSISTS on talking about "leaders" instead of "managers." He says, "Call people managers and they are going to start managing things, getting in the way. The job of a leader is to take the available resources—human and financial—and allocate them rigorously. Not to spread them out evenly, like butter on bread. That's what bureaucrats do. It takes courage and tough-mindedness to pick the bets, put the resources behind them, articulate the vision to the employees, and explain why you said yes to this one and no to that one."

Speed is crucial to competitive advantage. Argues Nigel Andrews, 41, GE's British-born strategic planning chief: "Making the right decision late is the same as making the wrong decision." That belief is what drives Welch to fight GE's natural propensity for information overload. GE can never be as quick as a startup company, he knows, but pitted against other sumo-size contenders, it *must* be the most agile. He proved the value of speed in January in the race to make a deal with General Electric Co. of Britain, an unrelated entity known as GEC. He and seven key managers dashed to London to negotiate joint ventures in gas turbines, medical equipment, circuit breakers, and appliances. They locked up an agreement in just three days, outsprinting AT&T, Plessey, Thomson, and Northern Telecom.

Welch treats the 30-odd members of his executive council almost like fraternity brothers, teammates who made the varsity cut. They enjoy intellectual roughhousing, and their debates make for fast, effective decision-making. But the arrogant brashness of the new culture Welch is creating is a cause for some concern. At NBC, Kidder, and elsewhere, members of GE's hard-shouldered management team have alienated people unused to the ethos of varsity hockey.

The quality Welch seems to value most in people is self-confidence, and he works hard to inspire it in others. His challenge is finding a way to share this heady sense of belonging with an organization shaken by years of upheaval. How to make 300,000 people feel good about themselves? Getting rid of losers was a start, says Welch: "We cut and ran from the ones that didn't have a chance of becoming No. 1. In televisions we were tied for No. 4, and we were almost a whipping boy. Wham! The Japanese are lowering prices! Whomp! There goes the quarter! We haven't got a business like that today. They're all producing either cash or earnings, and everybody who's still here has a role."

Perhaps the most encouraging indicator of GE's future is the light-bulb business that gave the company its start. Grown fat and complacent, it started to slip in the mid-1980s as Philips and other European companies invaded its turf. Welch threw in a new team that has boosted productivity growth from 2% a year to 9%, the highest in GE. Part of the trick was soliciting employee ideas for low-risk projects. For example, GE found ways to load more boxes of bulbs into trucks, increasing the payloads. The average benefit of such projects was just $16,600 a year, but they inspired confidence and added up.

Welch stands at the end of a proud line of management innovators going back at least as far as Ralph Cordiner, GE's chairman in the 1950s and early 1960s, who invented the concept of decentralization that swept American industry in his day. Welch's favorite management thinker is not Cordiner but Helmuth von Moltke, a Prussian general who served as military adviser to the Ottoman court—the 19th-century equivalent of a management consultant. "Von Moltke believed strategy was not a lengthy action plan," Welch explains, "but rather the evolution of a central idea through continually changing circumstances." An idea, perhaps, like Grace Welch's idea about controlling your own destiny. At his age, Grace's son could remain on the job for another decade—plenty of time for him to write his chapter and for others to judge its worth. ∎

JACK WELCH'S SIX RULES

■ **Face reality as it is, not as it was or as you wish it were.**

■ **Be candid with everyone.**

■ **Don't manage, lead.**

■ **Change before you have to.**

■ **If you don't have a competitive advantage, don't compete.**

■ **Control your own destiny, or someone else will.**

INVESTOR'S SNAPSHOT
GENERAL ELECTRIC

SALES (latest four quarters)	**$38.1 BILLION**
CHANGE FROM YEAR EARLIER	DOWN 3.0%*
NET PROFIT	**$3.4 BILLION**
CHANGE	UP 16.2%
RETURN ON COMMON STOCKHOLDERS' EQUITY	**18.3%**
FIVE-YEAR AVERAGE	17.5%
STOCK PRICE RANGE (last 12 months)	**$38.375–$49.00**
RECENT SHARE PRICE	**$45.25**
PRICE/EARNINGS MULTIPLE	**12**
TOTAL RETURN TO INVESTORS (12 months to 2/24)	**6.6%**

*Reflecting the sale of GE's Consumer Electronics division.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 014516
Date: 11-Jul-1990 10:54am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: CORPORATE ARCHITECTURE

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As you develop the statement of the Corporate Architecture,
please work out with me ahead of time any changes that you are
proposing that are different from what I have been stating for
the last year or two.

I think it is poor style for Finance to develop a system, which
is different from what I announced to the Board of Directors and at
several State of the Company and Officers' meetings, and in many
memos, without working it out with me ahead of time.

When the Chief Executive Officer makes a strong statement of the
direction we are taking, I think it would be good if you would
work out with me, ahead of time, any proposed changes you are
making.

I think it would be particularly important to clearly state in
the architecture that, in a general sense, Central Engineering is
a supplier to the Business Unit. It also should be stated that
engineering, which was not of general interest to the whole
Corporation (such as System V), can be proposed by a Business
Unit for their own use, at their own expense, and under their own
management.

As the Corporation developed, we have gone through several
architectures. Early in our history, we developed a random
number of computers and operating systems. After the fact, it is
clear that some formality would have helped us, but maybe it was
not unwise. We explored, probed, and tried many things and
probably contributed a lot to the industry.

In the mid 1970's, when we were a one-half-billion-dollar Company and the industry was very simple, it was with great wisdom that we said we would concentrate on one architecture and one software system; and, in general, we concentrated on machines that deviated little from the size and capability of the 1160.

Today, the market is complex, the customers are often not wise, and we are twenty to forty times bigger. To continue to grow, we have to supply many markets, and, unfortunately, with all the variations they insist on having, whether or not we think they are wise.

We do have an option of cutting the size and limiting our growth into the range of computers, operating systems, and applications that we would be comfortable with, and it might be elegantly simple and clean.

So far, the only architecture for the Corporation that I have heard is to break the Corporation into individual Business Units, each of which has a lot of autonomy, will hopefully, but not necessarily, share common engineering, manufacturing, and a common sales force, but, above all, will not be limited by the span of interest, energy, enthusiasm, and knowledge of a centralized group.

KHO:eh
KO:4275
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 014555
Date: 13-Jul-1990 12:02pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

SMITH
TO: JACK + PETE SMITH
TO: See Below
CC: EXEC. COMM. ET AL
Subject: PRICING ARCHITECTURE TO THE BOARD OF DIRECTORS

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As Jack Smith and Pete Smith present the pricing architecture to
the Board of Directors, let's use General Motors as an example of
how it doesn't work today, and how it will work in the future.

Over the last year and one-half, I proposed an architecture that
has been rejected by Jack, Pete, and Jim Osterhoff. I proposed
that each account team lay out a business plan that shows how
they will invest, and how they will get return. In order to make
investments, particularly those that do not pay off immediately,
they have to get return somewhere, and, it is up to them to
figure out how, when they make out the plan. As the plans
change, the plans should be modified and still make a profit.

It appears that the model that we settled on instead was to free
the Business Units from any responsibility in this, free the
account managers from the planning, and delegate all the
day-by-day decision making with sales overhead which has no
profit or long-term responsibility.

The General Motors C4 program is a good example of how we are
running things today. Our account team has no vehicle for
presenting a plan that would propose investments, special
products, special services, the infinite number of special
visits, and, all the things it will take to make the special
things work if we finally get the order.

The sales people are feeling a lot of pressure to stop making
investments because there is no short-term return, and they have
no vehicle for proposing long-term investments. I believe
General Motors is feeling very ill-at-ease with the situation

because they have a feeling we are losing money, and, we, as a Corporation, may just drop them.

I do not know how Pete's and Jack's model will work today. The sales people feel pressure to do every detailed part of the operation. They feel they have to give a big discount on the end because the Corporation insists on it, even though we have already invested much more than we could ever get back, and the sales people feel we can get the order without a discount because the customer understands. It appears that the overhead people in the sales department feel that all the special things we are doing, such as, transporting CAD systems on our bases, re-doing things that work well in VMS into UNIX, or all the arbitrary things General Motors asks for, will be covered by the big mark-up we have in RISC systems. I have a suspicion that the RISC people feel that they are going to be able to sell RISC machines at hardware-only prices, and then with big discounts. I do not know who, today, is balancing all these things to make sure we have a profit, but I look forward to hearing what Jack and Pete say to the Board.

I still believe that a plan for a program like C4 will prove whether we need to walk away from it, as we did with the Air Force contract, the New York Times, and Sears Roebuck, or, whether we can charge them for services and special things they want, or reject some things and say we simply will not do them. The model might also conclude that the only way we can do business is to tell them exactly what we have to offer, and how we would solve the problem with today's products, guarantee it will work, guarantee the costs, and demonstrate it working today. I cannot see how Pete's and Jack's model is possibly going to work and ever make money.

I have asked Dave Copeland and the Account Team to make a quick and dirty post-mortem on the MAP program. I told General Motors we would support them in MAP, even if we begged them not to do it. I did not promise we would do it all free and that we would give them service, forever, without any charge. I believe if we now, after the fact, lay out a plan, we will conclude that we should have charged them for everything special, and we should now start charging them for every trip and service we give them. I also believe that if we look at the MAP history, we will conclude that we can only go into a program like C4, or any other big company program which has hundreds of people making arbitrary decisions, or any military program, without a plan as to what we will do and what we will charge for, and we have to be able to walk away from it if we are going to lose money.

This is probably one of the lessons we might learn from an analysis of doing big projects with big companies, with a large number of people who add to the specification. We should look at our own purchasing procedures to make sure that we do not hurt, ruin, or take advantage of small companies by the enormous power that we have, even though, compared to General Motors, the Air

Force, and the New York Times, we are tiny.

KHO:eh
KO:4284
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 014533
Date: 12-Jul-1990 02:17pm EDT
From: Ken Olsen
            OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: *BILL STRECKER & OTHERS*

TO: See Below

CC: EXEC. COMM

Subject: MORE ON COMPANY ARCHITECTURE *Background attached.*

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I met with Dick Yen yesterday and, during our discussions, he
listed all the frustrations he experienced while in Taiwan, where
Digital people would come by and give instructions on what he
could and could not do to change things. He had no idea who had
the authority, and after listening to Dick, it dawned on me that
the thing we have been lacking through the years is an
architecture of Engineering and an architecture of Manufacturing,
and, this could be a very key part of explaining how things are
done. With an architecture we could then explain how decisions
are made, who gives directions, changes plans, approves plans,
and, at the same time we could also reduce the large number of
people who feel obligated to travel all over the world telling
people what to do.

My idea is that we should, first of all, lay out an architecture
for Engineering which would list all of the overhead functions,
all the jobs they do, what authority they have, and who approves
and enforces their decisions. We should then have a check that
indicates how much each of these cost and the time and money that
is spent on just engineering. This would be a good vehicle for
Jack Smith to explain to the Board of Directors the overhead
functions of the Corporation, and to justify all the overhead we
spend.

We should then have an architecture for Manufacturing which
should follow Engineering's format. Then, we should have an
architecture for Sales that would indicate where the money is
spent, what all the overhead functions do, who controls and
approves what, who gets measured in what way, and indicate why we

have so much overhead. It should also indicate who is
responsible for the Price List, configuration, bid proposals,
signing off on proposals, signing off on loaners, and all the
other things involved in the complexities of overhead. In
particular, the architecture would identify who has prerogatives
and authority, the rights to tell others what to do, and the
checks and balances on them.

The part of the architecture which we have defined is how the
Business Units work, their responsibilities with respect to
Engineering, Manufacturing, and Sales, and their authority and
decision making.

We should make a first pass at some of these things before the
July Board of Directors' meeting, so that Jack Smith can use them
as a vehicle for his presentation. Then we probably should
commit to present the complete architecture, even though it will
not be done in great detail, to the Board of Directors in August.
Going through this exercise, would allow us to pretty much
identify the things which are duplicated, inconsistent, and
unnecessary, and give us a good feeling for what overhead
structure we have in each of the key operations of the Company.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	014516
Date:	11-Jul-1990 10:54am EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: BILL STRECKER
TO: See Below
CC: EXEC. COMM. ET AL

Subject: CORPORATE ARCHITECTURE

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As you develop the statement of the Corporate Architecture,
please work out with me ahead of time any changes that you are
proposing that are different from what I have been stating for
the last year or two.

I think it is poor style for Finance to develop a system, which
is different from what I announced to the Board of Directors and at
several State of the Company and Officers' meetings, and in many
memos, without working it out with me ahead of time.

When the Chief Executive Officer makes a strong statement of the
direction we are taking, I think it would be good if you would
work out with me, ahead of time, any proposed changes you are
making.

I think it would be particularly important to clearly state in
the architecture that, in a general sense, Central Engineering is
a supplier to the Business Unit. It also should be stated that
engineering, which was not of general interest to the whole
Corporation (such as System V), can be proposed by a Business
Unit for their own use, at their own expense, and under their own
management.

As the Corporation developed, we have gone through several
architectures. Early in our history, we developed a random
number of computers and operating systems. After the fact, it is
clear that some formality would have helped us, but maybe it was
not unwise. We explored, probed, and tried many things and
probably contributed a lot to the industry.

In the mid 1970's, when we were a one-half-billion-dollar Company and the industry was very simple, it was with great wisdom that we said we would concentrate on one architecture and one software system; and, in general, we concentrated on machines that deviated little from the size and capability of the 1160.

Today, the market is complex, the customers are often not wise, and we are twenty to forty times bigger. To continue to grow, we have to supply many markets, and, unfortunately, with all the variations they insist on having, whether or not we think they are wise.

We do have an option of cutting the size and limiting our growth into the range of computers, operating systems, and applications that we would be comfortable with, and it might be elegantly simple and clean.

So far, the only architecture for the Corporation that I have heard is to break the Corporation into individual Business Units, each of which has a lot of autonomy, will hopefully, but not necessarily, share common engineering, manufacturing, and a common sales force, but, above all, will not be limited by the span of interest, energy, enthusiasm, and knowledge of a centralized group.

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Win - FYI from Ken.
Written to E.C.

Printed by Win Hindle

I N T E R O F F I C E   M E M O R A N D U M

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                              Doc. No:  014604
                              Date:     18-Jul-1990 11:22am EDT
                              From:     Ken Olsen
                                        OLSEN.KEN
                              Dept:     Administration
                              Tel No:   223-2301
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TO: See Below

Subject: CHRISTIAN SCIENCE MONITOR INTERVIEW - 18 JULY 1990

The following are my prepared notes for the Christian Science Monitor
interview I will be giving today at 2:00 p.m.

NOTES FOR CHRISTIAN SCIENCE MONITOR INTERVIEW

DIGITAL'S CULTURE

Talking about one's culture is a little bit like talking about
one's humility; if you talk about it, it may prove you don't have
it. It is sometimes easier to approach it negatively and not
imply that you have really accomplished what you are talking
about. There are several problems quite common in our American
culture that we try to avoid. First of all, it is traditional,
in business, to do top-down, centralized management. We ridicule
the Communists for forever trying to make centralized planning
work. And yet, this is exactly what we try to do in our
businesses. Sometimes when, for fun, I challenge an American
business leader and claim he is running his business like a
Communist country he says, "Yes, that's right, but we can't
afford to do duplication or risk taking." And I, of course,
answer, "That is exactly the Russian's answer."

In a Communist or corporate system, there are a small number of
people who lay out the plans and decide what the future and
investments will be, with the result that the breadth of products
and fields the organization can go into is limited by the breadth
of interest of that group. They normally feel comfortable only
in those areas where they have some experience and, therefore,
they limit the corporation. Secondly, they feel it is their
obligation to decide what is right and wrong, what will work and
what will not, what will be successful and what will fail,
because this is their job and they are, by definition, the
experts. The problem, of course, is that in high technology, and
indeed many other areas, no one knows for sure and, contrary to
all the tendencies of centralized planning, it is important to
take and control risks, but to boldly take them. It is important

to try many things, assign responsibility to those who will take responsibility for the projects, and reward those who are successful.

There are two contrary views in what I am saying. The first is the one we are taught from television's business soap stories where the admired business leader makes bold, decisive decisions, and where, as with all the analytical skills we are taught in business school, one can straighten out the whole organization with one's wisdom and analysis. The other side to this is the need to be truly entrepreneurial, where groups take risks, try ideas, learn, explore, are bold, and, most of the time, are successful, but are not punished for the times they are not.

At Digital, when we are wise, we take this approach. We overtly encourage new ideas and bold moves into areas with risk, and, above all, we encourage individuals to take responsibility for the commitments they make. It is clear that, very rarely, is there great success in completely safe investments which are agreed upon by committees of analytical experts run by hirelings who feel little investment in the decision that was made.

Parallel to this, is the tendency of education today to generate experts. These experts are not very competent nor well educated and are committed to deciding what the Corporation should do, but they have little training, experience, interest, and motivation to take responsibility for those ideas. With this tendency and the new breed of educated people, there is more of a trend to develop groups within a corporation to control, watch, police, protect, lay down rules, and limit the entrepreneurial freedom and ability to get things done.

In a Company like Digital, where we have one-hundred-and-twenty-five-thousand people doing many things in many countries, all with the same line of products, and all of whom have to work together no matter where they are in the world or what they are doing, we are dependent upon a combination of entrepreneurial skills and entrepreneurial freedoms. And yet, we need great discipline and well organized standards, so people have freedom, but everything has to meet the necessary standards for it all to work together in one network spread anywhere and everywhere in the world. The conflict, or paradox, we have to continuously work with is the need for standards and the need for consistent quality and reliability and yet, the boldness to try new things, take chances, gamble, and make significant contributions to the world of computers.

KHO:eh
KO:4290
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Doc. No: 014624
Date: 19-Jul-1990 02:26pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: COMPANY STRATEGY

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Bob Hughes says, and others seem to agree, that IBM is settling on a two-prong strategy. First, it seems they have little interest in PCs, but are driving very hard to get the low-end UNIX market for workstations and servers. He said that their approach is received very well because the industry looks at IBM as the underdog, and they are glad to see them succeeding.

The second part of IBM's approach is to concentrate more on the centralized, large-scale mainframe computer, which they will announce this fall. They are asking people to commit to them for ten years and, apparently, this is received favorably.

This means that the computer industry probably is settling in two directions; one for the low end, which would be UNIX, and, for the high end, very proprietary computers and software. We should probably make a very clear statement of our strategy and follow this pattern, but then lay out how we will be different.

This will give us an opportunity to explain the differences between UNIX and VMS and where they belong and push hard to sell them in the right places. This also gives us the opportunity to differentiate ourselves from IBM. Our approach to the desktop is much more general and much more broadminded than IBM's, and our approach to the high end is proprietary (even a high-end UNIX system would be equally proprietary), but we plan to distribute the computing and to exploite clustering and networking. It seems to me that there are a few items that have become very clearly key to parts of our strategy. One of them is clustering, another one is mainframe, and I am getting more convinced that a

major part of our strategy has to be time-sharing.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	014674
Date:	23-Jul-1990 02:31pm EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: ARCHITECTURE OF THE FIELD OPERATION

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We have architectures to make sure the systems are complete and that there are no internal conflicts, inconsistencies, or interfaces.

As part of your formal architecture of the Corporation, please carefully lay out the Field operations to identify conflicts. Our original plan was to make the account management the major budgeting and measurement system in the Field, and the Units, Districts, Regions, and Areas would be measured on how helpful they are, but I am afraid we have lost that with our passion to measure everything.

The common complaint by the Account Managers is that, around the world, every District Manager, Regional Manager, and Area Manager is measured in his own way, and is not about to cooperate with an Account Manager without first being convinced that any cooperation will optimize their own measurement. The result is that we have generated as much, or more, red tape, ways, and conflicts as we had before we made the change.

This is particularly painful because we clearly stated, at the start of this, that measurements were made to optimize the management and not as an arbitrary way to reward each manager in the ladder of responsibilities. The Account Manager wishes to optimize his account as if it were a business and all the measurements were there to give him a tool to do so. All the others were measured on how helpful they were to others. What help did they give, what did they cost doing so, and was it worthwhile? Today, I am afraid today we have an architecture

which is completely inconsistent and in conflict.

Please also lay out the reward system in the architecture. It
takes a big book that generates more research, study, and
learning in the Field than the products do, but the architecture
should propose if this is consistent with the management
architecture of the Field and the goals of the Corporation.

KHO:smv
KO:4304
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F.C.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	014936
Date:	10-Aug-1990 03:08pm EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: WHY ENTREPRENEURSHIP AND WHAT IS IT?

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WHAT ENTREPRENEURSHIP IS NOT

Some people think entrepreneurship is having a P&L statement. Every business has a P&L statement and most are not entrepreneurial.

Some people claim having no boss makes one an entrepreneur. Some say having absolute power makes one an entrepreneur. Some say an entrepreneur can do what they want, when they want, without a plan. This is obviously not true. Every entrepreneur, like every business, is using someone's money and has to report on their stewardship.

Most of them will get nothing done without a plan, a systematic approach to the plan, and regular reporting.

As with all businesses, most entrepreneurs have much more responsibility than they have authority.

As with all businesses, an entrepreneur is affected by exogenous influences.

WHAT ENTREPRENEURSHIP IS

Entrepreneurship is taking complete responsibility for accomplishing a task. The word implies doing the task with creativity and inventiveness. It also tends to imply doing a task, job, or project with risks that would not be allowed in a large, formally ruled organization.

WHY ENTREPRENEURSHIP?

In any organization, large or small, staff grows. Staff begets staff, and the more staff there is the more rules, regulations, and controls there are. Every time there is a mistake, rules are put in place so that the mistake will never happen again. In time, there is very little freedom to be creative, or even efficient.

Organizations, either because there is a strong leader or because there is a large staff, tend to do planning in a central group or through a central individual. This is not uncommonly very efficient and effective for a time, the same way a Communist dictatorship is very effective for a time.

Central planning does, however, limit an organization to the span of interest, knowledge, intelligence, energy, and enthusiasm of the central planner or planners. The answer to all problems is always more centralized planning and more control. The result is that truly creative, unique, inventive, and entrepreneurial people within a large organization come along so rarely that the whole world can remember them.

The goal of an entrepreneurial Business Unit-organized company, is to give each Business Unit the freedom necessary to be creative and inventive, to take responsibility, and to free them from the frustrations, limitations, discouragements, and red tape of a myriad of groups and individuals who control them, can say no to them, don't have time to listen to them, don't have the energy to consider new projects, and are too busy to look at new things, but who want to hold on to their power and will not give the freedom to someone else to try new things.

We want our Business Units to have all the freedom that is necessary to compete with small companies, and yet have all of the services, assets, and advantages of a large company. The real entrepreneur does not want to fill out tax forms, figure out what hours the company will work or figure out all the policies and procedures. They do not want to staff the payroll, run the cafeteria, run the parking lot, or do the snowplowing. Some may want to do their own purchasing, but most would not. Some may want to bend their own sheet metal, but most would not. some may want to build their own CPU, but most would be happy to buy the best, most tested, integrated CPU with the best disks from somewhere else in the company.

Not everyone can be an entrepreneur. In fact, probably very few can. They have to propose to their banker, or, in the case of Digital, the Executive Committee, a plan which is to be funded. This is part of being an entrepreneur. Those who appear to be more interested in being independent, in doing everything themselves, and who show little inclination to concentrate on those things necessary to be successful probably will not be

funded.

An entrepreneur has no rights to be funded. They have the right
to propose and have the right to be free of frustrating rules and
regulations by staff who have no responsibility. It is this
freedom that our plan tries to give Account teams and Business
Units.

KHO:eh
KO:4353
(DICTATED ON 8/10/90, BUT NOT READ)

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TO:	Bob Hughes	(HUGHES.BOB)
TO:	Remote Addressee	(SHARON KEILLOR @OGO)
TO:	Eli Lipcon	(LIPCON.ELI)
TO:	Jim Osterhoff	(OSTERHOFF.JIM)
TO:	BOB PALMER	(PALMER.BOB)
TO:	DICK POULSEN	(POULSEN.DICK)
TO:	BRUCE J RYAN @CORE	(RYAN.BRUCE J)
TO:	Grant Saviers	(SAVIERS.GRANT)
TO:	Willow Shire @ CORE	(SHIRE.WILLOW)
TO:	Jack Smith	(SMITH.JACK)
TO:	PETER SMITH	(SMITH.PETER)
TO:	David Stone @ CORE	(STONE.DAVID)
TO:	BILL STRECKER	(STRECKER.BILL)
TO:	Remote Addressee	(SANDY THOMAS @AET)
TO:	Remote Addressee	(BOB TROCCHI @MRO)
TO:	HARVEY WEISS	(WEISS.HARVEY)
TO:	Abbott Weiss	(WEISS.ABBOTT)

```
TO:   DONALD ZERESKI              ( ZERESKI.DONALD )
TO:   John Sims                   ( SIMS.JOHN )
TO:   FRANK FABOZZI               ( PAPER MAIL )

CC:   Remote Addressee            ( CLAIRE MUHM @MRO )
CC:   Remote Addressee            ( ALAN ZIMMERLE @CFO )
CC:   Bonnie Bedell @ CORE        ( BEDELL.BONNIE )
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[handwritten signatures at top]

[handwritten top right] K.O.

[handwritten] E.C.

INTEROFFICE MEMORANDUM

Doc. No: 014900
Date: 09-Aug-1990 11:35am EDT
From: Ken Olsen
         OLSEN.KEN
Dept: Administration
Tel No: 223-2301

[handwritten] TO: PETE SMITH + GEORGE CHAMBERLAIN

TO: See Below

[handwritten] CC: EXEC. COMM.

Subject: ORGANIZATION OF THE BUSINESS UNITS

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I would like to insist that we use my original organization of
Business Units, instead of the present proposal of grouping them
by Accounts.

In the original proposal, there is a long list of Business Units,
and the accounting we set up to measure their investments and
their return on those investments. These Business Units included
simple applications, sometimes hardware -- like PCs, sometimes
Desktop integration, sometimes complete systems -- like small
business.

In an organization chart they were orthogonal to the Accounts.
Every one of the Business Units serviced, or was willing to
service, every one of the Accounts.

We make measurements of the Business Units only to help them
manage, and not to give credits. It should be easy to find out
from the already-available data how much of an application was
sold and at what price it was sold, and then from that deduce
whether the Business Unit was profitable.

The present proposal of grouping Accounts into Business Units
makes for easy accounting, but gives no useful information in
measuring the Business Units and ends up being a very arbitrary
was of allocation.

We already have Accounts grouped by District and by Region. It
is not at all clear what help we get by grouping them again by
Business Unit.

If the Business Unit system works well, the Field Account manager
will call on the Business Unit which offers the applications they
need. It is not at all obvious how Business Units that are
assigned Accounts will be expert enough to help in all of the
applications which the Account may need.

Larry Selden said, quite clearly, that all the Business Units
should report directly to me and that I should review them at
least once a month.

KHO:eh
KO:4341
DICTATED ON 8/8/90, BUT NOT READ

Distribution:

TO:	PETER SMITH	(SMITH.PETER)
TO:	George Chamberlain	(CHAMBERLAIN.GEORGE)
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CC:	Jack Smith	(SMITH.JACK)
CC:	Abbott Weiss	(WEISS.ABBOTT)
CC:	Bill Strecker	(STRECKER.BILL)

Printed by Win Hindle

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 014886
Date: 08-Aug-1990 12:05pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: BILL STRECKER
TO: See Below
CC: EXEC. COMM.
Subject: CHANGE TO BUSINESS UNIT ORGANIZATION ARCHITECTURE

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Here is a change I'd like to propose for the Business Unit
organization part of your architecture. Please go over it and
let me know if it is internally consistent or has any glaring
errors in it. Then I'd like to talk about it at our Thursday
Executive Committee meeting.

The original plan of our position was to have them be
applications, sometimes with special hardware and software,
sometimes with standard, and sometimes with no hardware at all.
Whenever needed, each account manager would then call on these
application experts for help in their account. Each Application
Business Unit would prepare their products, document and
advertise them, and, above all, market them to the account
managers and educate the account managers in their use and
features. Those Business Units that did everything well would
receive a lot of business from the account managers.

I am afraid that without any formal decision we have drifted away
from this in order to make it easy to measure the Business Units.
We now say that Business Units are a collection of accounts.
This indeed does make measurements easy, but it does not allow
justification or investment in applications and does not give us
a measure of our investment, nor does it allow or encourage
entrepreneurial thinking and entrepreneurial drive in our
Business Units. As in other forms of averaging, we lose our
original intent.

Measurement is a tool; it not a goal.

Small Business, Telecommunications, Health Care and all the others make investments in a group of applications and in individual applications. They propose a business with entrepreneurial thinking and entrepreneurial spirit. The challenge is how do we measure them in order to allow them to run their business effectively? The answer, of course, is to consider them as independent, separate businesses that sell to sales reps who happen to belong to Digital. The sales rep can sell from all eighteen of the independent Business Units or sell from just one. But, above all, the accounts in each Business Unit should be looked at as if they were separate businesses.

In one very clear sense, Business Units are in competition with each other. It appears that the account manager has only a limited amount of interest, energy, and time. Each Business Unit wants to make their products so easy to sell, so trusted, so reliable, and so safe that they will be top on the list of products the account manager wants to sell.

In the architecture which we have drifted into today, we make the list of eighteen Business Units and assign all the accounts to one of the Business Units. This, I claim, in no way solves our business problems.

The original proposal was to make a list of eighteen Business Units and have each one of those sell, with spirit, to each of the account managers and have them own and be responsible for all the services, ACTs, DCCs, trade shows, roving vans, capital equipment, and everything else spent on marketing an application.

There are actually many, many applications today which have to be grouped in order to make the thing manageable. If I listened to Professor Larry Selden correctly, they all should work directly for me, because that is what runs the business, and that I should meet with each one once a month to go over their results.

The groupings that I would propose are:

I.   A.   Manufacturing
     B.   Engineering

II. A.   Banking
     B.   Insurance
     C.   Finance

III. General Systems Business

IV. Desktop
     A.   PC
     B.   Terminals and Timesharing
     C.   Interconnect

V.   Workstations

VI.   Telecomm

VII.   Science
       A.   Big Science
       B.   Small Science
       C.   Laboratory

IX.   Developing Businesses
       A.   Media
       B.   Travel
       C.   Utility
       D.   Health Care
       E.   Retail
       F.   Distribution/Freight
       G.   Sales and Marketing

X.   Hardware Product Services

XI.   Software Product Services

XII.   Network and Site Services

XIII. Digital Assisted Services

XIV.   Digital Customized Support SVS

XV.   Desktop Services

XVI.   Facilities Management Services

XVII. Software Consulting

XVIII. Computer Special Systems

XIX.   Systems Integration

XX.   Education

XXI.   State and Local Government

XXII. U.S. Federal Government

XXIII. Education Services

A few more of these should be grouped to have the groupings closer to eighteen.

Another key part of the architecture is account management budgeting. They have to have enough data to know if they are profitable. For example, General Motors account management has to know the cost of each of the services and contributions they are giving to General Motors. They have to know how much profit

there is in a workstation so they can calculate a plan for a
General Motors Project.

KHO:eh
KO:4336
(DICTATED 8/8/90, BUT NOT READ)

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E.C.

K.O.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 014963
Date: 14-Aug-1990 11:06am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: EXEC. COMM. ET AL

TO: See Below

Subject: PROFIT RECOVERY PROGRAM

PROFIT RECOVERY PROGRAM

1990 HEALD POND WOODS MEETING

AUGUST 14 - 17, 1990

There are two goals we want to accomplish at the 1990 WOODS meeting and three problems we want to solve. All are key to the profit recovery program.

I.   The first goal is to re-do the Company to encourage entrepreneurship. We want to build a straight-forward, simple system by which people can propose, budget, and manage with entrepreneurial freedom and take the responsibility good business people are willing to take. This means getting rid of the many people and groups who, usually without responsibility, can veto, discourage, or stifle new ideas. It means a system in which people can propose new ideas, get funding, and receive enough data to manage their project as if they were entrepreneurs and to know how well they are doing. The system should encourage some risk taking for a large payoff. There should be very few people without responsibility complaining about what is done by those who take responsibility.

II.   The second goal is to have a system that clearly identifies where we are making a profit, where we are not, and where we should take action to make sure we make a good profit.

The model used will be:

MLP - Product Cost - Application Cost - Sales Cost = Profit

Those in the product groups develop hardware and software products and manufacture them. The product cost consists of the amortization of all the development cost of that product, plus the manufacturing cost, plus the logistics cost, and a small Corporate overhead charge. Probably a central engineering cost will be added.

The Application group's costs consist of all the marketing, ACTs, DCCs, software acquisition, third-party acquisition, sales support, software writing, testing, documentation, etc., and a small Corporate overhead charge.

In the Direct Selling model, the selling costs are all the Account costs, plus an itemized list of overhead items within the Field operation. First is the cost of a Unit manager, next is the cost of a District manager, then the cost of a Regional manager, and finally, the cost of an Area or Country manager. Next is the special cost of doing business in a country, minus the uplift in that country. The Sales cost also includes the cost of loaned equipment, all the sales time and support applied to an account or a project, special software given away, or other costs incurred while working toward a project.

Also charged to the Sales account are discounts and allowances.

For Indirect Selling, we have the same list of charges, but, supposedly, the discounts will be larger because the Direct Selling costs are much less and the profit stays the same.

For our DECdirect or Telemarketing program, we maintain the same list of costs, but the discounts should be different and the profit much higher because much of the selling is done outside the telemarketing.

This program implies a significant amount of data collected at the sale from the salesperson. But, if the account is being treated as a business, businesses have to collect a certain amount of data to run their business. They have to know where they are spending their time and what the return is.

This also means that for any project of any size, the Account manager has to lay out a plan from which they will propose how much they are willing spend in selling and special things during the selling cycle, and what the promised return will be. For this they have to know what

the expected product and application contribution will be.

With the data in the system, one should then be able to determine the profitability and wisdom of plans by account, by project within account, by product, and by application.

THREE PROBLEMS WE HAVE TO SOLVE

There are three problems we need an immediate solution to in order to recover our profit:

(1) We need Account plans by project so that we can be sure we are not giving away more time and services during the selling cycle than there will be profit available from the product and the application.

(2) We have to make good profit on our Systems Integration business. This means that all our systems and our special, skilled consulting-type groups should charge what their services are worth and they have to charge for changes made after the contract is signed.

(3) We have to make money on Applications. Product prices are, or will be, based on the competition who give no application services or sales services. This means there will be no profit left in the product cost to cover an Application.

14 August 1990
(KO:4362)

PROFIT RECOVERY PROGRAM

PROFIT = MLP minus product costs, application costs, selling costs.

MANUFACTURING COSTS consist of: Development costs, manufacturing costs, logistics costs, charge for central engineering, small corporate overhead.

APPLICATION COSTS consist of: Marketing ACT, DCC, software acquisition, third party acquisition, sales support, software writing, testing, documentation, etc., and a small corporate overhead charge.

SELLING COSTS consist of: Account costs, charge for District services, charge of Regional services, charge for Region or Country services, and charge for Headquarters

services.

- SPECIAL COSTS for doing business in a country, minus the
        uplift.

- COSTS OF LOANED EQUIPMENT, etc.

- PLUS A SMALL CORPORATE OVERHEAD.

- DISCOUNTS

- ALLOWANCES
- ALLOWANCES

*Direct selling, Indirect selling and DECdirect, are itemized
 separately

                                        14 August 1990
                                        (KO:4365)

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TO:  Grant Saviers                    ( SAVIERS.GRANT )
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TO:  Jack Smith                       ( SMITH.JACK )
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TO:  Remote Addressee                 ( BOB TROCCHI @MRO )
TO:  HARVEY WEISS                     ( WEISS.HARVEY )
TO:  Abbott Weiss                     ( WEISS.ABBOTT )
TO:  DONALD ZERESKI                   ( ZERESKI.DONALD )
TO:  John Sims                        ( SIMS.JOHN )
TO:  FRANK FABOZZI                    ( PAPER MAIL )

CC:  Remote Addressee                 ( CLAIRE MUHM @MRO )
CC:  Remote Addressee                 ( ALAN ZIMMERLE @CFO )
CC:  Bonnie Bedell @ CORE             ( BEDELL.BONNIE )
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	015191
Date:	04-Sep-1990 02:51pm EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: EXEC. COMM. + OTHERS
TO: See Below

Subject: MANUFACTURING/ENGINEERING TEAMS

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At times, people express the belief that magic will happen if we make a good manufacturing person the engineering manager for the product they manufacturer, or if we take the engineer in charge of a particular product and make that person into a manufacturing manager for that product. I do not believe in magic, particularly when you have to wait a year, two, or maybe three to see if it works. I also don't think that motivation makes a person a good engineer, nor does motivation alone make a person a good manufacturing manager.

However, I do believe in the magic of freedom and entrepreneur-ship, and planning, budgeting, and review. I also believe in the magic of partnerships and cooperation, and I also like magic where results are reviewed regularly and often.

As part of our drive for lower cost, efficiency, and fast turn around, we do need team work, cooperation, and interaction between Manufacturing and Engineering. Engineers badly need someone to tell them what is efficient, inexpensive, and quick to build. Manufacturing has to know what to expect in design and also in volumes, and in technology.

Now that we have the Business Units fairly well worked out, I believe we have to concentrate on Engineering and Manufacturing, so that our products are truly the best in the world and the lowest cost. I propose we do this by forming a team for every product group, which would be the Engineering manager and the Manufacturing manager for that product. Together, they should set goals, budgets, schedules, checkpoints, and measurements to assure best in class.

I'd like Bill Hanson, Jack Smith, and Bill Strecker to pick the product team that would cover the bulk of our products. We would give them the responsibility for these products. The plans should be reviewed at least every month, and maybe more often.

All the other support, overhead, red tape, policing, and helping groups in Manufacturing and Engineering should be looked at separately and it should be decided if they are needed any longer.

KHO:eh
KO:4423
(DICTATED ON 9/3/90, BUT NOT READ)

Distribution:

TO:	BILL HANSON	(HANSON.BILL)
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TO:	Bill Strecker	(STRECKER.BILL)
TO:	PETER SMITH	(SMITH.PETER)

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	011747
Date:	08-Jan-1990 01:30pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: EXEC COMM
TO: See Below

Subject: MANAGEMENT OF UNNAMED LINE GROUPS

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It is common to direct to outside groups the management of those
groups which are not in the main line of the business of the
Corporation. Because they do not receive the attention needed to
do a good job, the investment is not made in capital equipment to
make them efficient, little emphasis is put on the morale of the
groups and their goals are not usually challenging or satisfying.

People at Digital tend to put people like truck drivers, van
drivers, janitors, and maintenance people under some remote
administrator who manages people by analysis. This manager often
has little respect for the people who know what is going on
because the analysis does not appear to be realistic or wise.

I propose that we make a rule that for every group that is not
part of the mainstream there be a local manager on-site who lays
out plans, proposes expenditures, proposes goals and who is made
responsible for them. He might get help from analysis, but
analysis does not run the show.

Our airplane maintenance group is an interesting example. When
it was run by financial analysis, the staff mushroomed and morale
was terrible. When Doug Hammond hired an on-site manager (Walt
Hansen), the staff was cut and morale immediately became very
good. This was largely because of Walt's capabilities, but also
because he was on-site and owned a tool box.

KO:3705
(DICTATED 1/8/90 BUT NOT READ)

Distribution:

```
TO:   Jim Osterhoff              ( OSTERHOFF.JIM )
TO:   Win Hindle                 ( HINDLE.WIN )
TO:   John Sims                  ( SIMS.JOHN )
TO:   Jack Smith                 ( SMITH.JACK )
TO:   Martin Hoffmann @CORE      ( HOFFMANN.MARTIN )
TO:   Abbott Weiss               ( WEISS.ABBOTT )
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 011727
Date: 05-Jan-1990 03:21pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: SALES COMPENSATION AND REWARD SYSTEM

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The compensation and reward system within the sales department
has lost the confidence of the sales people. I'd like a
professional team consisting of outside and inside consultants to
make a thorough study of the compensation and reward system.
Then, I'd like the whole operation to be removed from the sales
department and put under the personnel department. The reward
system is frustrating to the sales people. It's much too
complex, too time-consuming, and too frustrating. The
compensation system seems to be aimed toward rewarding the
overhead people, particularly those who control and limit the
workers, and the workers themselves feel that they can never be
rewarded for doing a great sales job but have to, themselves,
become part of the overhead structure if they are going to get
significant salaries.

There are several things I'd like to accomplish with the new
compensation system. First of all, I'd like the rewards to be
primarily aimed at those people who get results in the primary
goal of the sales department which is sales. Regulators,
controllers, policemen, and rule makers should never be kept in
their job for more than three years, and these jobs should not be
considered the ultimate goal of the sales person if he wants good
compensation. There is a place for managers. Their goal should
be clear and their measurement should be clear. They can play a
key part in teaching, mentoring, training, and helping the sales
people. First of all, they should help get sales; secondly,
teach; and third, develop business plans which are efficient and
satisfying. Managers should be measured in their effectiveness
in getting sales. They should also be measured for the
competence and success in their development of the people under
them, and measured in the morale, enthusiasm, confidence and

competence of the people under them. In addition, they should be measured in the technical training their people have and their competence in handling the products we sell. The account managers and unit managers should have the authority to make commitments of resources and then they should be measured by the results.

The managers should be measured on how much they help, by the quality of the orders, and also by the business they have in the pipeline for the future.

The whole compensation system should be set up to encourage people to make a profession out of sales. If they are good and get better in all areas, they can look forward to significant pay, responsibility, and job satisfaction.

In no way should we imply that we will forever grow overhead structure to make work (at the expense of the sales people) in order to give status, promotion, and high pay to people who want to grow beyond being sales people.

This study should include software services, field service, and, maybe systems integration. For a year and a half, I've promised that the reward measurement system for the different parts of the field would not be a limitation in getting orders, but all my promises and all my efforts have come to nothing. Today, we still can't get the three parts of the field operation to work together like they do in Europe to get orders. We end up giving up orders because we can't get software services to compromise on the way in which they have decided to measure their people. They are measured on the returns for consulting for software services and will not allow their people to use software services to get business. I want this to stop immediately. When the measurements are under the control of the personnel department, I expect all of this nonsense to stop.

KHO:dao
KO:3691
DICTATED ON 1/3/90, BUT NOT READ

Distribution:

TO:	John Sims	(SIMS.JOHN)
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CC:	Abbott Weiss	(WEISS.ABBOTT)
CC:	Jack Smith	(SMITH.JACK)
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CC:	Remote Addressee	(SARAH SUMNER @CFO)

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E.C.

I N T E R O F F I C E   M E M O R A N D U M

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Doc. No:  011695
Date:     04-Jan-1990 10:53am EST
From:     Ken Olsen
          OLSEN.KEN
Dept:     Administration
Tel No:   223-2301
```

TO: See Below

Subject: TRUST IN THE FIELD

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I am so discouraged with the results of the last fifteen or more
months that I've spent trying to get the field straightened out.
I've gotten exactly zero results on all the things that I have
requested and promised with every memo and every speech that I
have given in that period of time. I am thinking of calling Ted
Johnson back because one thing that Ted did have was trust in the
field. He trusted them, they knew they were trusted, and they
responded favorably. This is probably the key item that is
missing today.

We can tolerate all kinds of mistakes if there is trust.

HO:mg
KO:3677
(DICTATED 1/2/90 BUT NOT READ)

Distribution:

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# I N T E R O F F I C E   M E M O R A N D U M

Doc. No:    011688
Date:       04-Jan-1990 10:15am EST
From:       Ken Olsen
            OLSEN.KEN
Dept:       Administration
Tel No:     223-2301

TO: See Below

Subject: ROMANIAN COMMUNISM AND THE DIGITAL FIELD OPERATION

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The Communist establishment in Romania, I'm sure, has in their
stated claim that they are there to serve the workers, to help
them, to satisfy their needs, and to improve their work life.
I'm sure that if you asked the district managers, area managers,
regional managers and the infinite headquarters staff that makes
pronouncements in the name of the Corporation, that they too
would have exactly the same statement as the Communist Party of
Romania.

The Romanians did have a problem.  There was no way the worker or
the supervisor could get rewarded for accomplishments.  They do
simple things like send people to Hawaii or Australia.  If you
want a significant position and enough pay to send your kids to
college, you have to be a member of the Party, which means you
have to be very distant from the actual productive operations.
You have to spend your time making rules and regulations,
allocating resources, setting goals, collecting signatures for
decisions, setting prices and discounts, and negotiating
resources between departments.

The result was that the workers in Romania felt more and more
distant from the groups which supposedly were there to help them.
The more propaganda that comes down, the more instructions,
rules, regulations, red tape, negotiations, thicker manuals, and
more people checking and even sometimes threatening, the more
alienated the workers become from the management of the Party.

Of course, this could never happen at Digital, but our system is
surprisingly close.

In a field office, if an account manager or a unit manager wants
to become well paid, he has to become a member of the Party and

be either a district manager, an area manager, regional manager, or go to headquarters.  There are no rewards for becoming a great sales person -- none that will send your kids to college.

Like in Romania, there is enormous pressure to maintain the high pay and the elite nature of the non-contributing managers, with the result that everyone wants to become a member of the Party.

When people insisted on reforms in Romania, the answer was, of course, we will do it, but we will do it slowly, but asking the Party to make drastic changes in their status, their pay, their reward system is dependent upon maintaining their position by telling the workers what to do.  If the workers were ever given the freedom to do what is right without all the negotiations, all the controls, all the signatures, and all the people passing judgment on all decisions, what would happen to all these people?

The result is, both in Romania and in our field, the workers are very much alienated.  They are not trusted.  They are picked on for little things, and they are very much offended when the tiniest things are not allowed such as calendar date books and when money is spent on propaganda that is sent to every sales person.

My view of the philosophy of Digital Equipment Corporation is to trust our employees, have them enjoy their work, have them exploit the trust for the good of the Company, and then, in those very rare cases where the trust is not respected, change the people.  It is exactly opposite from my philosophy to always pick on people over little things, and when a mistake is made such as taking away cars, to not generously and boldly give them back the cars but still to hanging onto things just to show that the Party is in charge.  Or, when they are forced to give up cellular telephones, they only pay a small part of the phone just to show that the Party is in control.

We have to decide if we are going to be a Romanian Communist Party, or if we are going to be a Capitalist Company where we trust people and let them control their own destiny.

KHO:mg
KO:3667
(DICTATED 1/2/90 BUT NOT READ)




**Distribution:**

TO:  Jim Osterhoff            ( OSTERHOFF.JIM )
TO:  Win Hindle               ( HINDLE.WIN )
TO:  John Sims                ( SIMS.JOHN )
TO:  Jack Smith               ( SMITH.JACK )
TO:  Martin Hoffmann @CORE    ( HOFFMANN.MARTIN )

**TO:**  Abbott Weiss                    ( WEISS.ABBOTT )
**TO:**  Dave Grainger                   ( GRAINGER.DAVE )

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*E.C.*

# I N T E R O F F I C E   M E M O R A N D U M

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                              Doc. No:  011606
                              Date:     29-Dec-1989 09:12am EST
                              From:     Ken Olsen
                                        OLSEN.KEN
                              Dept:     Administration
                              Tel No:   223-2301
```

TO: See Below

Subject: PLAN FOR PRODUCT SUPPORT

We are in too many things. We try to make too many products and
be in too many markets. We do not have enough engineering,
systems work, marketing, dollars, and, above all, interest in
this many products.

The span of interest of Jack Smith's staff is relatively narrow
and all products outside their immediate interest rarely do well
and rarely get the support they need.

It is also believed that we cannot afford to market or advertise
most of these products with the result that most of them will not
do well. Please set up a system that will force us to get out of
the things in which we do not have enough interest and support those
things in which we will stay.

KO:3664
(DICTATED 12/29/89 BUT NOT READ)

Distribution:

```
TO:   Pat Spratt @ CORE            ( SPRATT.PAT )
TO:   Abbott Weiss                 ( WEISS.ABBOTT )
TO:   Willow Shire @ CORE          ( SHIRE.WILLOW )
TO:   Remote Addressee             ( ROBERTA BERNSTEIN @MLO )
TO:   Jim Cudmore                  ( CUDMORE.JIM )
TO:   Ken Senior @ CORE            ( SENIOR.KEN )

CC:   Jim Osterhoff                ( OSTERHOFF.JIM )
CC:   Win Hindle                   ( HINDLE.WIN )
CC:   John Sims                    ( SIMS.JOHN )
CC:   Jack Smith                   ( SMITH.JACK )
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CC:   Martin Hoffmann @CORE              ( HOFFMANN.MARTIN )
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CC:   PETER SMITH                        ( SMITH.PETER )
CC:   Bill Johnson                       ( JOHNSON.BILL )
CC:   BRUCE J RYAN @CORE                 ( RYAN.BRUCE J )
CC:   Dick Farrahar                      ( FARRAHAR.DICK )
CC:   Willow Shire @ CORE                ( SHIRE.WILLOW )
CC:   Ken Olsen                          ( OLSEN.KEN )
CC:   BOB PALMER                         ( PALMER.BOB )
CC:   Grant Saviers                      ( SAVIERS.GRANT )
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 011810
Date: 11-Jan-1990 09:15am EST
From: Ken Olsen
            OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: COMPENSATION AND STOCK OPTIONS

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I have a friend whose stock option plan is terminating this
Spring. They are planning to put everything into one plan, as
everyone else is doing, which they call Omnibus Plus. They are
also planning to make this an Evergreen plan because everybody
else is doing that. It is Evergreen because they do not come
back every few years and ask for stock. Instead, they take a
fixed percentage of the outstanding stock each year. My friend,
like most companies, proposed 1 percent of outstanding stock. A
few go higher. MCI is almost 5 percent. It is probably a
function of how much of the compensation is in stock options.

I believe if we had a traditional bonus, dependent on a
percentage of profit above a specified return on asset, we could
change the thinking of our managers. They would no longer spend
capital as if it had no cost.

KO:3714
(DICTATED 1/11/90 BUT NOT READ)

Distribution:

TO: Remote Addressee   (SARAH SUMNER @CFO)
TO: Remote Addressee   (BONNIE BEDELL @CFO)

CC: Ken Olsen   (OLSEN.KEN)
CC: Jim Osterhoff   (OSTERHOFF.JIM)
CC: Win Hindle   (HINDLE.WIN)
CC: John Sims   (SIMS.JOHN)
CC: Martin Hoffmann @CORE   (HOFFMANN.MARTIN)
CC: Jack Smith   (SMITH.JACK)

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	012012
Date:	24-Jan-1990 01:13pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

Ken Senior

TO: See Below

Subject: STUDY OF THE CORPORATION

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As part of your study of the Corporation, could you include a study of our pricing policies?

I'd like to have the Corporate Operations Committee and the Executive Committee get together for a day and listen to the conclusions of your study. It would be useful if we could, at that time, also have a review of our pricing.

In Europe, we make a lot of money, and, in some of the GIA countries, we make quite good money. It seems to be primarily a result of the prices and the discounts. In this country, we make very little money which is a result of not enough volume and of high overhead, but perhaps it is overwhelmingly the fact that we price low.

We, Digital, are a major factor in the computer business. If we set the price low, and the competition matches us, we now can't change because everybody else is pricing low. This does not mean that we shouldn't understand it because if we understand what causes our problems, we then can solely work on raising our prices.

Part of the study should analyze whether the price problem is just the Maynard List Price or the discount we give because companies are big. The big companies take a large amount of pre-sales costs, and they take a lot of service afterward. These are the ones we give the large company discounts to.

Part of our problem might come about when the third party sales drop off and the direct sales become a major part. The direct sales don't have all these discounts and don't take the large amount of services before and after the sale.

Also, check to see if our pricing problems come about because those areas where we have a monopoly or have something very unique and special, we set about to price the same way we price when we have a commodity product. If we can't charge high for a commodity product, that does not mean we can't charge high for a special, unique product.

Then check to see if our low income comes about because we don't charge for services that we should charge. IBM gives a lot of free services before the sale and sometimes free services after the sale, but it is for these orders where they charge three times as much for a mainframe than we do. If we charge a lot less than IBM per mainframe, we can't give away services like they do.

KHO:dao
KO:3758
DICTATED ON 1/23/90, BUT NOT READ

Distribution:

TO:	Ken Senior @ CORE	(SENIOR.KEN)
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CC:	Win Hindle	(HINDLE.WIN)
CC:	John Sims	(SIMS.JOHN)
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CC:	DICK POULSEN	(POULSEN.DICK)
CC:	Russ Gullotti @ CORE	(GULLOTTI.RUSS)
CC:	DONALD ZERESKI	(ZERESKI.DONALD)
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CC:	BILL STRECKER	(STRECKER.BILL)
CC:	PETER SMITH	(SMITH.PETER)
CC:	Bill Johnson	(JOHNSON.BILL)
CC:	BRUCE J RYAN @CORE	(RYAN.BRUCE J)
CC:	Dick Farrahar	(FARRAHAR.DICK)
CC:	Willow Shire @ CORE	(SHIRE.WILLOW)
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CC:	Grant Saviers	(SAVIERS.GRANT)

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I N T E R O F F I C E   M E M O R A N D U M

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                              Doc. No:  012075
                              Date:     29-Jan-1990 09:04am EST
                              From:     Ken Olsen
                                        OLSEN.KEN
                              Dept:     Administration
                              Tel No:   223-2301
```

TO: See Below

Subject: REVIEW OF DIRECT REPORTS

Products
Fiscal Results 10% Pft
Cust. Satisfaction
Mgt/Leadership

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****** PLEASE READ THIS MEMO BEFORE TODAY'S MEETING ******

Let's make a list of the things we measure in a senior executive
at Digital before we carry on the main part of the discussion.
We then can rate people by individual characteristics and not by
personality or by impression.

Is he a leader? How do we define leadership at Digital? What is
his sense of duty to his people and his projects? What is the
morale of his people? Do they have a sense of direction and
mission? Do they feel they have the leadership? Does he
commiserate with his people because he, too, does not have a
sense of direction from his boss?

Does he systematically review, inspire, enthuse and lead each of
the groups he is responsible for? Does he work with those
leaders under him who need direction and education? Does he
systematically take care of the education of his people? Does he
systematically take care of his own education?

Does he have, for each of his people, jobs organized so he can
fit into the corporate financial plan, product plan, and long
term goal? Does he have measurements of his people that he can
go over with them?

Do his plans fit into the plans and goals of the three or five

segment managers of the Corporation, or are they going off on
their own direction making their own decisions without effort to
be part of the corporate plan defined by the segments?

How much overhead does he have, or is he overhead? How much of
it is necessary, and how much just grows because it grows? What
has he done to identify overhead that is not absolutely necessary
and then redirect it to line jobs?

If he is overhead, do the people he serves appreciate and want
his overhead, or is he considered a burden, a waste of time and
useless?

Does he want freedom and authority to make decisions and spend
money, but does he blame all problems on the people above him?

KHO:lt
KO:3768
(DICTATED 1/29/90 BUT NOT READ)

Distribution:

TO:	Win Hindle	(HINDLE.WIN)
TO:	Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO:	Jim Osterhoff	(OSTERHOFF.JIM)
TO:	John Sims	(SIMS.JOHN)
TO:	Jack Smith	(SMITH.JACK)
TO:	Abbott Weiss	(WEISS.ABBOTT)
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I N T E R O F F I C E   M E M O R A N D U M

Date:	29-Jan-1990 10:14am EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: REVIEW OF DIRECT REPORTS - ADDENDUM

****

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When we gave Bill Strecker the job of managing all the software,
was he given a written commission or did we feel it's up to him
to decide how he is going to manage it and define what he does
and what he assumes someone else will pick up and do? Does he
have a list of jobs on which he will be measured? Is he to show
leadership and to make sure people all feel direction and
enthusiasm? Is he to make sure that every project group
understands their goals and measurements and feels they have a
goal common with their manager? What are the things he is to do,
or is he simply there to get the most elegant, sophisticated,
software strategy and let the Corporation take care of marketing,
morale, leadership and enthusiasm? With that job, was he given
the authority to lead the Company in any direction and the
Company has no say?

KHO:lt
KO:3770
(DICTATED 1/29/90 BUT NOT READ)

Distribution:

TO:	Win Hindle	(HINDLE.WIN)
TO:	Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
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TO:	John Sims	(SIMS.JOHN)
TO:	Jack Smith	(SMITH.JACK)
TO:	Abbott Weiss	(WEISS.ABBOTT)

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TO:    Remote Addressee              ( BONNIE BEDELL @CFO )
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I N T E R O F F I C E   M E M O R A N D U M

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Doc. No:   012104
Date:      30-Jan-1990 11:32am EST
From:      Ken Olsen
           OLSEN.KEN
Dept:      Administration
Tel No:    223-2301
```

TO: See Below

Subject: P&L SECRET TO THE SUCCESS OF FIELD SERVICE

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In the olden times, field service had a P&L statement, and their profitability was measured. However, they were not able to propose to the Corporation a growth plan, an investment plan, or a bold business plan because all the investment was controlled by the product line. They gave back to field service what they wanted to and spent the rest on other things.

When I, with one statement, reversed this structure so that field service had P&L responsibility, but also the opportunity and the obligation to propose to the Corporation their investment plan based on their profitability, there was a wonderful, miraculous change in field service. The product lines openly rebelled. It was their money, they should be able to spend it the way they wanted, and they shouldn't trust the Corporation to make decisions with their money.

The power from P&L responsibility comes when one has the opportunity, and, indeed, the obligation to propose the future investments based on the actual and promised profitability of that group.

Entrepreneurial start ups and acquisition of small companies almost always fail in this country. During the start up and during the acquisition, the chairman of the mother company promises that they will report to him/her and that they'll have all the opportunities of an independent company when they are part of the bigger company. However, the staff takes care of all the decision making and only allows the chairman to see the plan which they have thoroughly sterilized and which eliminates all entrepreneurial spirit within a smaller group.

However, in Sweden, they seem to do it quite successfully.

Electro Lux runs 300 companies, and Volvo runs 500 companies. These companies appear to maintain the entrepreneurial attitude because they have their own Board of Directors, and they lay out their own plans. These plans do get approved by senior people from the parent company who sit on the Board of Directors, and their plans aren't sterilized ahead of time by staff.

The lesson from all of this, I believe, is that new businesses of field service should not be part of the field service P&L and planning system, but each one should be a portion of the Corporation. Each one should have its own P&L statement and each one should have the same entrepreneurial opportunity and obligation that field service had when it was small to lay out its plans for the future based on its actual and promised success.

This does not change the management of the businesses. They would still be run by field service senior management, but their investments would not be an intramural fight for resources as the businesses do within central engineering.

In central engineering, they are represented in many different businesses. They view their future investments as an intramural contest between each other for pilot resources that Finance has arbitrarily designated as having come from heaven. They, too, like the business of field service, obviously should be independently operated so that they can base their proposals on their growth, on their success, and not by the mysterious means by which a group of people allocate resources between themselves.

We tend to misunderstand P&L statements in thinking that extreme detail and enormous investment in collecting data is what makes it work. Very simple data and approximate profit would be good enough. We put so much effort in collecting data that we forget the important part is the investment in the future which is based on the profitability, not the amount of data collected. All that enormous data probably bears little relationship on how a group divides up resources allocated for future investments.

The goal should be that every business, small and large, should feel that its plans are reviewed by the Executive Committee and the Board of Directors and that they will be interrogated intensely to make sure that it is their plan and not the plan of staff members or the result of dividing up allocations within a closed club. The Executive Committee and the Board of Directors will insist that the decisions are based on approximate figures but which people feel are fair and accurate and not figures with great precision, but most of which are allocated and average.

KHO:dao
KO:3776
DICTATED ON 1/29/90, BUT NOT READ

Distribution:

TO:	Ken Olsen	(OLSEN.KEN)
TO:	Jim Osterhoff	(OSTERHOFF.JIM)
TO:	Win Hindle	(HINDLE.WIN)
TO:	John Sims	(SIMS.JOHN)
TO:	Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO:	Jack Smith	(SMITH.JACK)
TO:	Abbott Weiss	(WEISS.ABBOTT)
TO:	Jack Smith	(SMITH.JACK)
TO:	Bill Demmer	(DEMMER.BILL)
TO:	Bob Glorioso	(GLORIOSO.BOB)
TO:	Dom LaCava	(LACAVA.DOM)
TO:	Remote Addressee	(PIER CARLO FALOTTI @GEO)
TO:	Dave Grainger	(GRAINGER.DAVE)
TO:	DICK POULSEN	(POULSEN.DICK)
TO:	Russ Gullotti @ CORE	(GULLOTTI.RUSS)
TO:	DONALD ZERESKI	(ZERESKI.DONALD)
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TO:	BILL STRECKER	(STRECKER.BILL)
TO:	PETER SMITH	(SMITH.PETER)
TO:	Bill Johnson	(JOHNSON.BILL)
TO:	BRUCE J RYAN @CORE	(RYAN.BRUCE J)
TO:	Dick Farrahar	(FARRAHAR.DICK)
TO:	Willow Shire @ CORE	(SHIRE.WILLOW)
TO:	Ken Olsen	(OLSEN.KEN)
TO:	BOB PALMER	(PALMER.BOB)
TO:	Grant Saviers	(SAVIERS.GRANT)

E.C.

I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	012135
Date:	31-Jan-1990 03:37pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

Bill Johnson

TO: See Below
cc: Win Hindle et al

Subject: TEACHING PROBLEM SOLVING

I think you told me that you teach problem solving to students.
We need some organized approach to problem solving, and we might
consider this as one of the subjects to cover in the Woods.
Could you suggest someone who would be particularly suitable for
teaching our engineers and managers how to approach complex
problems, or do you think you might be the one yourself to do the
teaching?

The problem which frustrates a large part of the Company is how
we decide on new projects and how we get rid of those projects
which aren't absolutely critical to the Company. The STF or
Jack's staff feel that they are the only ones who can make these
decisions but still feel frustrated because they can't make them
all. They don't want help because there is no one as smart as
they, and they don't organize them so they can all be viewed at
one time and put into perspective.

We, as a result of these attitudes, present things to the
Executive Committee and to the Board of Directors one at a time
for approval. This frustrates both committees because presenting
projects one at a time is very unfair when there is no overall
perspective or overall list of projects to see how they fit into
the Corporate goals.

This is a traditional problem solving situation. We may say it's
one of the vestigial remains of the Gordon Bell era. It is
something we have to organize in order to overcome the
frustration that is so prevalent in the Company today.

We all can see how the Defense Department should be organized to solve the same problem, and we are all critical of Congress who feel they are the only ones who make decisions, but the problems have no answer and they will not put things into a perspective.

KHO:lt
KO:3781
(DICTATED 1/31/90 BUT NOT READ)

Distribution:

TO:	Bill Johnson	(JOHNSON.BILL)
CC:	Jack Smith	(SMITH.JACK)
CC:	Bill Demmer	(DEMMER.BILL)
CC:	Bob Glorioso	(GLORIOSO.BOB)
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INTEROFFICE MEMORANDUM

Doc. No: 012134
Date: 31-Jan-1990 03:28pm EST
From: Ken Olsen
        OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win Hindle et al.

TO: See Below

Subject: OPTIONS, BONUSES AND SALARIES

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When we review senior people, let's prepare for each one of them a simple chart showing their responsibility and their successes and failures.

It sometimes feels in the discussions, which are always done subjectively and seemingly by personality, that the way to success is to not take risks, keep down the number of projects or obligations, and stay out of trouble.

Do we rate someone who concentrates on one project that has been stable for a long time the same as someone who starts whole new projects, organizes them and cannot be expected to be as smooth running as a long term stable project? Do we rate someone who does one thing the same as someone who has taken on a number of risky development projects? Do we rate a staff member who takes no risks and just helps and facilitates the same as someone who has the enormous burden of committing to a huge investment which is visible to the world because of the devastating effect if it is a failure?

Do we rate someone who leads and develops new concepts, markets or organizations with someone who is a follower and stays out of trouble?

How is the morale of the subordinates? What does this person's peers in the rest of the Corporation think?

Do each of the subordinates clearly have defined jobs and goals? Are they happy with the procedure for having decisions made? Do they see clear strategies? Are the problems and questions

organized, and is there a systematic program for getting their
solution? Are the people at the next level below working hard?
Are the people a few levels below working only a few hours a day
with no obvious reasons to work hard? Does this person feel
responsible for the overhead in this group and know exactly
what overhead functions are there, what they do, what they cost,
and their importance?

Is this person's group a burden to the rest of the Corporation,
or are they a help?

If they make products, do people see a clear marketing goal that
they are all striving for?

How many people below this person are more valuable and meet
the characteristics of a leader better than this person?

Are the decisions requested of the Executive Committee or
Operations Committee from this person's group presented in
context with all the data in simple format so decisions can be
made? Are decisions requested incrementally without being put in
context and adding up all the previous decisions and commitments?

We say we give stock options as bonuses for results, yet we
continue to give them when the results are poor. The answer is,
of course, we have to in order to keep competitive compensation.
However, the Board should ask: Of the people on this list, how
many do we have to give bonuses to in order to keep? How many
can go elsewhere? How many can only do the job they are doing
here? How many can do another job within Digital, and how many
can take a significant increase in responsibility at Digital?

KHO:lt
KO:3778
(DICTATED 1/31/90 BUT NOT READ)

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CC:	Abbott Weiss	(WEISS.ABBOTT)

E.C.

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I N T E R O F F I C E   M E M O R A N D U M

TO: See Below

Subject: LEADERSHIP

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I at one time accused our marketers and the sales people of not being able to sell if they didn't have the very best product, the very lowest cost with the fastest delivery, and with the very best services. Of course, a good marketer needs only one feature that customers want.

Never in the history of Digital have we had so many great products, such great technology, so many fine services, and so many professional sales people, and such a positive reputation for being a quality Company. In fact, it's hard to think of any company today or any time in the world that has ever had so many things going for it and yet our "leaders" seem devastated because there is always something we don't have or something that someone else has better.

Perhaps too many of our leaders never lived through difficult times. Perhaps we're victims of the modern idea that leaders are those you pay for positive results, and they quit and move on when things get tough.

Leadership is necessary when one's squad is being attacked by many enemies, each of which has one or more advantages over them. Leadership means rallying the people and the advantage to win.

The world thinks that mini computers are dead, VMS is obsolete, time-sharing has no future, we can't do networking, and we have completely lost out in technology. Our answer seems to be to run from these problems and to propose spending money that would produce products that two years from now would prove that we are right.

Eight years ago, when we had serious problems, we did not turn

the Company around by waiting two or three years for a new
technology with enormous effort, we concentrated on organizing
the assets we did have and getting all divergent points of view
concentrated on one approach to solving the customer's problems.
At that time, I believe we had eight approaches to networking.
The PBX switch was, by far, the popular one and the one promoted
by Gordon before he left. We also were committed to following
every approach to networking that every major corporation was
proposing at the time. It was with a great amount effort that we
concentrated on finding exactly what our assets were, exploiting
them, and getting the whole Company to work in one direction.

It takes little leadership to be the captain of the boat when the
weather is fair, breezes are gentle, food and water are fresh and
plentiful, and the morale is high. It's during a storm when
things go wrong, where weaknesses show up, and where every thing
can be lost with poor coordination, discipline, and direction.

Leaders are not made on the drill field or in the harbor.
Leaders are made or found in difficult times.

I suggest that we make our February WOODS meeting a small meeting
of those people who are captains of each of the dozen or so ships
that make up Digital. In that two-day WOODS meeting, we should
concentrate on going over every ship and decide if the captain is
showing the leadership, or can show the leadership, understands
their assets, and understands what they can exploit. If nothing
is there, we should leave the ship behind. If we don't, we
should define exactly what we have that the customer wants. What
technology do we have that the world would appreciate? What do
we have to do for immediate results without waiting two years for
new investments?

KHO:dao
KO:3785
DICTATED ON 1/31/90

"Jukes was uncritically glad to have his Captain at hand. It relieve him, as though that man had, by simply coming on deck, taken at once most of the gale's weight upon his shoulders. Such is the prestige, the privilege, and the burden of command.

Captain MacWhirr could expect no comfort of that sort from any one on earth. Such is the loneliness of command." TYPHOON

"In the simplest terms, a leader is one who knows where he wants to go, and gets up and goes." JOHN ERSKINE

"The leader must know, must know that he knows, and must be able to make it abundantly clear to those around him that he knows." CLARENCE B. RANDALL

"Leadership is action, not position" DONALD H. MCGANNON

"The only real training for leadership is leadership" ANTONY JAY

"You've got to lead and not drive, inspire and not dominate, cause respect and not fear, win support and not opposition." ANON

"An M.B.A.'s first shock could be the realization that companies require experience before they hire a chief executive officer." ROBERT HALF

"To command is to serve, nothing more and nothing less" ANDRE MALRAUX

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TO:   Abbott Weiss                      ( WEISS.ABBOTT )

CC:   Willow Shire @ CORE               ( SHIRE.WILLOW )
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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 012175
Date: 02-Feb-1990 01:34pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: CALL A STRATEGY MEETING

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Here is a restatement of the problem I want to consider at the
February 14th WOODS meeting.

We now have, as a result of an enormous investment, an enormous
amount of work, and an enormous amount of planning, by far, the
best set of products in the world today and the best set of
products that Digital has ever had. In addition, we have, by
far, the best resources and organization that we ever had in
history. Yet our morale is low, and the outside world believes
we are behind in technology. When you have the best of
everything and the world believes you are behind in everything,
it's obviously the responsibility of the management to fix the
problem.

When we changed the engineering administration eight or so years
ago, we were at a very parallel position. At that time, we
thoroughly believed that we had to follow the IBM approach to
networking, the AT&T approach to networking, and everyone who
believed that PBX was the way local area networks would be done.
We still maintained a certain level of work on the corporate
strategy which was Ethernet, but we were somewhat embarrassed by
that because the world was going off in all different directions.

It is exceedingly frustrating to follow IBM, AT&T, and the PBX
people because they were each going off in all directions.
Following everybody and all going off in all directions, made us
look very weak.

We set about with an enormous amount of work and many meetings to
tie everybody together in one direction which was unique, clear
and simple, and which had all the obvious technical advantages
this, of course, useD Ethernet and resulted in our song

"Digital Has It All".

We also inherited from the previous administration a number of other beliefs. One was that VMS was obsolete because MS-DOS and other PC systems could do software with much less memory and much less cost, and adding options was so easy that any child could do it. In time, it became clear that, to do a certain number of software functions, it took approximately the same amount of memory no matter what the base operating system was. It became clear that, to do certain options it was equally complex to do an equally complex job no matter what the operating system.

One of the key factors in getting our messages straight was to present everything we had in our DECworld show. Suddenly it became clear that we were in a unique position, had things no one else had, and the world appreciated someone who was willing to stand up and say that what they had was better, and they weren't just trying to follow everyone in every direction.

Our situation today is very parallel. Almost all the competitors got completely behind in world-class software systems in the last ten to fifteen years. Only IBM and ourselves are able to do large systems on a large scale. We have proved that we are the only ones who can do some things in an elegant, nice way.

Meanwhile, all the other companies have ganged up on IBM and ourselves and announced that our complex systems are there just to lock in the customer. They, in a massive campaign, have set about to rule out Digital and IBM. Like ten years ago, when people made claims for PCs, they are claiming that simple UNIX systems will do all the things that world-class operating systems could do. They have dominated the standards organizations which used to pick the best defacto standard, now they predict standards that are not yet available and which outlaw anything but their version of UNIX. They make standards groups very political, and they are used to push out Digital and IBM and make them look nonstandard.

We are in complete disarray. The image we present to the world is that, yes, ours is proprietary, yes, we are joining into that great movement for non-proprietary software, and yes, we are committed to try to follow these people who are committed to destroy us.

In addition, we are very reluctant to say that world-class software is not done piece meal by many casual, small organizations. On top of this, we're committed to bore people with our announcements. We don't want to make a grand announcement of all our plans and commitments of small businesses, instead, we want to trickle out boring announcements one at a time. We are embarrassed by time-sharing. In fact, we're embarrassed by most of the good things we have because the UNIX people said they were not important.

Our ULTRIX is very important to us because the system can be used for many applications, but it also embarrasses us. Many people like it, it is the best UNIX-type software system for many applications, but it's not the best in every application, and of the large number of people who make UNIX, there are a number of places which are better than ours. If we are embarrassed by everything we do, it's easy to see why customers won't buy from us because they are sure we are not going to stick with what we have.

KHO:dao
KO:3791
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INTEROFFICE MEMORANDUM

Doc. No: 012269
Date: 08-Feb-1990 10:45am EST
From: Ken Olsen
           OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: CONTRACTING OUTSIDE FOR OVERHEAD FUNCTIONS

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One of the things we should do immediately to cut overhead is to
get outside companies to manage our overhead functions. We
should immediately have Avis or Hertz manage our automobile
program.

We should probably have some outside company manage our printing
services. We should have the Christian Science Monitor or some
outside newspaper run our house organ publications.

We should have an outside video group run, schedule and manage
our video services.

When overhead functions are an uninteresting part of an
organization, they don't get the attention to make them
competitive and efficient, and we should follow the rest of the
world and give them to organizations that consider them
important.

KHO:lt
KO:3816
(DICTATED 2/8/90 BUT NOT READ)

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F.C.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 012216
Date: 05-Feb-1990 03:29pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win Hindle + others

TO: See Below

Subject: MISSING LINK BETWEEN ENGINEERING AND THE FIELD

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When reading a briefing package or visiting an office, I feel
the sales people put on a concerted effort to "influence the
management of the Corporation". They see weaknesses and
questions in our product line, both hardware and software. They
also have seen needs in the field such as UNIX support and the
like.

The field apparently sees no link with engineering where most of
these questions and requests have to be answered. They still see
a wall surrounding engineering for which they see no path for
making requests or getting answers. They don't see that support
such as UNIX support was designated its responsibility of
engineering.

It is, of course, good to have management keep contact with the
field, but it is wrong to leave any implication that this is the
way to influence engineering. We should set as a goal the
development of clear, simple links between the field and
engineering.

As the Executive Committee takes responsibility for the
engineering budget, it is clear that all proposals for which the
Executive Committee will say yes or no will come from
engineering, and very rarely will anything be added to
engineering proposals. It is also clear that most of the wisdom
on the decisions will come directly from engineering. It is,
therefore, clear that, even though the Executive Committee will
take responsibility for the product budget, engineering still has
the responsibility for management and for long-term projects
including all the details the field finds are necessary.

KHO:dao

KO:3803
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INTEROFFICE MEMORANDUM

Doc. No: 012327
Date: 12-Feb-1990 03:47pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Ken Senior

TO: See Below
CC: Win Hindle + others

Subject: PREPARATION FOR FEBRUARY 16 MANAGEMENT SCIENCE MEETING

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Now that it is decided that we are going to budget every single piece of the Corporation, I'd like the Management Science group to, this week, in preparation for the February 16 meeting, list and organize every group in the Corporation.

ENGINEERING

There are 2000 product projects in engineering. I think you can probably group these into 30 to 100 groups for easy management. These in turn would be grouped into the major groups such as workstation 6000, 9000, VMS, and ULTRIX.

The summary should list the 30 to 100 groups, which we will later budget by month, by what goes in and what we get out along with a clear statement of goals. The backup sheet will have all the details for the individual project.

Every overhead group will be budgeted separately listing what it delivers each month and the cost that went into it.

The overhead directly assigned to a project, such as secretaries and technicians, will not, in this budgeting plan, be under the definition of overhead and what we consider a direct cost. The overhead in the groups, at the vice president level or at the headquarters level will be budgeted at each of these places and reported in each of these places separate from the projects.

Applications are now done as projects in engineering. They will be budgeted the same way as other projects in engineering but will be grouped separately.

SELLING

The selling budgets will be grouped by the three areas and then, within each group, where applicable, there will be a separate group for direct selling, indirect selling, telemarketing, and government.

Within each of these groups, the budgets will be made up at the account level or the equivalent. Overhead within the accounts, such as secretaries, and overhead groups that service more than one account or equivalent will be budgeted independently as in engineering.

MANUFACTURING

We will budget manufacturing by factory or by piece of factory with the same rules we use in engineering and sales.

PERSONNEL AND FINANCE

We will break down personnel and finance the equivalent way and budget them as if some of their functions are line items and some of them are overhead items. Above all, we will make sure that every item is budgeted and accounted for every month.

Traditional financial people want either no recording, budgeting, or accounting or an infinite amount of detail. We will budget everything and report everything every month but average the non-personnel items and sometimes make exceptions. When space and capital equipment are approximately that of the average of the Corporation, we will not put them in the budget. Certain areas, which are very capital intensive, will be included in their budget. Some places, where space is exceedingly expensive, will be included in their budget.

The major goal for planning is to make sure that every detail is acccomplished to be sure that our products and our services are complete. From the resulting data, we can do a satisfactory job whenever we want to recast the figures to see how much of a burden an overhead operation is and what it costs.

OTHER

While laying out the chart for budgeting engineering and manufacturing I'd like to make a separate chart of the overhead structures in these organizations. It is quite common for frustration to be expressed by the red tape, arbitrary rule making and unofficial, self-appointed groups that make and enforce rules.

What are all the groups in engineering and manufacturing that regulate and make rules? Are they truly random, or are they part of a master plan and run by someone with wisdom?

Let's make the assumption for the study that most of the groups who see no planning for the Corporation really do not see a place for their job in the Corporation. Let's use this study to find out how many groups there are to whom we owe a quick answer as to whether they have a part to play in our plans.

KHO:lt
KO:3830
(DICTATED 2/11/90 BUT NOT READ)

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E.C.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	012370
Date:	13-Feb-1990 04:02pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: RAISING PRICES

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Over the last few years, we have turned to a non-technical sales force who often are more expensive and who almost always need several technical support people for every request from a customer. We also go after the large jobs which take an investment of time and money before the order, and then we give a large amount of services as part of installation, set up, demonstration, and training. During this period of time, we have not raised our prices to cover these costs, and we still charge just the sum of the pieces and then give a fairly large discount.

We were told IBM raised their prices 10 percent last year, and, this year, have announced that their NOR will be up 10 percent.

We have to train our sales people to be technical experts, we have to charge for some of the services we give ahead of time, and the services we give after the order.

Going into the systems integration business was first motivated by the need to charge for services. We said that when we have a group called systems integration, we then could bill for those services we were giving for free. However, the segments never saw the need for this.

The SSMI committee has concluded that this is probably our most critical problem at this time. The discounts we give away are many times the profits we get.

The committee has decided that the most painless and logical way to do this is to subtract 10 percent of the MLP price from any discount someone might earn for systems integration. This, in effect, raises the price of all systems delivered by 10 percent.

This plan means that people who simply buy components, like many OEMs, do not get charged the systems integration price. It probably also means that, in general, we don't do a large systems design effort for them before the sale. The SSMI committee would like to do this immediately.

KHO:dao
KO:3835
DICTATED ON 2/12/90, BUT NOT READ

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Doc. No: 012370
Date: 13-Feb-1990 04:02pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: RAISING PRICES

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Doc. No:	012217
Date:	05-Feb-1990 03:28pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

Win Hindle & others

TO: See Below

Subject: MARKETING AND APPLICATIONS

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At one of our next WOODS meetings where we can get everybody
together for a couple of days, I'd like to divide the Company
into four pieces--selling, service, hardware and software, and
applications. I'd like one czar of marketing who instead of
doing the marketing for every piece of every one of these groups,
would be responsible for making sure that every group does the
marketing which is necessary.

This person will, by the sheer power as keeper of the marketing
plans and reporter of those plans, be sure that everyone has a
good plan. This person will be in the position to help, offer
agency help, inspire, and correct.

The organizational challenge for us was to get a large number of
application groups formed, organized, and coordinated. In the
past, we have tended to have an organization for each general
area but that organization concentrated on only a small number of
applications in that area. I think this group will always be
this way because the groups can usually show enthusiasm and great
interest only in a narrow area. We also tended to concentrate on
those application areas which already have been developed and
usually those which large companies insist upon.

In the future, I'd like to see us also concentrate on the
enormous markets for simpler applications. For example, we are
doing well in selling CAD to the very large aircraft and
automobile companies. This is very important, but it will not be
a by-product to sell CAD to road departments, gas departments,
water departments, maintenance departments or plants, small
architects offices, machine shops, etc. Each of these
applications will take a small group who, lead by one person, is
willing to concentrate on all the software available for that

application, study the needs of the customer and how to sell to them, and put all their energy into it.

I believe that in the tens of thousands of technical people we have, there are a large number who would like to take responsibility if we would give them the chance.

It's always hard for management to believe that people under them want to run things by themselves, to lay out a business plan, a marketing plan, a product plan, and to study the market and all the available resources. It is obvious that organizations set up in a traditional way where people are assigned jobs can never feel the full responsibility they would have if they proposed the job themselves.

These fields of expertise should be set up anywhere in the world where there are Digital people who want to take on that responsibility. Most of these applications would know no geographic border.

KHO:dao
KO:3802
DICTATED ON 2/4/90, BUT NOT READ

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 012065
Date: 26-Jan-1990 02:45pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MARKETING VICE PRESIDENT

Eight years ago, we spent an enormous amount of time and effort developing, out of all our product efforts, a theme that would catch the imagination of our sales people and our customers. We haven't been able to do this for the last few years. We invest an enormous amount of money on products and most of them are excellent. We have many applications which are the best in the industry. We have, by far, the best networking and the best operating system, yet we have little inclination to develop an obvious strategy and a theme that will catch the imagination of our sales people and attract the attention and the confidence of our customers.

I have concluded that it is impossible to get this out of an engineering group and that we should set about to hire the best marketing person in our industry to make sure that all our products, software, and all our applications fit together in a theme which we can push hard to help the world put all the things we offer into perspective.

I'd like you to systematically find a very senior marketer who is sympathetic and knowledgeable about our way of doing things and about our products and our market. I think this person should be a member of the Executive Committee and given all of the resources and all the clout to make sure we do what is necessary to develop a theme and a marketing program.

We are very naive in marketing. We sometimes work hard on one ad and take months to approve it, or we work hard for months on an announcement, but this is not marketing in a professional sense. Professional marketing implies that a goal is set and all the steps necessary to get that goal accomplished are put into a plan. The plan might include:

1.   a few or many magazines and newspaper stories written or
     helped by the Company,

2.   leaks and releases about upcoming announcements,

3.   introduction of a little conflict or a little interest
     in the product one way or another ahead of time,

4.   an interesting announcement with many newspapers and
     magazine stories and may be some advertising, and then,
     most important of all, a program to continuously keep
     that theme or that product in the public eye.

One of the easiest ways is to keep announcing exciting orders
that have been won. Marketing is, indeed, a full time, high
level, and a very professional job that should dominate the
thinking of a very competent, high level person in the
Corporation and should not be something that we do if we happen
to get around to it after we've developed a product or an
application.

Today, our marketing is based on our organizational breakdown.
We market computers once in a while, but almost always separate.
We market All-In-1 separately from the other choices we offer to
do the same functions. There is no obvious theme behind our
offerings and there is no presentation that shows how things fit
together. Our internal organization and our internal
measurements seem to be more important than a Corporate message.

Meanwhile, I'd like to see if we can make a pass at these goals
even before you find this person. John Rose is committed to a
large booth at the LAN show in Boston the middle of February.
I'd like us to see if we can present there in a very exciting,
dramatic way with preliminary leaks, press conferences, stories,
in magazines, many which we will write, and a theme for our
time-sharing PC LAN business.

In an easy-to-understand way, I'd like to show, in one place,
what we offer in All-In-1, PC LANs, and time-sharing. I'd like
people to see the advantages of each approach and what the cost
is.

I think, as a theme, we could claim that we invented client
server computing. As inventors, we can define it the way we want
which would include time-sharing which we've done since 1960.

We should show, on one page, all the servers we offer from the
desktop to the mainframe and to the X86, RISC, and VAX. On
another page, we should show all the client devices we offer
which are simple terminals, window terminals, Apples, PCs, and
workstations. On another page, we should show how we do
networking from one room to major corporations around the world.

F.C.

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INTEROFFICE MEMORANDUM

Date: 19-Feb-1990
          11:37am EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MODIFYING THE EMPHASIS OF THE MARCH WOODS MEETING

****
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For the March three day WOODS meeting, let's take the first half
day or so and, as planned, learn how one should evaluate a
company. We should consider how one would evaluate Digital if
someone were going to buy our stock. How would we evaluate a
smaller company that we may want to buy or buy a share of.

We should learn to look at the value for the current financial
results and for the future results.

I see little danger of us being bought, and I see little
likelihood that we would make any major acquisitions, but
considering these things, would do much in helping us organize
our own evaluation of what we are doing.

Then I'd like to take the next two and a half days to generate
the "Corporate plan" which we will then present to the Board of
Directors on the 23rd of April.

CORPORATE PLAN

Eight years ago, after we lost a number of vice presidents and
the stock market looked poorly, we set about to formulate a
corporate plan. After many years of Shel Davis' WOODS meetings,
where individual managers were encouraged to think for
themselves, develop their personalities, and, above all,
criticize corporate management, we, very clearly, needed to
formulate a clear corporate plan. Sometimes we were heavy
handed, but we listened a lot. Sometimes we were participative
in the decision making, and sometimes not. The result was that
we turned around the Corporation. We went from five years with
no new products to an era where new products came out every few
months. We went from one of the poorest rated companies in Wall

Street to one of the highest. We rejected the plans, ambitions, and the "have to do" projects of many people and turned the Company around. I got up at 4:00 a.m. almost every morning for a year and dictated thousands of pages. We had dozens of small WOODS meetings, but we did develop an easy-to-understand plan, and we gave people the freedom to accomplish their part.

Now is the time we, again, have a fresh plan that is simple and easy-to-understand. The Board of Directors is asking for it.

I'd like to break the plan into five parts:

1. Applications

2. Marketing

3. Components

4. Selling

5. Corporate Services

FAIRNESS DOCTRINE

I have two hypothesis. The first is the doctrine of fairness that limits what we can do, and secondly, our doctrine of span of control limits freedom and entrepreneurial spirit.

Jack Smith's engineering staff divides up the budget. According to the doctrine of fairness, they divide up reasonably fair between the people represented on the staff. Pete Smith gets his share. He then goes back to his staff, and, with a doctrine of fairness, he allocates some of it to marketing and some of it to each of the application groups.

Each application group then divides it up according to the theory of fairness. For example, Henry Ancona divides it up between imaging, accounting, office, and EDI.

This, of course, means that if an application is tremendously promising and critical to the Company, and if we happen to have an entrepreneur who would like to run it and do big things, there is no way on earth that he could get through that ladder which is based on fairness to get the resources he needs.

ORGANIZATIONS CHART DOCTRINE

The theory says that, in an organization chart, one should limit the span of control and people read into this the implication that the manager has to have an interest in, believe in, make the decisions, and lead all those people over which he has control. This means that applications are limited to the span of interest, the time and energy of the managers.

Early in the history of Digital, we decided that we would not
have central planning because this always limited the Company to
the span of interest to the central planning committee, and we
decided the applications we went into would not be limited by the
group leader, but instead, each of the applications or the
product lines reported directly to the Corporate Operations
Committee or the Executive Committee.

When we present this plan to the Board of Directors and tell how
big the potential is and how big our part of the market might be,
they, of course, will not accept the excuse that it's not within
the span of interest of one of the managers.

APPLICATIONS GROUP

I'd like to have us work hard at the list of applications we
might invest in before the WOODS so that when we get there, we
have it quite well developed for presentation. I'd like each
application presented, not by the group manager but by the
individual entrepreneur who would like to run that application.
I'd like to list those where the market is over a billion, half
a billion, a quarter of a billion, and over a hundred million.
Then, as part of the presentation, I'd like to identify how much
of that market should be our share, how much of the market are we
now planning for, and what can we do to get what should be our
share.

The presentation should be broken down to show how much we invest
in each quarter and how much we get back each quarter for several
years ahead. It might be good also to have a timeless model.

THIRD PARTY APPLICATION

There are many applications that should be run by third parties,
but when we give to third parties, we do out of laziness, lack
of resources, lack of boldness or the fact that we don't open
it up to young, creative people in the Company. For all those
applications which we are turning over now to third parties, I'd
like to have them reviewed because it's clear that some of them
the customer really wants to buy from one manufacturer who would
take responsibility for the whole job, the equipment, the
software, the applications, the installation, and long-term
responsibility.

For some third party applications, we end up taking
responsibility, even though someone else makes the profit. What
is the risk involved in some of the third party sales we make?
How much sales time do we invest in them? Does our accounting
show fairly the cost for our selling, installation, maintenance,
and guarantees?

Besides the usual applications, we should include accounting,
information services, and some of Don Zereski's eight separate

businesses. We should be open to some of the engineering
applications that Don McInnis has rejected, in specific, medical
and science applications that we might have particular advantage
in.

MARKETING

The second major piece of our plan is marketing. I believe we
need one marketing manager for the Corporation who would not do
all the marketing, but would be the keeper of the plans for all
the applications and all the components. That person will help
criticize marketing plans and will flag to the Executive
Committee and the Board of Directors those products which are not
exploiting their marketing opportunities. I'd like Pete Smith to
define this job and spell out how this new corporate marketing
manager could be the teacher, inspirer, critic, leader, and still
leave the responsibility for marketing for each of the selling
and field businesses.

I'd like to lay out one chart of the various selling operations
for the three areas: direct selling, indirect selling, catalog
selling, and third party selling. We might also include in this
field service selling.

In addition, we will identify the systems integration business,
special systems, and the eight businesses that Don Zereski has
started if they don't better fit in under components or
applications.

COMPONENTS

Under components comes our CPUs, disk, terminals, VMS, ULTRIX,
and maybe things like imaging and the applications that are
components for many other applications.

CORPORATE SERVICES

For the plan, we would like to spell out the whole list of
Corporate services, what they spend, and a statement of what they
return for each of the separate things they deliver. The service
would include things like finance, personnel, IS, communication,
real estate, and air services.

Before the March meeting, the only Corporate Operations Committee
meeting we have is the day before the winter WOODS, but we have
an Executive Committee meeting on the 6th. We might be able to
arrange a meeting to go over these things on each of the Fridays
before the WOODS meeting which would be the 2nd, 9th, and 16th of
March.

WHERE CAN WE MAKE PROFIT?

For the last day, let's figure out where and how we can make
profit. Let's be sure we get enough analysis and recasting of

the data so we know in reality where we make money, where we don't today, and why we don't make what we should. We are making money in some places, but it gets lost in the averaging. Are we loosing money some places but it doesn't show up dramatically because of averaging? Should we break the Company into several very independent businesses so that we can let each one set their prices so they really can make profit without being burdened by other parts of the Company?

SUMMARY

If we don't return to good profits and good growth, Wall Street will want my head. The summary of my failures is that first I didn't get us to market our advantages--in particular VMS. Secondly, I didn't get the Company organized to know where we are profitable, where we are not, and into more of those areas where we are.

In summary, let's use the WOODS to recover from these failures as soon as possible.

KHO:dao
KO:3851
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TO:	Ken Senior @ CORE	(SENIOR.KEN)

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	012317
Date:	12-Feb-1990 10:26am EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: LEADERSHIP WOODS MEETING - FEBRUARY 15

LEADERSHIP THROUGH PLANNING

I don't know what they teach about leadership in business schools today, but it is abundantly clear that we have to clarify what we mean by leadership and management.

There seems to be a common belief that management is a title bestowed on people because of their intelligence and brilliance, and with it comes no clear responsibility for leading, helping, training and satisfying the needs of the people working for them.

As a result of Thursday's WOODS meeting, I would like to have a written statement of what we mean by leadership and management.

First of all, do we have a right and an obligation to have an understanding of what responsibilities and duties are accepted when one takes a management position? Should it be stated or clearly implied that, with the acceptance of a management or leadership title, one commits to certain obvious duties?

With the title, is it implied that the Company owes them the pay that goes with that title, but they have no clear responsibility for their projects and people, all the communication to and from their people with the rest of the Company along with a clear plan and clear strategy for each group under them? Do they have the responsibility to straighten out misunderstandings within the group and between the groups?

Does the management/leader title imply certain powers to decide, but the functional groups - personnel, finance, budgeting, and planning take all the responsibility for leadership?

Is the manager free of all responsibility for leadership because Digital's policy is that everyone does what is right in their own eyes?

Are managers free of responsibility if their people are confused about the corporate goals, or if they do not understand what "Ken Olsen says."

If corporate goals are confusing, does that excuse the manager of responsibility or does the manager have the responsibility to push hard to make sure the corporate goals are clear?

If people see no leadership in the Company, is it the managers' clear responsibility, or does that more thoroughly prove their contention that they have an excuse because there is no leadership in the Company?

Do managers have the right to reject work for a project if they do not feel like doing it, or do not believe in it, or feel there is a better way, or is it their duty to do it when it is in the corporate plan? Can managers drop a project anytime they think there is a better way?

How much of the manager's time and effort as a leader is spent complaining, and how much is spent making sure every single person understands the goal and everything is planned in detail so that every single detail is accomplished?

How responsible are managers for the morale, enthusiasm, productivity and cooperative spirit of their people? Is it the manager's job to work things out with other parts of the Company, often with people senior to them, or is it the managers/leaders job to solve problems that are not immediately taken care of by ordinary communication, and to take care of all the requests and communications with people at their organization level? Is it fair to insist that people make requests and negotiate with managers several levels higher in other parts of the organization?

If a project is going to fail either for technical reasons or because every part or every detail is not planned and committed with a reasonable schedule and budget, is the manager obligated to continue blindly or is the obligation to raise the issue and to make sure that any failing project is reviewed at whatever level is necessary.

If the people in one's group are frustrated by one or many self-appointed, rule-making groups who have no official standing or whose edicts do not have the signature of a senior vice president, is it the responsibility of managers/leaders to straighten out the situation or are they to agree that, yes, the Company is filled with red tape and some mysterious person will solve all of those problems.

I assume that when people are frustrated by rules, orders and commands that come from "the Corporation", the manager will automatically instruct people to ignore them and file them in the wastebasket. Obviously, all orders or rules are signed by

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individuals and it is stated by whose authority these rules are
being made.

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INTEROFFICE MEMORANDUM

Doc. No: 012560
Date: 26-Feb-1990 04:57pm EST
From: Ken Olsen
           OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MARCH BOD MEETING

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The major question for the March Board meeting and the one I want
to put first on the agenda and spend as much time as necessary
is: How do we run the business?

The first question is: Who decides what businesses we go into?
Who is responsible to make sure that every detail in that
business is planned and budgeted including marketing, selling,
training, and advertising? The tradition in business is to break
a company into many pieces giving each piece the responsibility
for proposing their business and taking the complete
responsibility for all the details and profit. The decision for
deciding which of those proposals are accepted and which business
the company goes into or stays in is usually made by the Chief
Executive Officer, the Executive Committee and the Board of
Directors.

For a number of years, the staff has made these decisions, but
they feel little responsibility for completing every single
detail involved with every single segment of the business and
making sure the pricing comes out right. They allocate the
funds, normally to themselves and, therefore, very little goes to
applications and marketing. They appear to have no plan for
working out all the details after they make the decisions, and
they appear to be very frustrated because things don't work out
because all the details don't get taken care of. Therefore, they
were not successful with many of their investments.

It seems so clear to them that they are the only ones smart
enough to solve the very complex, technical question of where we
spend a billion and a half in new products, and they are
passionately holding on to this prerogative but still with no
proposal as to how they are going to make sure the details get

taken care of.

It's clear that I've not won anyone over to the idea that we
should break the Company up into pieces that will take
responsibility for the decision, details, pricing, marketing, and
success. I've asked George Chamberlain to propose his theory,
which he is defending so strongly, and I'd like the rest of the
Executive Committee to propose their theories of how we make sure
everything gets accomplished to be profitable.

KHO:dao
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D	I	G	I	T	A	L

INTEROFFICE MEMORANDUM

TO: Executive Committee

DATE: 27 February 1990
FROM: Ken Olsen
DEPT: Corporate Administration
M/S: MLO12-1/A50
EXT: 223-2301

SUBJ: REPORT ON THE FIVE SEGMENTS

****
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We announced last year to the Company, the Board of the
Directors, and, I think, at the State of the Company meeting,
that we had five segments which were going to run 100 percent of
the Company and would be responsible for all parts of it. I
think its time that we ask them to report to the Executive
Committee and at the next Board of Directors meeting their
results of taking responsibility for 100 percent of the Company
for the last seven or eight months and what they recommend as
future changes.

KHO:dao
KO:3884
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DIGITAL
BUSINESS SEGMENTS

HPS	High End	Bob Glorioso
MSB	Mid-Range Sys.	Bill Demmer
LES	Low-End Sys.	Dom LaCava
EIS	Enterprise Integration Sys.	Don Busiek
Customer Service		Don Zereski

Business segments add to 100% of the company revenue with no overlap. They are responsible for the total P&L of the business, from base technology through sales to customer satisfaction. They worry about all aspects of their business. There still exists business units, i.e. Storage, VAXclusters, and Workstations within the business segments.

THE NEW CORPORATE MODEL

SALES   Should know their customers and
the industries which they reside.
The sales rep should know, in detail
Digital's architectures, base product
strategy, (3000,6000,9000) including
VAX/VMS, RISC, TP and Desktop, and
advantages of each. They should not be
aligned to a specific product organization,
and should be managed by the
geographies. Account managers will plan
for and manage all the resources in the
account and goaled accordingly.

SALES
SUPPORT   Responsible for matching Digital's tech-
nology and application solutions with the
customers business needs. Sales support
will be funded/assigned by the business
segments and managed by the district
sales managers. The EIS district
manager will continue to drive technical
excellence and appropriate career
pathing.

MESSAGE   All engineering groups want more sales
support and tighter links with sales

BUSINESS SEGMENTS
AND
SALES SUPPORT

GOAL: Sales Support is the key vehicle
for the businesses to take their
products to market.

In order to accomplish this, a
tighter connection between
Engineering and Sales Support
needs to exist.

SALES SUPPORT
DUAL EXPERTISE

GOALS:

- Every person should know the base systems and architectures
  - 3000, 6000, 9000
  - VMS
  - Networks
  - RISC

- Some people will have multiple fields of expertise
  - i.e. TP, Database, Mfg, Clusters

- People will continue to have additional roles in the future
  - Program managers
  - Solution Architectures

- All specialists should have an application expertise and a technology expertise
  - i.e. Engineering/Workstations

- Those experts will be the "catchers" from engineering/PMGs for product information

BUSINESS SEGMENTS COMMITMENT TO FIELD SALES SUPPORT

- Provide quality, in-depth training
  - Competency models
  - Curriculum
  - DUIT

- Provide sales support with access to Engineering community
  - Partners programs
  - Field expertise centers
  - Engineer to specialist training
  - Simple escalation process

- Provide sales support with the necessary tools to help you succeed
  - Worksystems
  - Demos from DUIT

- Care and feeding of sales support
  - i.e. Networks

SALES SUPPORT GROWTH PRIORITIES
KEY FOR THE 90s

TECHNOLOGY DIMENSION

- Fault Tolerance - Hiring

- High End - Hiring

- TP - Skill Development

- Ultrix - Hiring & Skill Development

- Network - Skill Development

APPLICATION DIMENSION

- FABS - Hiring

- Finance Services - Hiring

- Imaging - Hiring

- DMSS - Hiring

DIGITAL CONFIDENTIAL Document

I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 012564
Date: 27-Feb-1990 09:04am EST
From: Ken Olsen
           OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: GEORGE CHAMBELAIN
TO: See Below
CC: EXEC. COM. + JIM CLDMORE
Subject: BUSINESS DECISIONS AT DIGITAL

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Phil Caldwell asked me who makes business decisions at Digital,
who decides where we make our investments, and who makes the
pricing decisions? I told him it was Jack's engineering staff
and STF who decides what businesses we go into, and its quite
independent of what we say to the Board of Directors. We said to
the Board of Directors that CPUs and disks are only one of the
major components of our business, and, more importantly, are the
applications.

I told him that Jack's staff divides up the investment money
between all the computer science groups and assigns appropriately
equal amounts of money to marketing and applications and this,
in turn, is divided up by Pete Smith into a number of managers
which, in turn, is divided up among applications. There is,
therefore, almost no money left for real marketing or any
significant impact on any application. I also said that, of
course, because of the background of Jack's staff, they have
little interest in business applications. They don't lack
humility because they do read computer magazines where everything
is black and white.

I also said that this group is passionately trying to hold onto
this power because they cannot trust the Executive Committee or
the Board of Directors to decide the business decisions of where
we make money, where we invest, and the nature of the Company.

This group insists on holding the power, and yet, when things
don't work out, they imply the fault is somewhere else.

I sense a strong effort to frustrate my desires to turn this
decision making over to the Board and the Executive Committee.
It seems to me that by all traditions, this is where the business

decisions are made, but not at Digital. I, therefore, suggest
that you come to the Board of Directors meeting and explain your
theory as to how business decisions are made, who makes the
allocations to the applications and to marketing, and who is
responsible for tying all the numbers together for every business
to be sure there is a profit in the end.

Traditionally, someone is responsible for a business. They have
all the responsibility for making sure that everything gets done
including marketing and selling. They are responsible for
understanding all the costs and making sure that the price ends
up with a profit. In the system you are so strongly defending,
will you tell the Board of Directors who has this responsibility?

KHO:dao
KO:3881
DICTATED ON 2/25/90, BUT NOT READ

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TO: George Chamberlain   (CHAMBERLAIN.GEORGE)

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 013025
Date: 30-Mar-1990 12:40pm EST
From: Ken Olsen
         OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: LINES OF BUSINESS

Distribution:

TO:		
TO:	John Alexanderson	(ALEXANDERSON.JOHN)
TO:	Don Busiek	(BUSIEK.DON)
TO:	George Chamberlain	(CHAMBERLAIN.GEORGE)
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TO:	Jack Smith	(SMITH.JACK)
TO:	PETER SMITH	(SMITH.PETER)

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TO:   Remote Addressee              ( DAVID STONE @GEO )
TO:   BILL STRECKER                 ( STRECKER.BILL )
TO:   HARVEY WEISS                  ( WEISS.HARVEY )
TO:   Remote Addressee              ( RICHARD YEN @TAO )
TO:   DONALD ZERESKI                ( ZERESKI.DONALD )

CC:   Anne Kreidler                 ( KREIDLER.ANNE )
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*****PLEASE DISTRIBUTE TO YOUR ORGANIZATION*****

This has been forwarded to your Staff.

We have restated our commitment to run the company as a number of independent business units.

These business units will have clear responsibility to plan, propose and run their separate business. They will plan every detail. They will operate with a simple profit-and-loss statement, and will be responsible for pricing. Some of these lines of business will be applications groups; others will be services groups. Each will concentrate on satisfying the customer needs in the market for which they are responsible.

Specific sets of customers, products, applications and selling strategies that address specific markets can be identified and organized as lines of business. There are a number of businesses that can be planned and managed this way. Basically, the applications groups under Peter Smith will be organized to operate as lines of business, as will the businesses that have already been established in Don Zereski's Customer Services organization. Three new lines of business are also being created now -- Telecommunications, Small Business, and RISC/UNIX Workstations/Servers. Details are still being worked out, but we expect that there will be a total of 20 to 30 such groups.

These businesses will develop plans that reflect how our customers buy our products and services, now and in the future. Each line of business will be responsible for developing the plan for the company that maximizes profitable market share for its business. Each plan must reflect its dependence on other lines of business and on other organizations within Digital. Each plan must also reflect commitment from other groups which are necessary to the success of the plan.

UNIX/Workstation Line of Business
RISC/UNIX workstations is one of the fastest growing areas in the industry. To insure our success as a major player in this area, a workstations business group has been formed under Dom LaCava's leadership. This group will include key resources necessary to win, such as hardware engineering, UNIX software engineering and marketing, as well as sales and service groups. The detailed plan will be announced soon. This line of business will be a major organization in the company, with the proper focus, resources, motivation and investments to ensure our success in this critical market for Digital.

General Systems Line of Business
Small and mid-sized companies with less than 1000 employees spend over $40 billion each year on information systems and services. Gary Eichhorn will manage a line of business to capitalize on

this major growth opportunity. The General Systems Line of Business will develop an engineering, marketing, sales and service plan to address this worldwide market.

Telecommunications Line of Business
One of the fastest growing worldwide markets is telecommunications, including all of the world's telephone companies, the companies that provide equipment to the industry and the corporations who build their own private networks. This global business, which has already been announced, is managed by Ernst Willhoener, with headquarters in Valbonne, France. Ernst reports to Bill Johnson. The enormous potential in this field will provide significant opportunities for Digital in every country around the world.

Need for clear measurements and responsibilities
In the past, organizations within Digital had overlapping goals, measurements and responsibilities. Many different parts of the company thought they ran the business and built an infrastructure to help them do so. We can't afford to operate that way.

We're going to get much clearer and simpler in our metrics. We want to identify clear lines of responsibility for the management of each organization within Digital. People will be held accountable and measured on the business for which they are responsible and over which they have direct control. Focusing responsibility will allow us to eliminate redundancies and streamline the organization.

Over the next few months we're going to end up with better defined work, clearer responsibility for work, and more appropriate metrics for work. The new lines of business are an important step in that direction.

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E.C.

I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 012329
Date: 12-Feb-1990 04:12pm EST
From: Ken Olsen
           OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win Hindle + others

TO: See Below

Subject: DIGITAL'S PRINCIPLE OF MANAGEMENT - "EXCELLENCE BY PLANNING"

The number one management principle at Digital is that, for every project, every product, and every activity, every detail is planned, and that there is one person in charge and responsible, total cost is counted, every detail is committed, and that the person accepts the duty and the place of leadership to make sure that the activity is completed and successful. We will not start projects that do not meet these conditions, and we expect the leader who took this responsibility to complete the project or propose its termination if the conditions cannot be met.

THREE HERESIES

1. Some people claim that at Digital everyone does what's right in their own eyes. This is grossly in conflict with the number one management principle. There is a complete misunderstanding of the statement that when conditions or the development of our plans generate a situation in which they conflict with honesty, principles, integrity, the good of our customer, or the good of the Company, we will always do what is right.

2. Every group of numbers has to add up to a P&L statement. Making every project, every overhead organization or every sales unit add up to a P&L statement would take an infinite amount of accounting and would open up an infinite amount of negotiations over who gets credit for orders and who gets allocated expenses. We plan a budget primarily to get the job done. We also have enough data so that one can, by study and recasting figures,

calculate whether projects make a profit or not.
Measuring what is sold or what is accomplished and what
the costs are in each unit, will normally supply enough
information as to whether that group is contributing
their share of the profit.

There are people responsible for business segments. With
the data available, they are responsible to calculate
whether their business unit is profitable and that all
the details necessary for completion are committed to and
counted in the cost of the project. They normally will
not get this data directly from a financial statement,
but will have to calculate it from several points of
view. Their primary responsibilities are to be sure the
jobs can be completed, will be completed, and that they
are priced correctly.

3.   Digital is matrix oriented. This is nonsense and not
      worth discussing. Matrix management is where one
      assembles a project with people from different
      organizations where their home is still in their mother
      organization, but they work together on a project. We do
      this sometimes, maybe not often enough, but this does not
      make us a matrix organized Company. The word is used as
      an excuse for confusion, poor planning, and should be
      stricken from our vocabulary.

DIGITAL'S ORGANIZATION

OVERHEAD FUNCTIONS

All overhead functions will be budgeted and reviewed each month.
Overhead does not allow free spending of money for which there is
no accounting. It is not simply added on to the line groups.

Every overhead function will, each month, have a report on a
specific day, early the following month, which restates the goal
of the overhead group and to whom they are making a contribution.

Do these groups agree that the contribution is worth the cost,
and which vice president or equivalent Officer is supervising and
taking responsibility for that overhead function?

The report for each month will be a listing of everything
accomplished that month and all the cost incurred so that
everyone in the Corporation can see the cost of that function and
can pass judgment on it.

This list of overhead functions includes all of the full-time and
part-time rule-making and enforcing groups even though they have
only part-time members. Any group that makes a rule that is to
be followed has to be listed in this group even though they may

argue their cost is zero because they are part time. Every rule-making group has to have a vice president and a list of customers or their rules and enforcement powers are nonexistent.

Marketing will normally be done within a product group. All marketing outside of the product group is an overhead function. All marketing done in a unit, district, region, country, and a service group is an overhead function and will be listed in this list of overhead functions.

The field budgets shall consist in each area of the list of all the overhead functions, plus each of the sales functions. The general direct sales will be done by account. In addition, there will be the government sales, the telephone mail order sales, and indirect third party selling organizations. In the U.S. there will be four budgets. In Europe there will probably be three selling budgets.

SALES PLANS AND BUDGETS

Every account team will have a budget. Sometimes there might be several accounts in one account team and it is conceivable that, for some companies, there might be more than one account team. Each one will budget their expenses which includes sales support functions and what they accomplished, whether it be orders or more qualitative things that prepare for orders in the future. We should work to simplify these expenses so that they only include the major items. Automobiles, cellular telephones, laptop computers, workstations, Easynet nodes, and office space should be calculated once a quarter or once a year, but for the monthly accounting, all these things should not be the concern of the sales people nor should they be over burdened with justifying them. They should concentrate on the major cost items which are sales people, support, and maybe discounts and allowances.

The cost of the district, region, area, and headquarters, logically might fit in the list of overhead functions, but for sales, we will include those as separate functions, along with the account budgets. We will not tie them directly to each account because many accounts are spread between districts.

COMPONENTS AND SYSTEMS

For every component system, there shall be one person responsible who adds up the total cost, takes the responsibility, and proposes to assume the responsibility for making sure the details are complete, and that they are carried out.

This does not mean that for 2,000 hardware or software projects, there has to be a different person in charge of each. Most likely, the number will be very much smaller than that and some will be the project manager for many smaller projects. The one thing that's clear is that, when the project is proposed, this person proposes to assume the responsibility and accepts the duty

to make sure that every detail is planned and taken care of and that the project will be complete and profitable. If there is no such person, the project is automatically terminated or not considered. If we have no people who want to take responsibility, it is foolish to do the job. For the figure heads who take a title but do not feel they have the authority, bravery, or commitment to do the job, it will not be forced upon them.

All projects, hardware or software, will be assembled on one long list, probably grouped by product manager. The decision of which proposals are accepted and which businesses we go into will be the responsibility of the Executive Committee and the Board of Directors. They will look at the development plans, the manufacturing plans, and, above all, the marketing plans to be sure that they are satisfied that each group will carry out every detail. They will not accept projects that do everything except marketing.

Part of the plan will be to identify the goals of the project. If it is to grow little or none, undoubtedly the project will be rejected. If the goal is to gain a negligible market share, it will not be accepted. If there is nothing unique or if the goal is to follow the industry, it will undoubtedly be rejected. If we don't have a unique competitive advantage or a unique idea or a unique technology, the project will be rejected.

APPLICATIONS

We say Digital is an application Company or a solutions Company. Every application will be presented in the same format as engineering projects. The goals for profitability, for market share, for uniqueness, for thoroughness, and for excellence will be key to these projects. In addition, they will, for every month, propose what they will spend and what they will get in return. It will then be easy for the Executive Committee and the Board of Directors to glance through the long list and identify which of these they want to pursue in detail before making a decision.

FOOTNOTES

It sometimes appears that Digital feels that the fastest, the biggest, the most advanced, and the highest technology wins. History shows that wars are won or products are successful without the best product or the best weapon, but, above all, with the best leadership, and the best management of details.

History is full of battles that were lost to the army with the biggest guns and won by the army with the best morale, the best management, and the best enthusiasm.

Apples' success did not come about by having the fastest computer, the biggest screen, the most color, the best

networking, or because they followed standards, but because they were the most disciplined in taking care of every detail that made their computers easy to use.

Computer history is filled with companies that had the best technology. But when the customer plugged it in, from their point of view, it didn't work.

The history of Digital has examples of great success where details and leadership to carry them out where the reason for success, and unfortunately many examples of products that failed because of lack of leadership that was committed to take care of all the details.

Digital is committed to plan all the details necessary to fulfill a product and for every product to have the leadership and the commitment of the leader to make sure that all the resources needed to fulfill these details are committed and when there are changes or failures or things are forgotten, the leadership will take the action necessary to make the project a success.

KHO:dao
KO:3831

Distribution:

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TO:	Dom LaCava	(LACAVA.DOM)
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TO:	Ken Olsen	(OLSEN.KEN)
TO:	BOB PALMER	(PALMER.BOB)

TO: Grant Saviers   (SAVIERS.GRANT)

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05-Mar-1990 Mon 08:41

TO: E.C.

SJ: PASSION FOR EXCELLENCE

****
DIGITAL CONFIDENTIAL

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For several years, we have concentrated largely on the product
parts of the Corporation. Most projects we bring to the Board of
Directors are engineering projects or manufacturing projects.
Our cost saving efforts have been concentrated in product
development and in manufacturing. Like most companies, we have
not concentrated on those areas that get charged to overhead.

Today, many companies are contracting outside these overhead
functions just because they can't get the interest inside to do a
truly professional job. In our business, the overhead functions
are so much a part of our overall strategy that, for our part,
I'd like to concentrate on making each one of them truly
excellent.

As the first step in the search for excellence, I'd like to
insist that each member of the Executive Committee get two weeks
of formal outside training each year. This normally should be
concentrated in his professional area, but could also be in the
products of the Corporation.

1

The three areas of the Company I'd like to concentrate on in the
"search for excellence" are:

1.   Sales

2.   Training

3.   Administration

The goal of this program is to be assured that each member of
management and administration in each of these groups has a
knowledge and passion for our products and a knowledge and
passion for the activity for which they are responsible.

Every headquarters person, every area manager, every district
manager, every unit manager, and every account manager shall be
knowledgeable about our products and maintain that knowledge with
training every year and have a passion for our products. In
addition, they shall understand our approaches to selling,
understand that class of customers for which they are
responsible, and have a passion for our pursuit of orders and for
our care of our customers.

For each of the administrative tasks, the managers shall have an
understanding of our products, our strategy, and the goal of the
Corporation and have a passion for them. They shall also, of
course, have a passion and be expert in and keep learning about

2

the area of administration for which they are responsible.

This goes from order processing and information services to the truck fleet and the automobile fleet. This means that the person responsible for trucks should know all the problems, all the cares, all the worries, and all the concerns of the truck drivers and supervisors, and should have a passion for motivating, encouraging, challenging them and solving their problems. This person should be an expert at all times of what it means to run a fleet of trucks and the latest changes in technology and laws.

The same is true for training. Everyone in training, administration, management, course writing, and supervision should have a knowledge and a passion for our products, more than almost anyone else in the Company. They should also have a passion for our training program, for the need for knowledge and for the techniques and technology of getting it across with enthusiasm and interest. Training our employees and our customers should be the passion of their life.

We will accomplish this program for excellence by, first of all, for a one-year period, have each of these (newly formed) groups _who is a group —_ report directly to myself as President. One group will take most of the administrative parts of the Company. The second group will be all of sales. The next group will be a new training department which will encompass all of the training of the Corporation.

3

We will form a Board, mostly of in-house people, who will be responsible to be sure that everyone involved in running each of these operations has a passion for our Company, our products, and the area of which they should be experts. They will also be sure those people are maintaining their own training and review their skill at motivating, educating, training, and maintaining the people who work for them.

This means that each year every single manager and supervisor in each of these groups will be reviewed, sometimes in person and sometimes on paper, so the Company can be assured that they are the very best person in the search for excellence in that group.

In addition, the Executive Committee will review the first and second level of management, and the Corporate Board of Directors will review top level management of each of those groups.

In most businesses, there is a tendency for people to grow somewhat stale if they stay in a job more than a few years. We say, but often don't follow through, that managers should change jobs every number of years. Many big companies change people's location and the group they work in every three years on a formal basis. This is probably too short, but anybody who is in the same job or same location for more than six years should be moved to a different part of the Company to make sure they are truly competent as managers, or there should be a very formal

4

justification why they should not be moved.

In our review for salaries and stock options, the questionnaire
should clearly state the individual's passion and knowledge in
the Corporate strategy and products, and the individual's
knowledge and passion for their own task in the Corporation. It
also should state their plan for moving within the Corporation
and how many places they have been moved. If a person does not
have the skills to take on jobs other than the one they have,
their value to the Corporation, and, therefore, their salary and
options obviously should be significantly less than those who are
more general in their skill, knowledge and passion.

KHO:dao

KO:3911

DICTATED ON 3/4/90, BUT NOT READ

Market Place | Lawrence M. Fisher

Sun's Rebound In Work Stations

SAN FRANCISCO

JUST six months after stunning Wall Street with its first-ever quarterly loss, Sun Microsystems Inc. has put its corporate house back in order, analysts say. Results improved dramatically in the quarter ended Dec. 31 at Sun, the leading maker of work stations, which are powerful desktop computers previously used for scientific and engineering work but now being employed for financial services and other applications.

In June, Sun looked like a company out of control. Struggling with the introduction of five major computers while its own internal data management system was functioning poorly, the company did not know who was ordering what or how much money it had. Two high-ranking executives abruptly left and investors dumped Sun's shares, which dropped to a low of $13.375 from a high of $23. Sun shares rose $1.125 on Friday, to $23.875, in over-the-counter trading.

•   •   •

Analysts now say they are surprised at how rapidly Sun has rebounded, and several recommend the stock. Sun is not likely to regain the growth rate that made it a $2 billion company in just seven years, but its momentum remains strong and its profitability is improving.

At the same time, some analysts caution that the competition in Sun's market has intensified. The International Business Machines Corporation, never before a major force in the work station market, introduced several machines on Feb. 15 that offer substantial performance gains over Sun's. More aggressive pricing from the Hewlett-Packard Company and Silicon Graphics Inc. will also increase the pressure on Sun.

"Sun has definitely turned the corner, with two quarters now of profitability," said Peter Rogers, an analyst with Robertson, Stephens & Company. He recently upgraded his recommendation on Sun shares to a buy. "Clearly, they have the manufacturing side of the business stabilized," he added. "They are on the way up."

With a market share approaching 30 percent and orders and backlog at record levels, Sun remains the undisputed leader among work station manufacturers, Mr. Rogers said. He said he doubted that I.B.M. would change that, because it would be 18 months before a substantial body of software is available for its new machines.

"That gives Sun a lot of breathing room and in that time they'll respond accordingly," he said. "Sun is nothing if not nimble."

Michael Murphy, editor of the California Technology Stock Letter, also believes the I.B.M. introduction will have limited impact on Sun, partly because the company can respond with aggressive price cuts. "There may be a one-quarter effect while the customers pull back and evaluate the I.B.M. machines," Mr. Murphy said. He noted that the Sparc Station, an entry-level machine Sun introduced in April, was "designed for a $3,000 selling price and they sell it for $12,000; they can continue to re-price it against the competition."

Mr. Murphy remained bullish on Sun during the troubled times, which he dismissed as a common Silicon Valley malady called PTS, for "product transition syndrome." At current prices, he rates Sun as a stock to hold, but said he would buy if it dipped to $18.

Sun's crisis forced the company to accelerate t. transition from a seat-of-the-pants, growth-at-an cost management style to a more structured, dis plined one. Analysts note that the company gen ated $60 million in cash from operations in t December quarter, reversing a trend toward neg tive cash flow. They also note that hiring h slowed and that an overly broad product portfo is being trimmed.

In the interests of improving profit margins, S. management is altering the company's cultu Executive pay is now based on return on assets b fore interest and taxes, not simply volume of sale

"The organizational and management proce issues that led to the problems in June are bei addressed," said Robert Herwick, an analyst wi Hambrecht & Quist. "The question now is havi put out the fire, can they build a stronger house He said he believes they can and is strongly reco mending Sun.

"They are making really substantial progress restoring the profitability of the company; th are committed and so far effective at changing t culture of the company," Mr. Herwick said.

•   •   •

John Dean, an analyst with Salomon Brothe sounds a more cautious note. He rates Sun a "ma ket performer" — a stock that is not expected outperform the market. "They clearly have turn the corner from where they were," he said. "Ho ever, the competitive marketplace is going to far more intense than ever before for the compan Sun makes light of the I.B.M. announcement, a that is where I disagree with them."

Mr. Dean also foresees stronger competiti from the Digital Equipment Corporation, which expected to introduce machines this month; He lett-Packard, which is pricing work stations ve aggressively, and Silicon Graphics, which offe work stations capable of displaying images three dimensions for the price of Sun's two-dime sional machines.

> **Market share is at 30 percent, while orders and backlog are at record levels.**

Motorola Is Offering Work Station

By JOHN MARKOFF

Motorola Inc. will introduce computer work stations today that company officials say will offer better performance and lower pricing than the systems introduced last month by the International Business Machines Corporation.

Analysts have been skeptical about Motorola's prospects, saying the company faces a difficult path to become a significant competitor in the computer work station business.

"They will have an uphill fight," said Phil Lemmons, the editor of Personal Workstation magazine. "They are late in coming to the market."

'A New Era'

Motorola, which sells computer chips and electronic components and systems, has made several false starts at entering the computer industry in the past.

But company executives said a rapid shift toward Unix operating software and the move to hardware that meets industrywide standards will give the company a new opportunity to become a significant competitor.

"We think that the 1990's is a new era," said Edward Staiano, the president of the general-systems sector of Motorola, which is based in Schaumburg, Ill. "Open systems platforms are going to be the way to do things; it's exactly tailored for us."

The shift to Unix, which was originally developed by researchers at Bell Laboratories during the late 1960's, has caused significant changes in the computer industry in recent years.

In the past, the business was dominated by companies like I.B.M. and the Digital Equipment Corporation, which sold hardware and software systems that did not meet industry standards developed by trade groups and industry associations.

But customers have increasingly forced manufacturers to accept standards like Unix because they are then freed from dependence on a single manufacturer. I.B.M. and Digital have added Unix-based offerings to their product lines.

The introduction of inexpensive, high-performance families of computers by I.B.M. and Motorola may touch off a price war, analysts said. I.B.M.'s entry-level machine, which starts at $12,995, offers more performance than those of the largest work station makers — Digital, Sun Microsystems Inc., and the Hewlett-Packard Company.

More powerful than personal computers, the desktop work station computers perform a number of highly sophisticated and specialized tasks though they are not linked to a mainframe.

Mr. Staiano said Motorola's work stations would cost on average 35 percent less than those introduced by I.B.M. Motorola's least expensive system will start below $6,000.

He said the I.B.M. work stations excelled in scientific and engineering computing but that the Motorola systems would offer better performance on commercial applications.

The Motorola machines are powered by the company's 88000 microprocessor. The 88000 has received praise for its technical performance, but it has not done particularly well in the marketplace.

The Data General Corporation is designing a line of work stations around it, and some analysts said Apple Computer Inc. was considering using a customized version in a computer now under development.

The Motorola 88000 and I.B.M.'s RISC/System 6000 are based on a computer design known as reduced instruction set computing, or RISC, invented by I.B.M. researchers. The approach speeds computer performance by simplifying processor design and concentrating on executing each instruction as quickly as possible. Most big computer makers now offer computers based on RISC design principles.

While microprocessors made by the Intel Corporation have dominated the personal computer industry until now, the success of Unix will make the type of processor used in a computer less important in the future, analysts said.

For all the excitement over Unix, much more software is currently available for computers that run the MS-DOS operating system.

Printed by Win Hindle

DIGITAL CONFIDENTIAL Document

I N T E R O F F I C E   M E M O R A N D U M

Mick Prokopis
TO: See Below
CC: Win Hindle & Others
Subject: CORPORATE BUDGET DIRECTOR

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I'd like you to immediately take on the job of Corporate
Budget Director. It is a powerful job. It has to be done with
care and grace, but also with firmness, toughness, and, above
all, simple discipline.

We have to immediately have a system for presenting all the
budgets at one time so they can be looked at in context and
their relationship to each other. Our tradition of looking at
budget questions one at a time, without all the appropriate
people there, has gotten us into trouble. It is particularly
disturbing to people to make their presentations to those people
they think are disinterested or prejudice, and above all, not
responsible for the result.

The proposals have to come to the Executive Committee and the
Board of Directors because they are the only ones responsible and
they tie everything together. However, they have to be presented
in a format that allows the proposals to be looked at as if they
were a group of businesses.

This is a change in the way we do business. We do need
technology experts to pass judgments on the technologies, but it
is different from the past in that the question is: If these are
the technologies people think they need for their business, are
they the best? The question people ask is: What are the
technologies we want to go into, and how can we fit them all in
the budget? And, the assumption is that someone else has to
market them, somehow.

In the past, the budgets were assumed to be an amount of money given to a manager because he promised certain technology, and he could spend the money as he willed. Budgets were set on the technology and reviews were made on the technology, but they were not relative to the expenditures or the commitments to other parts of the Company.

From now on, the budgets and reviews should be made relative to the commitments. All expenditures, including overhead, should be budgeted and reported.

I believe this can be presented in a simple way. If we have a couple of dozen Marketing Integration businesses, and if we identify all the technology, hardware and software they need, the list is probably finite and can be grouped and assigned in just those areas that have questions and have made them issues.

People think they understand and agree with the new way of running Digital, but there are so many ideas it will be a long time before they are accepted. It is going to be hard for the technologists to realize that the marketing questions, the selling questions, and the pricing questions are not part of the technology decisions. In fact, technology will be decided in order to serve the markets we are going into.

The marketers have not adapted to the idea that the technology they ask for from Central Engineering is not free to them. First of all, there is very little central engineering outside the R&D program, and the product development programs are probably going to be done in groups which are run like a business. They will invest and develop in key technology and products and make their return on what they get for the selling price. They may have to charge the marketing group directly for those things that are not key to their main strategy. It is not clear that product groups will be forced to make investments on the marketing people's word. They may have to do the development, but it is not clear they have to do it for free for the marketing groups.

Who pays for application procurement is of particular importance. When we buy companies, invest in companies, and pay companies to transfer their software or transfer the software ourselves, there are significant costs. It has to be clear who pays for these, and it has to be clear how much these add to the base price of the products. Once it is made clear, I think we will find clever ways for return on these investments. When it is free, and no one pays for it, and it is not included in the customer's price, there is no pressure to get paid for the application.

There will be no such thing as an Application Business Unit. Planning on spending money for applications is not a business but an overhead function for one of the business units, such as a CPU group.

In the days of the Product Lines we made a two-year budget. We

put a lot of detail into the one-year budget, and every quarter we corrected it, updated it, and extended it for another quarter. This was emotionally draining and very time consuming, but it did keep the budget in people's minds and it did force people to face questions that they postponed or tried to take care of informally by asking the Executive Committee to formulate a question, vote on their own question, and give the group money. It did force the Executive Committee, once a quarter, to be experts on each of the budgets.

If product groups, and maybe marketing groups, are going to continuously come, one at a time, for changes and additions to their budget, it is impossible to run the Company. When people come asking for money one at a time, nobody, no matter how smart they are, is able to keep control. We definitely should consider re-doing the budget once every three months or once every six months, and save all changes so that they can be considered all at once.

KHO:eh
KO:4831
(DICTATED ON 12/20/90, BUT NOT READ)

Distribution:

TO: Mick Prokopis @ CORE   (PROKOPIS.MICK)

CC: PETER SMITH   (SMITH.PETER)
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DIGITAL RESTRICTED DISTRIBUTION Document

I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 016515
Date: 08-Nov-1990 11:00am EST
From: Win Hindle
HINDLE.WIN
Dept: Administration
Tel No: 223-2338

TO: Abbott Weiss (WEISS.ABBOTT)

BC: Ron Smart
Roger Rose

Subject: MY DREAMS OF A MAJOR MARKET FOR DIGITAL

This is sent to you for distribution to the Executive Committee members.

ps

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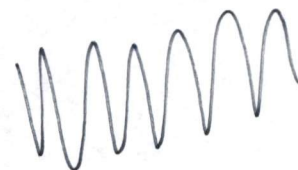+-------------------------------+
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+-------------------------------+
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INTEROFFICE MEMORANDUM

TO: Ken Olsen   DATE: 08-Nov-1990
      Marty Hoffmann   FROM: Win Hindle
      Jim Osterhoff   DEPT: Administration
      John Sims   EXT : 223-2338
      Jack Smith   LOC : ML012-1/A53
      Bill Strecker
      Abbott Weiss

SUBJECT: MY DREAMS OF A MAJOR MARKET FOR DIGITAL

My dream is that Digital will become the information management
partner to major organizations in banking, insurance,
telecommunications, and manufacturing. Others might use the
words "Enterprise Integration" partner, because our role would be
to provide integration as one of the services we offer.

Carried out to its full potential, this type of relationship
would make the Digital account manager the virtual CIO of the
client organization. We would truly be the trusted
consultant/partner/adviser to our world-wide customers. The
Digital account team would have the feeling of being the
information management department of the company--wearing Digital
badges but serving the customer as though they were employees.

The account team would prepare their long-range account plan and
two-year budget which would be approved by the customer and, of
course, by Digital. Both organizations would have to be
enthusiastic about the plan because it would become part of both
organizations' planning and budgeting systems. The plan would
contain the investments and the appropriate financial pay back
for both firms.

How will we at Digital develop our capabilities so that another
organization would accept us in the role of information
management partner? It is clearly not easy to build the level of
trust that is essential for this marriage to occur. Obviously,
generating that level of confidence takes time, just as any
professional relationship between practitioner and client.

Our first task will be to train and educate a whole new breed of
account managers who have great skills at being information
management partners. They must be expert in information systems
and networks and must have the ability to command great respect
from their clients. Second, these people must be trained in

industry and company knowledge about their client--for only by
having an understanding of the client's business can they do
their jobs effectively. These managers also need good management
training to lead their account teams to success.

The support staff for each of these customer teams must be well
trained and available. The team must plan the needed support
levels and have resources at hand when they are required. I
believe each team will want to have a staff of support resources
that is on site at all times, paid for by the customer on an
annual retainer basis. Thus, we will not have to "nickel and
dime" customers. They will pay on a monthly basis for the
on-site Digital support.

In order to convince customers to begin relationships with
Digital that would lead to this kind of close partnership, our
company must be the demonstration center for the use of
information management systems to make our company excellent in
every way. We will have to convince our customers that we really
understand how information systems and organization structures
can work to make a company productive and fun. Seeing is
believing, and our customers will only become information
management clients if they observe that we know how to apply our
consulting advise to ourselves.

I am convinced that in our industry, where standard systems have
become the norm, our profitability will relate to how well we
market our expertise. That expertise will center on how to
design, build, implement, and manage information systems to make
an organization competitive and excellent in every way. Where we
have the expertise and can demonstrate it, our customers will pay
us well to use our skills to help them become excellent.

ps

Printed by Win Hindle

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 019828
Date: 13-Mar-1991 04:04pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below   *Marty Hoffman*
CC: *Win + others*

Subject: ONE FACET OF THE HISTORY OF DIGITAL

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Digital is a complicated organization, but we have to simplify it
in order to develop systems and to run the company. One brief
history of the management of Digital would go as follows.

When we were a $14 million company, we were still run like an
engineering group. We got together and made decisions, but we
could only concentrate on those things in which the group was
interested. This very much limited the activities we could
support. Everyone was interested only in the things in which the
boss was interested. We broke the company into Products Lines so
that each group was responsible for a separate, different segment
of the business and they could run it independent of the
interests of the rest of the Company. The results were
magnificent. These were the great growth years. We introduced
computers into all the industries that had never seen them
before. Each group was responsible for the product and the
marketing, and contracted the selling to the Sales Department.

In time, the Product Lines contracted much of their engineering
needs to a Central Engineering group who did those things which
were common to all the Product Lines. This worked very well but,
in time, the Product Lines insisted on being czars and prima
donnas, and Engineering refused to cooperate with them and went
off in all directions, independent of where the Product Lines
wanted to go. For five years, almost no products were introduced
and the Product Lines were competing more with each other than
they were with the outside world.

The change is hard. Each group is still more conscious of all
the problems in everyone else's group. The other guy is always
loaded with overhead and is too expensive.

It is the strategy, however, to stick with the plan and not to
have heavy-handed, centralized planning to force organization.
The strategy is to give people time to realize that each one has
a customer and that satisfying their customer is the only way
they can be successful.

KO:5081
(DICTATED 3/13/91 BUT NOT READ)

Distribution:

TO:	Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
CC:	Win Hindle	(HINDLE.WIN)
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CC:	Bill Strecker	(STRECKER.BILL)
CC:	PETER SMITH	(SMITH.PETER)

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I N T E R O F F I C E   M E M O R A N D U M

Date:	01-Feb-1991 10:18am EST
From:	Jack Smith
	SMITH.JACK
Dept:	S.V.P. of Operations
Tel No:	223-2231

– Lg. distribution (see last 2 pages.)

TO: Remote Addressee   (CSAVAGE@PMROAD@VMSMAIL)

Subject: PORCHES AND PARADIGMS

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Dear "Porches and Paradigms" Team:

Charles Savage — attached

I have just had the opportunity to review your memo of January 4.
I am somewhat concerned that this brief response will fall short
in its quality versus the quality of your team's effort. I would
like to have a chance to re-review your thoughts in the days
ahead. I am also forwarding your thoughts, ideas, and
suggestions to the entire Executive Committee and Operations
Committee requesting their careful reading and thoughtful
commentary.

Let me answer your early questions as simply and directly as
possible with a commitment to further discussion in the future.
You asked, are we open to dialog about Digital's vision, are we
open to redefining Digital's marketing slogan, and will we help
to focus on turning our "knowledge assets" much as we have
increased our inventory turns? The answer to all three questions
is a strong and clear "YES."

I thank you for your individual and team efforts and professional
stimulation. I look forward to further interaction with you and
your group.

Regards,

Jack

INTEROFFICE MEMORANDUM

S@PKO

Only to J. Smith

TO: JACK SMITH@MLO

Subject: PORCHES AND PARADIGMS - REV. 3.2

Rev. 3.2
1/4/91

***************** COMPANY CONFIDENTIAL *****************

To: Jack Smith
Fr: Concerned Supporters
Re: "Porches and Paradigms" (About 14 pages long)

EXECUTIVE SUMMARY

Jack, in your October DECWORLD article "Digital's road back to profitability," you noted our need to "increase revenue, decrease cost and start charging for value-added services." You also added a touching note about that porch which you built board by board. We would like to respond to your challenge to take down a number of our porches.

And you have just reaffirmed Digital's Open Door Policy (and open E-Mail, we would hope) and its importance in openly sharing thoughts and concerns. We appreciate your willingness to reach out and share your own thoughts, values and concerns; and we appreciate your willingness to listen in return.

A number of us worked together for 4 days right after Thanksgiving, and, based upon our experience, we would like to respond to the dialogue which you have initiated. We have thought about our porches, listed them, and commented upon them:

Porch 1: 89-90 is like 83-84

Porch 2: We are a HW/CPU Company

Porch 3: We can run cocoon projects

Porch 4: "Digital has it now!"

Porch 5: We have vision and direction at the top

Porch 6: We do have a vision: "Customer Satisfaction"

There is an intuitive response to each porch, but we also find it may be necessary to consider a counter intuitive approach. We are involved in more than just rebuilding the porch; we are about some major paradigm shifts.

After looking over the note, we hope you might consider the following:

1. Are you and Ken open to stimulating a dialogue about Digital's vision?

2. Are you open to redefining Digital's marketing slogan: "Digital has it now!"?

3. Will you help us turn our knowledge assets much as we increased our inventory turns?

Jack, we are ready to work hard together, in spite of the serious red ink on the immediate horizon. We know we have a three to five year rebuilding process ahead: to tear down the old porches and rearchitect Digital (step through some major paradigm shifts).

==

INTRODUCTION

Jack, we are a group of deeply concerned supporters of Digital who spent four days together during the week of November 26th exploring "distributed knowledge networking." We come from many different parts of the company, including account teams, engineering, marketing, sales, purchasing, finance, manufacturing, order management human resources and organizational development. We also had four client companies involved in our explorations. (Our clients were not a part of the following discussion, it is only for our own family.)

We caught a glimpse of what our company can again become, and would like to share this with you. We also sensed again the excitement of being a DECie. And we experienced the power of "dialogue" with one another and our customers. We found we could empower one another because we listened deeply to one another in a caring and trusting manner.

We want to commend you for your recent article in DECWORLD in which you discussed your attachment to the porch which you built on your first home. We understand how this type of attachment blinds us from seeing the changes both within our own family and the world around us. You have

posed a timely challenge to us:

o What are the porches which have us, as a company,
   tied in knots?

As you probably know, we are not alone in this
challenge. Many other companies also have their own
porches. Joel Barker has called these porches "paradigms."
He has released a wonderful video tape which is sweeping
corporate America. In it he gives several examples of how we
are held captive to our old paradigms. Perhaps the most
poignant example involved the Swiss watch makers.

It was the Swiss themselves, in their research lab, who
developed the digital watch. But could these researchers get
the mechanically (gears and springs) oriented watchmakers interested

in this new creation? No way. The watchmakers were too
invested in their old paradigm, both emotionally and financially.
They thought they were part of the "time keeping industry," not
realizing they were also a subset of the "jewelry industry."
(Just like the trains did not realize they were a subset of
transportation). So the research folk displayed their new
creation at an international watch show and TI and the Japanese
noticed it. Soon they were facing a massive erosion of their
markets to the Japanese -- with the digital watches --
because the Swiss watchmakers had not been able to let go of
their "porch" (paradigm).

PAIN AND CONFUSION

This caused major pain and trauma within the Swiss
watchmaking community. This is not unlike our own pain and
confusion. Cynicism, divisiveness and confusion are rampant
within Digital (and add millions to costs). At this point we
are badly "defocused" and "uncoordinated." We are doing
foolish and short sighted things to one another. Some of our
best people are being undermined or are leaving.

And as long as we just focus on "cost cutting" without
giving ourselves an exciting "sense of mission," (shared &
common vision which clarifies the context of our work and
captures our imagination) we will continue to wallow in
negativism, and perhaps even embrace the "death spiral" typical
of some other companies in our industry.

Hopefully we will look reality in the face, step out of the
game of denial we have been engaged in for too long, stop playing
games with numbers, and get our wonderful company moving again.

Again, we ask the questions: What are our porches?
What are the paradigms which hold us prisoner? And how can
we make a breakthrough to another level of understanding
which will get us out of the "penalty box" which Wall Street
has put us in (we have really put ourselves in this box
because we do not know how to value and add value to one
another, our technologies and one another)?

PORCH 1: 89-90 IS LIKE 83-84

In the 83-84 time frame, we were a niche player with a proprietary operating system highly sought after. Today we are a broad based product and service provider who is trying to be all things to all people. We are competing in the workstation market, a commodity market. We are competing at the high end, a special market niche well defended by IBM and others. And we are facing increasing competition in our bread and butter area, the mid-range arena from the AS/400 and AR/6000 and other boxes.

In 83-84 we suffered from problems of our own making. We are still suffering from many problems of our own making, but today the rules of the game are being rewritten and we are not quite sure how to respond. Open systems and Unix are setting up the market for new players. We can expect the Japanese to become more intense in the 90s, in markets ranging from workstations to mainframes and even software.

In 83-84 there was hunger for flexible systems. Today there is hardware saturation in many companies and "technology indigestion." Some companies are realizing they cannot put third, fourth and fifth generation computer technology in second generation organizations. Companies like GE and Du Pont are in a massive redefinition of their organizations to flatter more agile models. This should be our natural market, but we are slow in seeing and seizing the opportunities these changes are providing.

o Intuitive: batten down the hatches, cut costs and
   try to ride out the storm (recession). We can again

   do what we did so successfully in the 83-84 era.

o Counter Intuitive: We are in a new era and a new and
   more creative response is required. We need a good
   diagnosis of what has been happening to us in the
   last ten years, so we can understand how we reconnect

   to the new market. We need to become excellent at
   at dialoguing both internally and externally.

o Paradigm Shift: "Niche" player to "Synergy" player
   where we learn to truly leverage off our products,
   our services, and most especially our knowledge.

PORCH 2: WE ARE A HW/CPU COMPANY

For the first 30 years of the company we made our money on high margin CPU. This margin has collapsed, and we have not articulated another business model around which to run the company. Frankly, we do not really know how to make money in the 1990s. We are not making much money on CPU and we are giving aw

our knowledge for free. This is our most serious challenge, one which has been neglected too long.

Today we find the "Balkanization (dividing into small,

quarrelsome, ineffectual states) of our businesses."
Everyone on the line is running out for a pass in different
directions (to get revenue), and leaving the QB totally exposed.

We are trying to run all our businesses by the "same set
of rules," rules which were developed when we were a high
margin niche player with a proprietary operating system.
Might this be a bit silly? Is it impossible to run a
commodity business or even a service business by these same
set of rules? The wonder years of the 11/780 are over!

Have we adequately examined our business assumptions?
Will we make it, if we simply turn everyone we can into
isolated revenue sources? Where is the leverage and synergy
we can build off our knowledge? (We acknowledge the approach
The New Software Group is taking to work more collaboratively.
Luckily they are not alone, other PBUs, CBUs, etc. also have
recognized this need). Certainly we need to be constantly
looking for new revenue generating opportunities,
and with focus and coordinate among and between these units, we
can begin to turn things around.

Do we know how to disinvest and invest at the same time?
In fact, can we afford not to invest in the EIS, SI and
consultancy spaces? As we move from a HW/CPU business to
a more complex and interrelated business we must make
investments in EIS, SI, integrative software and consulting
to begin to capture these new markets.

Have we understood that the company has shifted from a
"product" focused company to one where we are using leading
edge (and therefore more risky) technologies? Do we know how
to exploit these technologies more effectively (like CMOS,
COHESION, etc.)? This takes a different management style to
manage technologies and integrative processes, and not just
products. DEC Standard 28, the Phase Review process relates
to product, but it does not really help us understand and
manage our technologies, our core competencies.

Do we know how to move from a "vendor" and "supplier"
mentality to one of "partnering" with our suppliers, customers
and sometimes even our competitors?

We see Heald Pond giving us new sets of boxes (and
and stove pipes) into which to stuff our various operations.
The PCU/SCU, ABU/IBUs and Accounts approach may lead to
"mega-stove pipes" surrounded by motes of transfer pricing.
We are afraid the alligators of unresolved conflicts over transfer
pricing will eat into our vitality. We do not have a sense of
excitement or nor do we feel there is a new "sense of mission"
coming out of the Heald Pond work. Have we missed something?

We do agree that we have to understand that resources, where ev
they might be, do cost, and we need to start thinking as business
people. As we all understand our responsibility for the P&L, we
will find more business focus throughout the company, and not only i

the Accounts.

er

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o Intuitive: Make everyone a revenue source.

o Counter Intuitive: Learn to build upon one another's
   strengths (HW, services (CS, CSS, TNSG, EIS, SI, New
   Ventures, etc.), and knowledge) and build our
   businesses upon this synergy and dialogue. We need to
   also build upon our supplier and customer strengths, both
   existing and anticipated. Instead of neatly
   defined boxes, we need to work with multiple overlapping
   Venn diagrams. And we need a two way dialogue, instead
   of a one way product/service creation stream.

o Paradigm Shift: From stovepipes to a tapestry of
   interrelated efforts so we can leverage investments
   in multiple areas, building off one another's good
   work and knowledge. If we do this right, we can offer
   integrative hardware, software and services with much
   higher margins, because they will be unique and timely.

We will know we have begun to make the paradigm shift
when we stop referring to Networking (T&N) and Storage as the
"Peripherals" businesses. Actually, our core businesses need
to be built around our networking capabilities, across systems,
people and functions, and our ability to provide organizational
memory for an enterprise.

Also, we need to understand the wonderful resources
we have in Customer Services. They have been able to get close
to our customers in ways which most of the rest of the company
does not understand or value. We could do a lot more to build
off Customer Services presence with our customers and their
managerial know how.

And when we begin to understand the significance of
NAS and open software from a combined technical and organizational
perspective, we will begin to see and value more the
work we are doing in Client/Server Technology, DECNET/OSI
Phase V and COHESION. We have a bad case, ourselves, of
computer and organizational illiteracy. We have not understood
how they play so nicely together.

PORCH 3: WE CAN RUN COCOON PROJECTS.

There is a notion which we whole heartedly support:
"He or she who proposes does!" This can be a wonderful notion,
but the way it is played out in the company has unwanted
consequences. It too often creates "cocoon-like projects" which
are focused on their own success; the rest of the company be
damned! We have often forgotten how important the "buy in" of
others is, and it is not only "buy in," but continued working
together across boundaries which is essential. "Buying in" means
participation together, not just agreement to stay out of the
way of the effort proposed.

Unfortunately our reward systems keep us in our
stovepipe cocoons. JEC only brought us up to the 1950s: it
has not helped us develop synergy among and between various

efforts, because it rewards people for numbers of people owned and budget authority. It does not recognize the value of the knowledge of our people. The new stock program does not really address this need either. No wonder we have developed such a wide range of stove pipe organizations. [There are a very few isolated efforts which are leading to the rewarding of teaming. And we are saddened with the closing of Enfield, however necessary from a business perspective, because it showed we can walk our talk].

We absolutely need entrepreneurialism, Ken is right on this, but we need a new type of drive and focus. We need one which values and adds value not only to one's own area of interest, but to the other areas of HW, SW and services as well. In addition, we need the customers' buy in (participation) as we help them with their customers.

We have "used" internal competition effectively at certain times, but now this competition is very very expensive and very counter-productive. (It would be wonderful if James Carse's book, "Finite and Infinite Games" were require reading in Digital. A finite game is played at a specific time and place, with known rules against another team. And infinite game is played every where, all the time, with other teams and the challenge is to continually rewrite the rules to keep the game going).

o   Intuitive: Create protected cocoons, who if they can get funding from the top, can do their own thing.

o   Counter Intuitive: Discover how our technologies can add value to other technologies (ie. FDDI to Client/Server to NAS to Distributed Data Bases to Distributed Knowledge Networking, and visa versa). And can we discover how our customers' technologies, processes and knowledge can add value to us?

o   Paradigm Shift: Valuing our own projects to valuing ours in relation to the other projects. "He or She who proposes does, but together with others (including suppliers and customers) on an ongoing basis!"

How can we value and add value to one another's projects? How can our customers (partners) value and add value to us?

PORCH 4:   "DIGITAL HAS IT NOW!"

Is what we have now what the market really wants? Could it be that the market and Wall Street are trying to send us a message that "Digital has missed it now"? Or could it be that we ourselves do not understand what we have and how we can value and add value it it?

We might offer it to our customers, but we are not discovering how we ourselves can use windowing,

client/server, Cohesion, DECNET/OSI Phase V, NAS to become more productive. We are still stuck with time share and character cell terminals in our offices.

We in Digital do not "have it now" in terms of the technology we are offering to the market. It was frightening to us to realize that 2/3s of the Digital employees in our session in November had not sat in front of nor used a DECWindows terminal. And some of us have direct contact with our customers. If this is the case, how can we be enthusiastic about technology we do not know or understand?

- o   Intuitive: More of the same, more advertisements and more "FOTS" (feet on the streets). This has lead us to put a stop on most all internal purchases of our technology, and this is keeping us from understanding the power of the technology we are creating.

- o   Counter Intuitive: Come to appreciate and use ourselves the technologies we are developing for others. We need to become our own best reference site and "walk our own talk." We often say the right thing to the market, but do the wrong thing internally.

  We should come to terms with our own internal computer illiteracy within Digital. What if we set the expectation that everyone in Digital should master a basic understanding of our technology and be able to initiate a Notes Conference, use DECWindows, create a data base, use live link, be able to explain client/server technology, understand NAS, etc. We are not asking enough of ourselves!

- o   Paradigm shift: From "Digital has it now! to "Digital values and adds value now!" by showing we can add value to one another's efforts with our technology and attitudes and we can add value to our customers' worlds.

In fact, we have a wonderful opportunity to learn how we can value and add value to our partner's existing technology and people, making them more creative and productive, and in turn stimulating our creativity and productivity. This requires the establishment of a vibrant dialogue among and between us all, not just a "CERTS-per-second" mentality.

PORCH 5: WE HAVE VISION AND DIRECTION AT THE TOP.

The reason there is such anger in the company is that we perceive we do not have clear vision and direction at the top. But we also need to understand that unless we bubble up our visions ourselves, we will not make it either. The era in which the CEO hands an entire enterprise a believable vision is over. Visioning is a process in which everyone is involved and it is developed and sustained through a vibrant dialogue throughout

all parts of the company (and with our partners).

The "DEC Nod" and the "silent veto" at the top (and throughout the company) have had a profoundly adverse impact upon us. We are very aware that the quality of dialogue at the top is much less than it could be, and this has been hurting us all. In the era of the "twin towers" (MEM vs SSMI), we were literally split in two companies with meager communication between the two halves.

We now have an opportunity to put things together, but we notice old habits and behaviors die hard. We hope there will be increasingly more effective quality " decisions of wisdom" coming from the Operations Committee. Six Sigma is not only a technical process concept, it also challenges us to improve the quality of our decisions and dialogue.

We also have a sense, unconfirmed but felt, that we are in a panic mode. Have we lost our nerve and are we thrashing about trying to hold enough together to get through the storm? Why are we bailing out the ship by pounding holes in the bottom?

This is not a problem just at the top, it rolls throughout the whole company. We are all guilty!

o Intuitive: Pit one group or one approach against the other and see which is strongest because the vision is that the best ideas will win.

o Counter Intuitive: Create a vibrant dialogue among and between technology/business/marketing units (and our partners; suppliers and customers) so that together we can find the power in our synergy and in dialogue we will together grow a vision.

o Paradigm Shift: Valuing our own empires, to valuing and adding value to one another's world, internal and external, and thereby growing believable and exciting visions.

For example, what if each of the members of the Operations Committee were to be asked to show how they add value to at least four other business areas, and how they will work to make this happen? This would be an exciting dialogue, and ever so healing, and it would help shape a clearer vision.

And what if software engineering groups were asked to show how they can develop more consistent application interfaces across their interrelated products. This would help prevent the subtle but annoying interface issues between such things as DECWrite and DECPresentation (ie. the location of the "Links" option).

And what if we developed more consistency in our internal software applications so we had a common definition for such things as location, parts, etc. across all geographies and business units. This would allow us to leverage information in our Data

Warehouses more effectively and to see trends in a more timely manner, especially as we involve Account Teams in the P&L process.

We are sure these opportunities for improvement have not gone unnoticed and are being worked on. These efforts should intensify as we move towards Total Quality Management and Six Sigma.

PORCH 6: WE DO HAVE A VISION: "Customer Satisfaction"

Like every other corporation in the Fortune 1,000, Digital is focusing on customer satisfaction. Not a bad porch, but one we should quickly outgrow if we want to again reassert the "Digital Difference."

Digital has had an elegantly simple vision from day one: "interactive computing." The idea has been to put the engineer "in touch" with the work directly. We maintained this through our time sharing era, and on into the "One VAX architecture" era. We can easily maintain this in the "distributed knowledge networking" era if we so choose.

Digital is dedicated to putting people "in touch" with themselves, one another, and their business partners. We are an "integrative" company. The root of "integration" is "integer" which is a whole number; it is "in touch" with itself. It is not a fraction and it is not fractionated. We are a company of whole numbers which are in touch with one another, ... or this is something we can become.

Jack, when you were asked on the DVN to describe "Digital's vision," you had some difficulties. Ken's response was also less than adequate to this same question. We know you and Ken have the vision, and have had it all along, please do not be shy about restating it and leading a process to involve the whole company in further refining it and aligning our actions around this common vision: we are a company which makes "meaningful interaction" possible. We help put one another in touch.

We are caught up in wanting "happy customers." What if we took this idea one step further: "Our challenge is to help our customers respond effectively to their customers." Instead of thinking of ourselves as a "vendor," why not understand that we need to be a "partner?"

Could we envision ourselves as partnering with our significant others (customers, suppliers, OEM, CMPs, alliance partners, etc.) to provide "meaningful interaction"? We can help our customers link with their customers through EDI and TDI (technical data interchange, ie. IGES). We can help an industry integrate through CALS/CE. We can help engineering, manufacturing, marketing, sales, service and logistics shift to working in parallel with the aid of NAS and Cohesion, using concurrent engineering?

In order to be a partner, we need to understand our suppliers', our strategic alliance partners' and our

customers' business drivers. This understanding will bring
us into a different type of relationship with our customers.

   o   Intuitive: Focus on customer satisfaction and
       measure it.

   o   Counter Intuitive: Focus on our "customers'
       customers," and partner with our customers to help
       them seize opportunities in their markets. (Customer
       means supplier, OEM partner, strategic alliance
       partner and customer).

   o   Paradigm Shift: From "Customer Satisfaction" to
       a vision that Digital helps our significant
       others become more "interactive" by putting them
       "in touch" with one another around whole challenges.

     To put it another way, let us focus on "customer
understanding", that is understanding our customers,
their drivers, their customers, etc. The result will
be customer satisfaction. If we do not understand
the customer, how can we satisfy them? Satisfaction
is a result, understanding is the cause. We are sometimes
caught in our own arrogance towards both our customers
and other partners, like the investor community.

     Wouldn't a little more self understanding and humility
go a long way at this time?

     "Digital values and adds value now!" may be the best
way to express this notion. We value our partners and
are open to learning from them, so we can be better at adding
value.

MOBILIZED OR PARALYZED?

     Jack, there are many other porches (and paradigms) which
we could discuss. We suffer, in fact, from the way these
multiple paradigms stack up, reinforce one another and
collude with our wishful thinking. We play all sorts of
games with our numbers to keep from looking reality in the
face. We overlook and deny what we have done to ourselves.
We fail to see that the need to cut costs today is because of
decisions which were or were not made three to five years
ago.

     The crisis of 83-84 mobilized us; we rose to the
occasion.

     Today's crisis has us paralyzed. We are thrashing
around in the iron lung of cost cutting without being able to
re-establish our true rhythm and sense of mission.

     Is there a way out?

     Yes, if we can take a realistic look at ourselves.

It is clear that it will take several years to return "benchmark" status. Unfortunately, the competition started several years ago and are now moving ahead of us. We went from 2nd on the Fortune 500 (in computers) to 3rd (after Fujitsu) and are now poised to fall to 4th (after HP). An AT&T alliance with NCR could push us down further. How far must we fall before we begin to turn things around? How far can we fall before it is no longer feasible to turn it around by ourselves?

We have a three to five year task ahead of rebuilding. We have a three to five year challenge to regain our confidence and the confidence of the market. Our fabled "$2 Billion in the bank" is probably further gone and less accessible th

en

we might have thought. Our only resources are ourselves, our values, our visions, our technologies, our knowledge and our entrepreneurial drive. People at Digital have always made the difference and always will, as you and Ken know so well. We must return to our cultural roots and values, rather than sacrificing them in the expediency of the moment.

SENSE OF MISSION

More than anything else, we need a "sense of mission." We need to feel it in our gut! We may be caught by another porch, thinking we are in the IT business.

What if we were to understand we are in the IT business in a new way?

Supposedly we think "IT" refers to "information technology," but it might also refer to something more fundamental?

Digital's role could be to provide the technological support for the Knowledge Era. We have what it will take in terms of technology, people and experience.

The Industrial Era focused on "material transformation." It discovered how to find raw materials in the earth, mine, refine, process, shape, assemble, market and sell them.

The Knowledge Era is focusing on the "idea transformation" process. It takes ideas to know where to look in the earth (and a lot of computing power), it takes ideas to know how to mine (and a lot of computing power), to refine (and a lot of computing power), process (...), shape (...), assemble (...), market (...), and sell (...) them.

Fundamental to the Knowledge Era is IT (idea transformation process). We (Digital) have the technology and understand the organizational aspects of integration, so we can truly be the major player of the 21st century.

If our "sense of mission," our gut feeling is that we can work with our customers (including suppliers, strategic partners, OEM partners, etc.) to help them develop little

ideas, grow these ideas, and weave the ideas together into a tapestry of exciting products and services, then we can begin the process of rebuilding. This gives us a positive message around which to focus our diverse, yet synergistic businesses.

We can provide the infrastructure (technology and attitudinal) so people can work in parallel, they can iterate their thinking, they can engage in meaningful dialogues, and they can be "in touch" with themselves and one another.

We believe "knowledge networking," the process of dialoguing and building upon one another's talents and capabilities to weave an exciting tapestry of interwoven ideas is a breakthrough reality. We have experienced the power and the empowerment of knowledge networking first hand and believe it can put us in touch with our roots: "interactive communication" and the values articulated early in Digital's history.

GENERAL DORIOT'S CAUTION

We remember the excitement you, Ken and the others felt after Digital's first year. You were able to show a profit on the $70,000 investment. We also remember how General Doriot cautioned you not to think you could give yourselves high salaries and start to lead the easy life. We know you have heeded his warnings.

It has meant a lot to see how Ken has lived this message in terms of the salary he has been willing to take (a person of integrity). But we wonder if we should not have been heeding General Doriot's words in the 86 to 87 time frame. Our success seems to have blinded us and caused us to loose touch with subtle but important changes in the market, the key point of General Doriot's admonition: do not get arrogant and out of touch with reality.

And we value Ken's and your concern with not laying off people when the going gets tough. The packages are certainly a humane way to deal with the situation. And we thank you for this. We also realize we do not have a sustainable business model when we have revenues of just over 100K per employee, especially with the collapse of high margin on CPU. We understand our challenge is to get revenues up well beyond 150K employee (Apple is around 350K, but they have a different model of making money).

Jack, we want you to know we have it in us for the tough challenge ahead. We are ready to move. We feel that if we can understand that we still have a wonderful and exciting challenge: to be the company which understands best the "idea transformation" process ourselves and can help our "partners" understand it on a global scale. We can leap ahead of our competition and define IT in new and exciting ways.

For too long we have focused on revenue and costs. We now need to learn to turn our assets. And our most valuable asset,

one which does not even show up on our balance sheet is -- our knowledging and visioning. If we would learn to "turn our knowledge assets" 100 times a year, instead of .3 times, then a lot of other things will begin to fall in place very quickly. The breakthrough will come when we realize "knowledge appreciates with usage;" all our other assets depreciate with usage. (This will help us blast through the 150K revenue per employee barrier).

In this way, we can understand how all our technologies, from networking and storage, to TNSG, SI, EIS and Customer Services all fit together and play off one another. If we can learn that by "getting in touch" with our roots, our norms and values, our technology and ourselves, we can again get this company moving. We love the excitement of bringing new ways of working to our partners, and they love us for it. We can start to "knowledge network" and with no new capital investments. Each of us can form linkages, in a coordinated manner with other key nodes both within Digital and external to Digital. We can again develop a vibrant dialogue which will knock our socks off, it will be so exciting.

INDUSTRIAL AND KNOWLEDGE ERA ORGANIZATIONS

Industrial Era organizations were built upon the physics of Newton. This lead to "boxes and lines" type organizations with steep hierarchies. Knowledge Era organizations are being built upon the physics of Heisenberg, Bohr and Bohm: interrelatedness (nodes and linkings developing and weaving ideas together).

Organizations built around nodes and linkings, while they still have a hierarchy, are flatter in structure. They are modeled on overlapping Venn diagrams were we find the synergy among and between interrelated efforts. This is the essence of "idea transforming," learning to grow together little ideas into responsive products and services, because of the vibrant dialogue. It embodies the process of value one another and adding value to one another's thinking.

Peter Senge's new book, "The Fifth Discipline" offers an exciting hint as to our vision. In chapter 12, he discusses David Bohm (quantum physicist) distinction between "discussion" and "dialogue." Discussion is where we try to convince (and force) the other to accept our position. Dialogue is where we open ourselves to discover together the deeper truths of the business, the market and ourselves.

Digital is poised to be the "dialogue" supporting company of the 1990s and beyond. We can ourselves model the learning organization and we can help others learn what "dialoguing" is all about. We have experienced this and know it is real.

We are writing this note as way of opening the dialogue with you and our colleagues. We are not ready to take the package, instead, we are ready to begin the rebuilding. Ken likes "elegantly simple" ideas, we have one

staring us in the face: IT squared (information technology AND idea transformation). We can find the synergy between and among ourselves. Can we count on your leadership and support?

We feel that we can "value and add value" one another and our customers. Would it be possible to change our advertising slogan to: "Digital values and adds value now!" and let us show the world what this means?

We can add value to a customer's existing Information Infrastructure (through NAS, Phase V, Client/Server, Cohesion, etc.), and we can add value to a customer's managers and professionals by showing them how to "transform ideas" through working in parallel (concurrent engineering).

We would like to use our technology, the wonderful Easynet, to spark an inclusive dialogue (not discussion), which will help mobilize ourselves, focus our work and build our energy and excitement?

DIGITAL PUTS PEOPLE AND PROCESSES IN TOUCH

You can count on us to help rebuild the dream and vision which has been with us from the beginning: Digital puts people and processes in touch!

Could we get the help of our legal department to trademark "IT squared", so we can protect it and again take the leadership role in defining computing (human and computer based) for the 1990s and beyond?

We are ready to go beyond our FRS (first revenue ship), OTD (off the dock) and CERTS-pers-second mentality. We understand our challenge is "Time to Profitability" through "Time to Learning" and "Time to Dialogue."

We would like to use DVN to invite Jack Welsh to discuss with us the outmodedness of the word "manager". We'd like to have Peter Senge share on DVN his vision of the "learning organization.

Finally, we may soon need our Wall Street Journals and subscriptions back, so we can stay in touch with the market (we can live without the bottled water). But we are ready to re-earn these items through hard work.

Porches and paradigms; we are ready to make the shift, because we know we can re-build off one another's talents, capabilities, knowledge and visions. We do not need to remain stuck like the Swiss watchmakers. Our foundation (values and visions) are sound, we are ready to move to a new level of understanding so we can "value and add value" to our customers/partners through "IT Squared."

Will you help us? We'd value hearing your thoughts.

Signed:

Patti Anklam   Charlene O'Brien
Larry Bizzotto   Roxanne O'Connell
Cathe Carlson   Ed Pasquarosa
Nick Craig   Jim Potts
Shirley Crider   Barcy Proctor
Cris Criswell   Burt Reynolds
Sean Gadman   Dave Roitman
Tracy Gibbons   Charles Savage
Art Hamill   Jocelyn Scarborough
Pamela Johnson   Nita Seelinger
Wilt Jones   Rich Seidner
John Keaveny   Susanne Seror
Terri McKeever   Rosemary Simpson
Doug Kennett   Rod Sutherland
Bob Mitland   John Whiteside
Brenda Markland

PS

The thinking which has gone into this note has come from all
over the company. There are many others who have a deep
concern, loyalty and desire to see Digital succeed. There
are many other items which we would like to dialogue about,
but this has already grown into a much longer piece than we
had anticipated.

***************** COMPANY CONFIDENTIAL *****************

This is Jack Smith' distribution

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TO:   PETER SMITH                   ( SMITH.PETER  )
TO:   Jack Smith                    ( SMITH.JACK   )
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I N T E R O F F I C E   M E M O R A N D U M

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                    Doc. No:  018692
                    Date:     01-Feb-1991 03:42pm EST
                    From:     Ken Olsen
                              OLSEN.KEN
                    Dept:     Administration
                    Tel No:   223-2301
```

Win Hindle & others

TO: See Below

Subject: OVER MANAGING THE FIELD

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I visited the Tucson office yesterday, and I am going on a sales call with them today. Their morale is good. The area is devastated by the recession, but they still have a lot of enthusiasm. They are, however, afraid that as things turn downward for the Company, we will lay off good people. I perhaps did not work hard enough to assure them that we would not do this. Maybe there are cases they know about where we laid off very good, productive people, but I did not pursue the question to see if that was what was bothering them.

They were very polite when I told them once more about the new management system, but I did sense they do not believe it. Since then, I have been thinking about the experience they have had in the last year. They did not remind me of these things yesterday.

First of all, they were told last year that if they took on trainees, they would not be charged to their account in counting in their measurement system. And so they believed the Company management took on the people. After they took on the responsibility the rules changed, and they were charged. This does not promote a feeling of trust for management when one is far away in a remote town in the Southwest.

They did have a very cohesive team in the Tucson unit. The Unit Manager took on several accounts himself, and everyone was used efficiently and effectively. They were a very proud account. They owned the town of Tucson (with the help of IBM).

The reorganization last year wiped all that out. They used to get by with their District Managers for each of the services and for selling, but they learned how to out smart them. The District Managers did not know they existed, so it was relatively easy. Then, last year, we introduced two more District Managers to this tiny unit in the desert. Now the groups have been broken up into third parties, Government, and a regular District, all of whom are so far away they never remember Tucson, and the people now cannot share work. They work for different teams.

They are very doubtful of my promise that all these District Managers who now tell them what to do will not have conflicting measurements. They see the measurements getting stronger and stronger, more and more conflicting, and more and more limiting, but still with little interest in helping remote offices. If a District Manager has resources that they want to limit because of their measurement, they will spend them in those areas in which they are closest.

They did not say, but I believe in their minds they are also worried now that their little unit will be broken up once more by Accounts. The Account Managers will not be in a cooperative or sharing mood, and slicing up this tiny operation once more by Accounts, many of whom are far away, will make the unit exceedingly inefficient and take all the fun away.

The last time we divided it up, the District Manager, who I believe was a very effective sales person at Hughes, was ruled out of that job.

They never did have the feeling that Corporate management was there to help the Field. Their morale has picked up and is quite good, but the thought never enters their head that management is there to make their job easier.

Now remember, these things that I am saying are being read into their questions and are not words directly from them. And, I might be wrong in some of my conclusions.

The automobile program was also not explained well. Of course, they readily agree with the idea that in hard times one must be much more economical, but the explanation did not come across in a straightforward way.

Surely we can work out a system where the local office manager still is in charge and still maintains efficiency without conflict and with all the "help" the District Managers are giving.

KHO:mtw
KO:4933
(DICTATED ON 2/1/91, BUT NOT READ)

Printed by Win Hindle

I N T E R O F F I C E   M E M O R A N D U M

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Doc. No:    018771
Date:       05-Feb-1991 10:01am EST
From:       Ken Olsen
            OLSEN.KEN
Dept:       Administration
Tel No:     223-2301
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TO: See Below

Subject: THE NEW RUSSIANS

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On Saturday, I heard a lecture by Hedrick Smith entitled, "The New Russians." One of the many interesting things that Smith said was that there is a definite reluctance on the part of Russian peasants to own their own farms. There are three reasons why they are reluctant:

(1) If it rains next summer and my potatoes rot, I have nothing. If I stay on the bureaucratic farm, I at least get a salary.

(2) The bureaucrats say they will give me freedom, but we know they never will.

(3) They will probably change their mind in two years and take the farm away from me.

In talking to people in the Field, I sense certain fear and certain distrust of the establishment.

There is a clear fear in some places that, as we cut staff, we will cut those sales people who at this time, for reasons beyond their control, do not make budget, even though they are very conscientious, very competent, and very senior. I, of course, say this is not true. But I am not sure I completely trust the system.

They also, even in this time when we have announced freedom, see bureaucracy dumping decisions on them which do not make sense and which add to the inefficiency. They do not believe we will make

things simple and leave them alone.

While we have said that we are eliminating stove pipes, we have introduced three major stove pipes in the Field: third party selling, direct selling, and government selling. Out in the boonies, they were an efficient, cohesive, and very successful, motivated team. They owned the town of Tucson; they got all the business and were beating IBM. They used their people efficiently. The local unit manger had Hughes Aircraft and a few other customers as his account. When the new stove pipes took over, the Field office was assigned to three new district managers from so far away, they do not know where Tucson is and have little interest in spending their resources there. Now the little group in Tucson is into three stove pipes with no cross efforts allowed.

The Russian peasants hear Gorbachev and the Field hears me, but the bureaucrats still run things and there is little trust of the Corporation in the Field.

While I was visiting Tucson, I interrupted a full-day course on valuing differences. No on complained; no one even talked about it. But it did seem a little out of place at a time when they have so much fear in their own lives to spend their time on a course such as this. Personnel sometimes seems disconnected from the real problems people have.

We built a Corporation based on trust. Most people cannot remember those days, so they do not know any better. We probably will not lose these people and therefore we are no worse off than anyone else.

KHO:eh
KO:4940
(DICTATED ON 1/4/91, BUT NOT READ)

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 018846
Date: 07-Feb-1991 11:13am EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: TECHNOLOGY REPORT TO THE BOARD OF DIRECTORS

****
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The Board of Directors is very interested in the technologies we
have developed with the large investments in the last few years
and what we plan in the future.

Will you gather from those groups which make investments in
technology a report to be sent out before the April meeting. I
don't want to push this hard before we get the budgets out for
the March meeting, but I think people should keep it in the back
of their mind as they lay out their budgets because the
technology report will have to be consistent with the budgets.

Like the budget reports, the technology report will be on paper
in simple table form. There will be no oral presentation unless
the Board asks specific questions.

There should be a report for every group that has invested or
will invest in technology and product development.

Each manager should be asked the following questions:

   1.   How much was spent in technology and how much was spent
        for product development in the last five years and how
        much is planned for the next five years?

   2.   What technologies have resulted or are planned that are
        unique or give a monopolistic or undue competitive
        advantage?

   3.   What products and technologies are we clearly leaders in?
        Have we used this advantage to make money? Do we plan to

make money? Or, are they for pride sake, or are they to be given away to standards groups? What technologies and what products are we clearly followers in for the last five years and the next five years?

4.   How much money was spent for buying technology and buying software? Have we made money on the technology and software we bought, and do we plan to in the next five years?

5.   If we recast all the figures in today's new management system and price each product with a benchmark price, would we have made money and would the sales people feel that we are competitive?

6.   Are our plans for the next five years to be forever catching up with industry leaders? If not, what areas do we plan to be leaders in and demand extra profit?

7.   Have we had and will we have a winning theme for each business we are in that will catch the imagination of the sales people and the customer and sell the technologies and products that we develop? Or, will we look piecemeal to the customer and to the sales people?

Some of the Directors and many in-house people worry that some of our remote laboratories are placed for political reasons and no one expects much out of them. I think it would be good to have a report from each remote laboratory or, in fact, any laboratory that does not have responsibilities that will be answered in the first section of this note. We should have a report on what they spent in the last five years, what products they have developed, how well those products have done, and how their goals will make money for us in the next five years.

KHO:dao
KO:4952
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I N T E R O F F I C E   M E M O R A N D U M

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                          Doc. No:   018849
                          Date:      07-Feb-1991 01:04pm EST
                          From:      Ken Olsen
                                     OLSEN.KEN
                          Dept:      Administration
                          Tel No:    223-2301
```

TO: *Win Hindle & Exec. Comm.*
    See Below

Subject: THOUGHTS ON THE EXECUTIVE COMMITTEE

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The Executive Committee has become dependent upon presentations.
The result is that we only hear the positive things, and we do
not hear about the problems, nor do we hear about the compromises
implied in our new plans. We also do not hear about changes in
our Corporate philosophy, which sometimes are implied in plans,
but are not clearly presented.

I am particularly embarrassed when I am out talking to the Chief
Executive Officers of companies to learn we had troubles with
projects in their corporations. We all should be very conscious
of any problems we have had and what has happened to them, so
that we do not get into trouble when we are out in the Field.

Indeed, these problems are not usually hidden, and if we read
everything carefully and pursue every aspect of the Corporation,
we can find everything.

I propose we organize the Executive Committee so that each member
concentrates on the problems, dangers, changes, and compromises
in a particular area, and that each time we meet, we have a
session in which people report on those things which they think
are important for the rest of group to know.

I suggest we break the responsibilities down as follows:

   o   Win Hindle could stay on top of all problems, orders
        lost, and matters of philosophy in the area of
        Enterprise Integration.   ✗

   o   Bill Strecker might look out for all problems and

philosophical changes in the world of PCs, workstations, networking, and NAS. We have evolved from a strategy of no crashes regardless of cost to promising more than the competition promises. This has gotten us into trouble, and I am terrified at what it might do in the future.

o   Marty Hoffmann could watch the government and CALS projects and report to us what is going on there.

o   Jim might watch all financial customer problems.

These are my ideas. Let's discuss them and add to them.

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KO:4947
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TO:	Bill Strecker	(STRECKER.BILL)

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Doc. No: 018918
Date: 11-Feb-1991 09:29am EST
From: Ken Olsen
           OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: LET'S BE A MARKETING COMPANY

SUBJECT: LET'S BE A MARKETING COMPANY, OR
           WHY SMALL COMPANIES CLEAN OUR CLOCK

We take pride in being a technology company. However, I am
afraid being a technology company means we build devices that
catch our attention because of the technology they use and then
expect the sales people and the marketers to figure out how to
sell them. Marketing then consists of announcements, simple ads
and events such as Network University and DECworld.

A marketing company is one who analyses the customers needs and
desires, produces a solution for these needs and then tells the
world about the solution.

The small companies who survive invariably do this, formally or
informally, and clean our clock. The company that makes pieces
because they like the technology cannot solve problems they never
planned to solve.

Many of our marketing groups are terrified to present their
products in the DECworld 1991 book because they never organized
them to sell complete systems and never tried to fill the gaps in
their offerings. I think it is clear that those groups who do
not have complete systems offerings should be left out of the
book until they do.

We lost most of the networking market partly to companies who
make pieces we didn't feel like making, partly to people who make
parts cheap enough to be used in a system, but largely to TCP/IP
where there is a complete offering so that people can make
systems. We say they should wait for OSI. They have waited for
twenty years and could not wait any longer. Our random
collection of expensive parts to do DECnet is not a marketing
approach, it does not offer the system the customer wants

regardless of how much we talk at Network University and
DECworld.

When we have a complete systems we then have to tell the world
and announce it as a standard. He who speaks first often sets
the standard. For example, most of the computers in the world
use little ENDIAN. All the traditional text books use little
ENDIAN, but when SUN and IBM announced big ENDIAN as standard,
everyone believed them and now we are on the defensive. If we
had announced first then it is obvious which is the standard, and
we could probably have gotten the world to believe it. I do
believe we had an elegant system of wiring for offices with
DECconnect, but HP announced it was not standard and even our own
people won't use our system.

Let's immediately set up products and software to do TCP/IP,
DECnet and OSI, and present them as a complete system as if we
did a marketing study. Let's immediately set the specifications
and announce delivery dates. Let's put an emergency push on
getting them out quickly. When we have confidence in the
delivery date, let's announce them early.

KO:4960
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TO:	Henry Ancona	(ANCONA.HENRY)
TO:	Jay Atlas	(ATLAS.JAY)
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TO:	Dave Copeland	(COPELAND.DAVE)
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TO: HARVEY WEISS   (WEISS.HARVEY)
TO: DONALD ZERESKI   (ZERESKI.DONALD)

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TO: See Below

Subject: LET'S MAKE ETHERNET A BUSINESS UNIT GROUP

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I'd like to capture the whole Local Area Network business. With
Network Management as a feature for Ethernet, and DECnet and
TC/PIP as parts of Ethernet, as a marketing grabber I'd like to
use "Ethernet" for the group's title. We would sell Ethernet and
everything to go along with it.

It is clear that after we proved we could do Ethernet better than
anyone else, the Corporation lost interest in it and relegated
the marketing and selling of low priced units to other companies.
Now that we have proved we can do FDDI before anyone else, it is
expected we will relegate it to low-priced producers. I'd like
to set up that low-priced producer and marketer as part of
Digital.

To do this, we cannot sell old, obsolete, expensive components;
we cannot take forever designing new equipment; and we cannot
bypass the boring things. We have to be aggressive, plan
carefully, and do everything necessary. We have to do very fast,
efficient engineering, very low cost manufacturing, and exploit
all means of distribution. The goal is to get the bulk of the
Local Area Network business by sheer competence with the
earliest, best and least expensive product, with the best market,
distribution, and service. This means setting up a new group
that does everything in the most optimum way, independent of the
entrenched groups and the entrenched ways of doing things.

We must pick those engineers who have a history of getting things
done quickly, efficiently, and with quality. All groups must be
supervised by engineers who understand the product, can set the
specifications, and lead the project. There is no place for

Kno-nothing managers.

Everyone must understand the goal and their part in it. There
must be continuing review and teamwork. The reporting system
must always tell where we are in our plan to capture this market.

I'd like to exploit the very-inexpensive, very-quickly-done
product that Jim Liu has built. As a first step, I'd like to go
after the PC market -- PC stores, PC catalogs, and PC magazines.
Today, we can capture all the small networks with the simple,
easy-to-use ThinWire products we have and with our simple
architecture. I'd leave out 15-pin connector. I would not use
orange cable where it isn't necessary. I'd charge high for
specialized boxes that do things that do not sell well, and very
little for high production items that everyone needs.

Simple systems have to be self-installed and complex systems have
to be installed with less effort and less money than anyone
else's system.

KHO:eh
KO:4645
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Copy to Roger Ross for E.C.

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I N T E R O F F I C E   M E M O R A N D U M

Doc. No:	017981
Date:	10-Jan-1991 02:16pm EST
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

E.C. et al.

TO: See Below

Subject: DISCIPLINE AND DECISION MAKING

****

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DIGITAL'S BUDGETING SYSTEM

One of the primary goals in the new management system is to present all the commitments we have at any one time in a disciplined format that would allow management and decision making. All our commitments, plans, and projects will be converted to money, people, and time, and presented in our budgets, which will be presented in a number of different ways, to allow management and decision making.

We are now making decisions on those things that have to be decided right away, but we will not be free to make decisions until we have our budgets laid out. There is a tendency to wait forever until our budgeting system can be perfect, but we need to get an approximation of the budgets so that we can go about the management and decision making way.

Right now, decisions are made with very little data and without a full understanding of the consequences. But, when we have the complete budget system, we can make our decisions relative to all the commitments made, and put them in context to show their effect on profit.

DECWORLD BOOK

There is one other piece of discipline we need, and that is a book of all our products that puts them in context and organizes them so that they are easy to understand. This book should be in a format that is easy to use, and it should provide enough information so products can be ordered and then used as part of a

RR

design system.

There is a tendency for technical people, both product generators and marketers, not to document because it is inhibiting. Talking is easier, but when customers want to buy, and the sales people want to sell, they need documentation, they have to have specifications, and firm prices, and they have to know their work in systems.

We promised to have this book for DECworld last summer, but never made it. We should work very hard to get it done immediately because the lack of clear information in an easy-to-use form is definitely limiting our sales today. There are a number of advantages to having a book like this. If we can't explain it in the book, then we can't explain it to the customer and, therefore, we shouldn't do it. This book will also help us sell ideas. I have asked Bill Heffner to write a chapter of the book as his presentation for Imaging and Voice. He could write two chapters, one on Voice, and one on Imaging, or he could write one and call it Human Interfaces.

I'd like Bill Strecker to organize the product section. This probably should not be organized in the way the Company is organized, but in a way the customer would like to find CPUs, components, software, and services.

I'd like Pete Smith to organize all of his groups in a presentation for the book. I'd like Russ Gullotti, Bill Johnson, and Bob Glorioso to organize their parts so they fit nicely into this book.

The first step is to make an outline of each section. If this is an easy task, I'd like to have this done for the Board of Directors' meeting on Monday, January 21, 1991. If it is not, let's have the outline, in a more complete form, done as part of our budgets presentation to the Board of Directors on the 1st of March.

KHO:dao
KO:4876
DICTATED ON 1/8/91, BUT NOT READ

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Doc. No: 017937
Date: 09-Jan-1991 04:06pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: THE FUTURE OF THE MAINFRAME BUSINESS

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When we started the Company, a thesis of ours was, whoever starts
a business, runs it until it is complete and running in a steady
state. All to often, we have noticed that, when the project was
turned over to new people during its development, inspiration was
lost and all parties were free of responsibility. Those who
started it could then blame all the results on the new people who
took over. And those that took over had no responsibility
because, when they took it over, they announced the project was
fraught with problems left over from the misjudgment of the
people who started it.

I see these problems included, very clearly, in the transfer of
the super computer from Bob Glorioso to Sultan Zia. Sultan
clearly does not see into the future and does not have the love
or inspiration, or does not feel any inventiveness or
responsibility for that business.

A short time ago, there was a lot enthusiasm, particularly among
the marketing people and much of the sales force, for our
mainframe and our mainframe business. What has happened since
then? Is something wrong with the computer? Has that business
deteriorated? Have we done something wrong? Is it the economy?

We have a naive attitude that if the selling goes poorly, we will
get out of that business. The business-like approach is just the
opposite. If something goes wrong, find out what wrong; don't
just get out of the business.

In fact, all or most of our CPU businesses are losing money and
we should figure out what is happening to each one of them.
Let's ask Pete Smith, as the person responsible for much of our
marketing, to obtain analyses from all our marketing groups as to

what is going on. Is this still a good business? Does the
machine still look good? Does it still fill the niche? Then,
let's do the same thing with each of our CPUs.

Mainframe computing is much more than a machine with a lot of
MIPS, a lot of bandwidth, and a lot of security and reliability
built into it. It is a whole new way of doing things. Have we
gained the confidence of the market if we are going to do these
things?

Let's be sure that we do not give away the business of building
mainframes to someone who has already committed to failure.
Let's set about to truly learn about this business, and what we
have to do to succeed in it.

KHO:eh
KO:4869
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DIGITAL'S DARING COMEBACK PLAN

With its market eroding and its stock clobbered, the No. 2 U.S. computer maker is investing billions in new technology. CEO Ken Olsen is betting the company. ■ *by Stratford P. Sherman*

THE MANAGEMENT challenge that Ken Olsen now confronts at Digital Equipment Corp. is taking the measure of his brawny self-assurance. Relying on little more than his own strong will as a lever, the company's founder and chief executive is trying to move an organization of 123,500 souls the way a woodsman might shift a boulder: with a combination of basic engineering and brute force. "People are always reluctant to change," says Olsen, 64, a vividly intelligent man with merry blue eyes and the rounded bulk of a retired lumberjack. "Teasing them, tricking them, manipulating them—that's all part of the job of management."

Digital certainly needs moving. Having risen since its 1957 startup to 27th on the FORTUNE 500 by engineering superior computers and software, the company has fallen victim to its own success. Just as the popularity of its VAX family of computers reached a peak in the late Eighties, a formidable new type of desktop computer—the workstation—took the business market by storm. Offering radically increased power at much lower cost, workstation technology in-

spired corporate buyers to question the value of minicomputers—much as Digital's minis had challenged low-end mainframes in the 1970s. Instead of rushing to offer competitive workstations, the company initially responded with scorn, losing billions of dollars of potential orders from such loyal customers as Boeing and National Semiconductor. The lesson, though obvious, bears repeating: If anyone is going to make your products obsolete, it had better be you.

The Maynard, Massachusetts, company is still paying the penalty for having lost touch with customers. In the fiscal year that ended in June, the company's revenues came in an estimated $1 billion under budget while expenses soared. Says a rueful Olsen: "You can be sure our plan was perfect—it's just that the assumptions were wrong." Even before a one-time restructuring charge of $550 million, last year's earnings dropped to less than a third of their 1988 level. The price of Digital's stock has been plunging like a falling safe, from $199 per share three years ago to a recent $56. At one point in 1987, shares of Digital, No. 2 in the U.S., and No. 1 IBM were both trading around $165; this

December the stock market valued an IBM share at $111, twice Digital's price.

Digital's dilemma is how to attract new customers without alienating loyal buyers. Since the spread of cheap workstations, just about the only folks eager to buy a VAX are those who already have invested heavily in the older technology. The VAX customer base includes most of the world's big companies and adds up to over 400,000 systems averaging several computers each. But to grow, Digital needs new customers. Defending itself in the crucial low end of the computer market, Digital has cobbled together its own line of workstations and even resells Tandy PCs. To succeed in the long run, however, the company somehow must integrate the popular features of workstations into its whole array of VAX computers.

That is precisely Olsen's plan. He is betting the company's revival on a technological grand design centered on a new product line, including computers code-named Alpha. Designed to match the power of workstations, Alpha represents a financial and technical challenge substantial enough to strain even Digital's hitherto ample re-

DIGITAL'S STRENGTH: STILL IN MINIS

COMPUTER SALES
1989 worldwide totals

Workstations $6.2 billion
Minicomputers $29.4 billion
Mainframes $30.1 billion
PCs $68.0 billion

IBM 19.6%
All others 54.1%
Digital 15.6%

All others 23.9%
IBM

All others 72.9%
IBM
Apple 9.7%
Hewlett-Packard 1.6%

Sun Microsystems 27.5%
Hewlett-Packard 26.0%
IBM 2.4%
All others 23.6%

Bull 5.2%
Hewlett-Packard 5.5%

Bull 5.5%
NEC 5.6%
Unisys 6.9%

SOURCES: INTERNATIONAL DATA CORP.; DATAQUEST

sources. But the strategy makes sense, and according to Digital watcher Terry Shannon at International Data Corp., a Massachusetts market research firm, "They have the technical wherewithal to bring this product to market."

Even so, the execution won't be easy. Like many technical types who end up running companies, Olsen is what Danny Miller, a Canadian business professor, calls in his book *The Icarus Paradox* "a tinkerer," who focuses on providing levels of quality that customers may not care about. And if Olsen may produce the right machines, his beleaguered sales force will have to overcome enormous obstacles to market them. At best, his plan probably won't begin to improve earnings greatly until 1992.

Digital's financial discomfort is what brings the element of brute force to Olsen's program of change. The company is trying to cut costs by an estimated $1 billion annually. The first layoffs in Digital's 33-year history are expected early in 1991, a move that should improve the company's notoriously low productivity (see chart, last page). "We're well past the denial phase," says William Strecker, head of engineering and a member of Digital's six-man executive committee. "We don't have to explain to people anymore why they have to change."

Says Olsen: "You can be sure our plan was perfect—it's just that the assumptions were wrong."

DIGITAL CAME OF AGE selling minicomputers to customers who didn't need much hand-holding, mainly scientific labs and corporate engineering departments. Over the past decade its VAX machines grew to dominate sales so completely—accounting for up to 90% of the total—that Digital became almost a one-product-line company. Amid the complexities of big-time computing, the line's simplicity delighted customers. Says Olsen: "When we had a monolithic product line we really pushed it hard. But a temporary marketing thing is all it was. It was never meant to be a religious issue."

With the minicomputer market drying up, traditional mini makers such as Data General and Prime Computer are losing money. Aware that Digital needed to set itself apart, Olsen decided almost ten years ago to push the company out of what then seemed a cozy niche. Henceforth it would try to offer a full range of products and—just as important—services, such as the customized system design that big corporate customers often require. That meant playing Avis to IBM's Hertz, taking on a rival five

REPORTER ASSOCIATE *Jung Ah Pak*

times Digital's size. Innocuous as it may have seemed at the time, Olsen's decision implied a redesign of his entire company. To compete effectively with IBM, Digital is having to alter almost everything: its product line, distribution, pricing, cost structure, organization, even its beliefs. Says Olsen: "I used to laugh at IBM for changing its organization all the time. Now I respect them."

Olsen manages Digital as a Japanese might, investing heavily in promising long-term projects at the expense of current results. Late in 1989 the company introduced the first VAX mainframe, the model 9000. Despite widespread doubts about its future, the mainframe business is far from dead; it's the *middle* of the market that is hurting. The 9000's introduction has been troubled: The first machines were shipped nine months late, and in December the company had to retrofit them to fix a snag. Though Digital's profit margins are being squeezed hard—the company posted its first-ever quarterly loss in June—VAX products still generate enormous amounts of cash, and Digital's balance sheet remains nearly debt-free. That has enabled Olsen to spend up to $1.6

billion annually on R&D and $1 billion on capital projects, mostly related to Alpha.

The Alpha line is still what software jocks like to call vaporware. According to International Data's Shannon, the first box probably won't be shipped for at least 15 months, and the complete line may not appear for two years after that. So Digital is racing against the clock: By the time Alpha arrives, analysts believe the bountiful VAX revenue stream may have started to diminish.

OLSEN'S STRATEGY represents a stunning turnabout. He spent years resisting the idea of "open systems," the industry's hottest buzzword; now he is trying to redefine the term. In a hypothetical open system, everyone agrees, computers and software made by different companies would communicate and share files freely. But Sun Microsystems, the workstation leader, has popularized a much narrower definition: computing built specifically around AT&T's Unix operating system.

An operating system is the layer of software that mediates between any computer and the applications software it is running,

such as a spreadsheet program. In the PC world, operating systems are what define much of the difference between an IBM-compatible computer and an Apple Macintosh. In the world of what Ken Olsen calls "*real* computers," producers usually designed new operating systems to go with their new machines, creating a briar patch of incompatible proprietary systems. Like a child, each operating system may be perfectly well behaved within the confines of its own sandbox, but it won't share its toys with the other kids.

For a computer maker, the advantage of a proprietary system is that it locks in the customer; that is why so much cash continues to flow in from Digital's older products. Companies such as Bankers Trust spend two-thirds of their computing budgets buying and customizing software, and they usually can't afford to adapt programs and files based on one operating system to make them work with another. According to Domenic LaCava, a Digital vice president, the company's antiquated PDP-11 line, introduced way back in 1969, still generates over $900 million in annual sales. Sheltered from competition, computers running on proprietary systems generally provide profit margins of 60% or more, vs. 40% for standard Unix workstations.

DIGITAL HAS SOLD its own version of Unix with VAX machines for years, but 90% of its revenues grow out of its proprietary operating system, called VMS. The most successful system software in history, measured by unit sales, VMS works on every single VAX computer, from workstation to mainframe. That unique degree of commonality made it easy and relatively cheap for VAX customers to expand: They simply bought more VAXs and plugged them in. William Demmer, the vice president in charge of VAX/VMS products, says VMS was designed to last forever.

When Sun Microsystems started out in 1982 it had no operating system at all.

William Demmer, head of Digital's well-known VAX line, calls it the "jewel."

Shrewdly, the new company adopted AT&T's Unix and pushed it as an industry standard. Although strictly speaking a proprietary system, Unix offers two important advantages. Unlike Digital's VMS, Unix is available to anyone who pays a license fee to AT&T. Another key feature: Unix works with almost any type of hardware, from a PC to a Cray supercomputer. Measured by the ratio of price to performance, Sun's Sparc workstations beat comparable VAX machines by a factor of at least 3 and sometimes as much as 10. Bargain-minded customers flocked to Sun. Many computer buyers came to view Digital's money-minting proprietary system as a bit of a rip-off.

The unprecedented power of the Sparc workstations depends on a new architecture for microprocessor chips, called RISC. It breaks complex commands down to a few simple instructions that can be executed at blinding speed. Thus far RISC technology has shown up mainly on workstations running Unix, but there is no necessary connection between RISC and Unix. It also turns out that in many commercial applications, such as transaction processing, Unix is considerably less powerful and reliable than Digital's VMS.

In late October, Olsen dropped his first public hints about the Alpha line. Digital, he said, is designing a new generation of VAX machines powered by RISC chips. The company is also drastically revising the VMS operating system and related software to make Alpha compatible not only with all existing VMS programs, but potentially also with software running on Unix and every other major operating system—even Macintosh and MS-DOS, used on IBM PCs.

Suddenly Digital's approach to open systems seems even more open than Sun's: It does not require a single, standardized operating system. Instead, it depends on a set of industry-standard designs for those elements of an operating system that interact with either the computer hardware or the person at the keyboard.

CHANGING THE VMS operating system to meet those industry standards is an undertaking of monumental complexity. Thousands of Digital software engineers are involved in the task of rewriting VMS's ten million lines of code—each of which must work perfectly on every type of VAX—and applications software that runs on VMS. If they succeed, their efforts will enable Olsen to turn the tables on Sun: A computer running on VMS will be able to swap programs freely with any computer running any operating system that follows the same publicly available standards. "We're the biggest supporters of open systems," claims Olsen. "That's because almost no one else can afford to do it."

One who agrees is Marc Schulman, a respected analyst at Union Bank of Switzerland's U.S. securities subsidiary. Says he: "I believe Digital is intensely committed to open systems. I'm very satisfied that its

WHY WORKSTATIONS MATTER

Digital's unit sales

Projected industry sales

SOURCES: INTERNATIONAL DATA CORP., DATAQUEST

strategy will produce a pronounced recovery for the company—not right away, but sometime in calendar 1992." That gutsy call is backed by sharp reasoning: The momentum toward open systems is unstoppable, he argues, and the companies with most to gain from it are those, including Digital, with proprietary operating systems. Freer competition should benefit the most powerful products.

GETTING ITS NEW message across to customers will be Digital's greatest challenge. From Olsen on down, the company is a marketer's nightmare. Joseph DiNucci, formerly a Digital sales manager, is credited with pushing the company into RISC/Unix workstations; he is now a vice president at MIPS Computer Systems, which sells RISC chips to Digital. DiNucci remembers the first time he heard Olsen speak: "He said, 'I believe technology is everything—if you design a good enough product you don't even

A PRODUCTIVITY PINCH
Sales per employee, 1990

$104,375	Digital
$143,837	Hewlett-Packard
$169,400	NCR
$214,638	Sun Microsystems
$451,648	Apple

need a salesman.' I said to myself, 'I came to the wrong company.' "

Like the company he created, Digital's old boy just isn't the marketing type: Self-confident to a fault, he does and says what he wants, sometimes at Digital's expense. "We always say the customers are right," says Olsen, wrinkling his broad nose as if he'd smelled a rotten fish. "But they are *not* always right." A committed Christian, Olsen hews to basic values in matters of management too. His opposition to layoffs and commission-based pay for salesmen is legendary. He encourages academic-style intellectual freedom among his subordinates, who may debate major decisions for months or years—while customers go elsewhere.

Given Digital's awful stock performance, uncertain prospects, and breathtakingly quirky leadership, some consultants and former employees think the company would be better off if Olsen, now 64, were to retire. No way, responds the founder. "I plan to be here 20 more years," he says with a sly grin. "I'm always aiming at the company being self-running without me, but it hasn't hap-

pened so far." In fact Olsen has encouraged so many strong executives to leave that no obviously credible heir remains.

The case against Olsen rests on two main criticisms—that he is out of touch with the industry, and that he lacks the particular management skills a company grown as large as Digital needs. Gordon Bell, one of the strong men Olsen drove out, believes only the first criticism is valid. As head of engineering, Bell led the VAX development team; he later ran the National Science Foundation's computer research program. He is clearly not objective, but his trenchant views are respected. Says Bell: "Olsen is their No. 1 problem."

Relevant or not, the proposition that Olsen is out of touch is easy to support. An anachronism in the age of PCs, Olsen doesn't use a computer for business. A poor typist, he even dictates his electronic mail to a secretary. Says Olsen: "If I find a use for a computer, I'll get one." Nevertheless, he was a big backer of Digital's disastrous foray into PCs in 1982. The company produced three machines with three different operating systems, none compatible with the IBMs that became the industry standard. The result: a market share in PCs under 1%. Olsen says the biggest users of Digital-designed PCs are the Soviets, who stole the technology and produced some one million units.

OLSEN ALSO KILLED several promising early development programs in workstations and RISC chips. Many talented Digital executives left to work for Sun. Says one: "Sun would not have existed if Digital had done its job right." Olsen concedes the point, but argues that focusing on VAX paid off because it financed the company's stunning growth in the 1980s and the Alpha R&D.

The second criticism of Olsen is more chilling. Says Dale Kutnick of Meta Group, a computer consultant to many FORTUNE 500 companies: "Ken is brilliant and a good leader, but they need plain old management of the kind that IBM builds: big-company professional management. Digital is barely on the edge of control in terms of the way it does business."

Olsen firmly believes that a more focused organization, not new management, is what's needed to solve Digital's problems. To that

end, he is giving P&L responsibility to the account managers assigned to each major customer. He has also been reshuffling executives and has begun retraining the company's 24,000 salespeople. To force costs lower, Olsen is demanding that managers measure the cost of each of the company's products and services against those of the competition and find ways to price them competitively.

One thing won't change: Olsen's heavy reliance on Digital's engineering expertise. Digital is the only computer company in history with the technical discipline to integrate so broad a product line around a single operating system; it is widely regarded as the premier provider of complex networked systems. That skill could prove crucial in the new world of open computing, as big companies struggle to tie together their hitherto isolated PCs, Macintoshes, workstations, minis, and mainframes.

For all his winning self-deprecation, Olsen is a prideful man, like some of the New England Puritans who are his spiritual inspiration. But his plans appear sound, and his conservative fiscal policies have left Digital remarkably well positioned to finance the corporate reformation he has in mind. If Olsen can hang on to his job and bring his present plans to fruition, he has a real chance to restore the company to its accustomed position of industry leadership. **◼**

> "Ken is brilliant and a good leader, but Digital is barely on the edge of control in terms of the way it does business."

INVESTOR'S SNAPSHOT
DIGITAL EQUIPMENT

SALES
(latest four quarters) **$13.0 BILLION**
CHANGE FROM YEAR EARLIER   DOWN 0.03%

NET LOSS   **$50.2 MILLION***
CHANGE   N.A.

RETURN ON COMMON STOCKHOLDERS' EQUITY   **−0.6%**
FIVE-YEAR AVERAGE   12.1%

STOCK PRICE RANGE
(last 12 months)   **$45.50–$95.125**

RECENT SHARE PRICE   **$56.125**

PRICE/EARNINGS MULTIPLE   **N.A.**

TOTAL RETURN TO INVESTORS
(12 months to 12/14)   **−30.1%**

*Includes restructuring charges of $550 million.

E.C.

I N T E R O F F I C E   M E M O R A N D U M

Doc. No: 019984
Date: 19-Mar-1991 01:28pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Jim O, Lyn Benton, Mack Prokopis +
Dick Fishburn
TO: See Below
CC: Win + others
Subject: ONE MORE PASS AT THE NEW MANAGEMENT SYSTEM

It sometimes seems the New Management System is quickly deteriorating to the old system. People want to keep adding all the things we used to do. The New Management System is simply a management budget for each Business Unit. It is not the marketing plan and it is not a way to justify keeping things the way they were. It is also not a way to help everyone run everyone else's business. It is simply a very trivial accounting system so that each Business Unit manager can run their Business Unit as a business, have the accounting necessary to help them make decisions and review those decisions after the fact.

Every business, of course, needs a marketing plan. They have to study the customer's need, figure out what they can offer with a competitive advantage, and do all those things which are part of a marketing plan to ensure they are successful and profitable. However, this is not the New Management System and this is not the new accounting system.

The New Management System is and should be very easy to understand and work with, and it should eliminate most of the hassle, negotiations and arguments that take place between the Field, the marketers, and the product people.

Every business makes budgets, plans and negotiates with others and then finds out what the customer wants, what they need, and what they will buy. They often make deals, commitments and promises - even formal contracts, but these are separate from the accounting system by which they run their business.

RR

THE NEW MANAGEMENT SYSTEM

The New Management System is trivial in concept and should be
kept that way. The first line is the NOR for that particular
Business Unit. This is the sum of all the costs incurred by that
Business Unit (value added), plus the profit of that Business
Unit. From this is subtracted, in detail, all the costs and
overhead for that Business Unit. The result is that Business
Unit's profit. The percent profit is the profit over the NOR of
that Business Unit. There is separate accounting for every major
project, be it a product, a marketing platform, or an account
project. As in any good business, each Business Unit will want
to know where they make money and where they do not. The account
managers have to know how much discount to give on a project and
this is determined by keeping track of the costs on every
project.

The project budgets are, indeed, summed for each Business Unit,
but most of the management is done by individual project. If a
Business Unit, such as workstations, has both products and
marketing, they are summed and managed separately.

We will arbitrarily say the cost of inventory is borne by the
product groups.

We have arbitrarily decided the accounts receivable costs are
added to the accounts costs.

In general, we have decided to capitalize our developmental costs
in the product groups so the projects can be charged for just the
cost of developing the particular product being accounted for.
The Alpha project will be collecting costs for sometime to come.
These will not be charged against today's projects, but will be
charged for the Alpha project when its various products are sold.

Please see my previous memo titled "Math for the New Management
System," which is attached.

KHO:eh
KO:5104
(DICTATED ON 3/18/91, BUT NOT READ)

INTEROFFICE MEMORANDUM

Date: 30-Jan-1991 03:14pm EST
From: Ken Olsen
          OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win received this in January.
It was attached to Ken's 3/19 memo.

TO: See Below

Subject: MATH FOR THE NEW MANAGEMENT SYSTEM

CHAPTER I

The new management system is based on the following syllogism:

We are to make profit on all value added.

All costs add value.

Therefore, we make profit on all costs incurred.

In the new management system, we break the Company into three groups of separate Business Units. These Business Units are:

A.   PBUs or Product Business Units.

B.   IBUs or Integration Business Units.

C.   ABUs or Account Business Units.

Each Business Unit incurs costs. These costs are directly incurred by the Business Unit, or there are some small overhead and variance charges which are directly allocated to the Business Units.

Each Business Unit sets its own price so that the price covers all the costs plus a reasonable profit. These prices are set by the Business Unit and not by committee or by other Business Units.

NOTE: There is no Pricing Committee!

The price to the customer is the sum of the PBU price, the IBU price, and the ABU price.

To simplify the Price List and to simplify the calculations, we will generate an arbitrary Maynard List Price. This price will be two times the actual price set by the Business Unit. We do this to avoid the problem of listing the price from each of the Business Units and adding them up for the customer price.

Instead of adding all the costs and profits from each Business Unit, we will take twice the product cost and subtract from this the PBU price, the IBU price, and the estimated ABU price. What is left is the maximum amount of discount allowances which could be given to the customer.

The formula is simple:

$$2PBU = MLP = PBU + IBU + ABU + Discount + Allowance$$

Or we could say:

$$Price = PBU + IBU + ABU$$

The Price Book will contain the Maynard List Price for products from ABUs and appliances from IBUs.

CHAPTER II

All the accounting is done for the sake of the Business Unit as a help in managing and understanding their business. The results are also released to peers for education and to encourage competition, and to management so that when action is necessary it can be taken. Above all, the system is designed for the Business Unit manager to manage their business.

The Business Unit manager will get a report each week on all expenditures and income attributable to their business. They will make a summary report of their activities once a month.

Each monthly report will contain a repeat statement of the price of the Business Unit's products, their cost, and their benchmark prices. Their cost and benchmark prices will be used by the manager in setting the price, but the price is set by the manager using wisdom and not by algorithm.

A.   PRODUCT BUSINESS UNITS

Product Business Units make products and components. This list includes semiconductor chips, tapes, disks, CPUs, and also services such as Field Service. Services like Field Service are a product. They are defined and priced as a product so they can be sold by salespeople in the same way they sell parts or systems, and there is no need for a separate selling force for Services.

Most products are listed in the Price Book and can be sold

individually.

B.   INTEGRATION BUSINESS UNITS

Integration Business Units take products from the PBUs and
do the marketing needed. They sometimes develop and add
products. They add expertise for an industry or an
application. They thoroughly test the applications and
systems they offer, and do what is necessary to make end
products that are useful and salable to the customer.

It is their responsibility to figure out how to charge the
customer for the cost they incur and the profit they should
make. There is no simple rule as to how they would do this.
They are independent Business Units so that they can be
allowed the freedom to serve a market and charge for their
services. Sometimes there is a charge for anything sold to
a particular market to cover the services contributed by
that Integration Business Unit.

Sometimes they will prepare all bids for their segment of
the market and charge a design fee to cover all their
expenses and profit. Sometimes they will offer an
"appliance," which is a new product made up of a number of
other products, and the price of which covers all the
products which it is made up of, plus special products that
had to be made for it, and all the costs incurred in making
that appliance, plus the profit on that appliance.

Because of the creative nature of making a special
appliance, the profit should be unusually high. Therefore,
the IBUs should always try to offer special appliances for
their market.

Sometimes IBUs will cover their cost in profit by selling
consulting to each of the customers who need their services.

IBUs are separate and independent because no boss, no
planning group, no manager, and above all, no committee can
optimize and be creative for each Business Unit.

C.   ACCOUNT BUSINESS UNITS

The Account Business Units offer products to the customer at
a price which will cover the cost of all of the Business
Units involved, including their own, with a separate profit
on each one based on the cost incurred by each one.

CHAPTER III

Heresies and icons smashed with this system:

    (1) The accounting system should optimize everything and

solve all problems.

With this accounting system we give the simple data
quickly and accurately which is needed to run a Business
Unit. All other data needed for calculating return on
assets and other measurements can be done with recasting
figures.

(2)   You cannot trust a business manager and layers of
      managers and committees (without responsibility) are
      needed to make decisions for them.

(3)   We religiously believe in matrix management which means
      everyone takes part in everyone else's business.
      This is nonsense. It has to stop.

(4)   We have to keep things vague and up in the air so that
      we can optimize them at all times.

      You cannot build big computers or big systems without
      making simplifications.

(5)   It is heresy to say that everyone has to have a formal
      mathematical measurement system.

      Anyone who needs this way is not a manager. Anyone who
      thinks they can formulate a measurement system that
      takes into account all of the factors in a manager's job
      and put it into a mathematical measurement system is a
      jerk. As we attempt to assign mathematical measurement
      systems to everyone's job, we end up invariably putting
      conflicting pressures in the organization. A District
      manager's goals are always in conflict with the Account
      manager's goals. Once this is done, all the advantages
      of having Account managers are immediately wiped out.

      A manager is responsible for their staff – for their
      development, training, happiness, and enthusiasm. They
      are also responsible to ensure their staff has the
      assets they need to get the job done. At the same time,
      a manager is responsible for praising his staff,
      criticizing and disciplining them, and giving them new
      direction when they are unable to do the job, or when
      they are ready for promotion to another job. A manager
      is responsible for performing a quality control function
      on their staff's work. A manager must also make sure
      the customers are happy and satisfied, and ensure there
      is cooperation between groups. A manager is responsible
      to make sure conflicts that develop within others parts
      of the Company are taken care of.

      Giving a manager a mathematical measurement clearly
      provides them with a contract to destroy the Business
      Units underneath them for the sake of their own

measurement, and it distinctly points out that all the other things a manger is supposed to do are less important.

A manager will take away the assets from their Business Units if they are measured on assets. If measured on short term profit, a manger will work for short term profit. A manager will get orders, regardless of their cost, if that is what they are measured on. A manager will buy orders at the end of the quarter if that is what they are given credit for.

Any manager who needs measurements to get their job done is not a manager, and it is good to find out about that person early.

In the new plan, there are no measurements and no metrics.

KHO:eh
KO:4920
(DICTATED ON 1/30/91)

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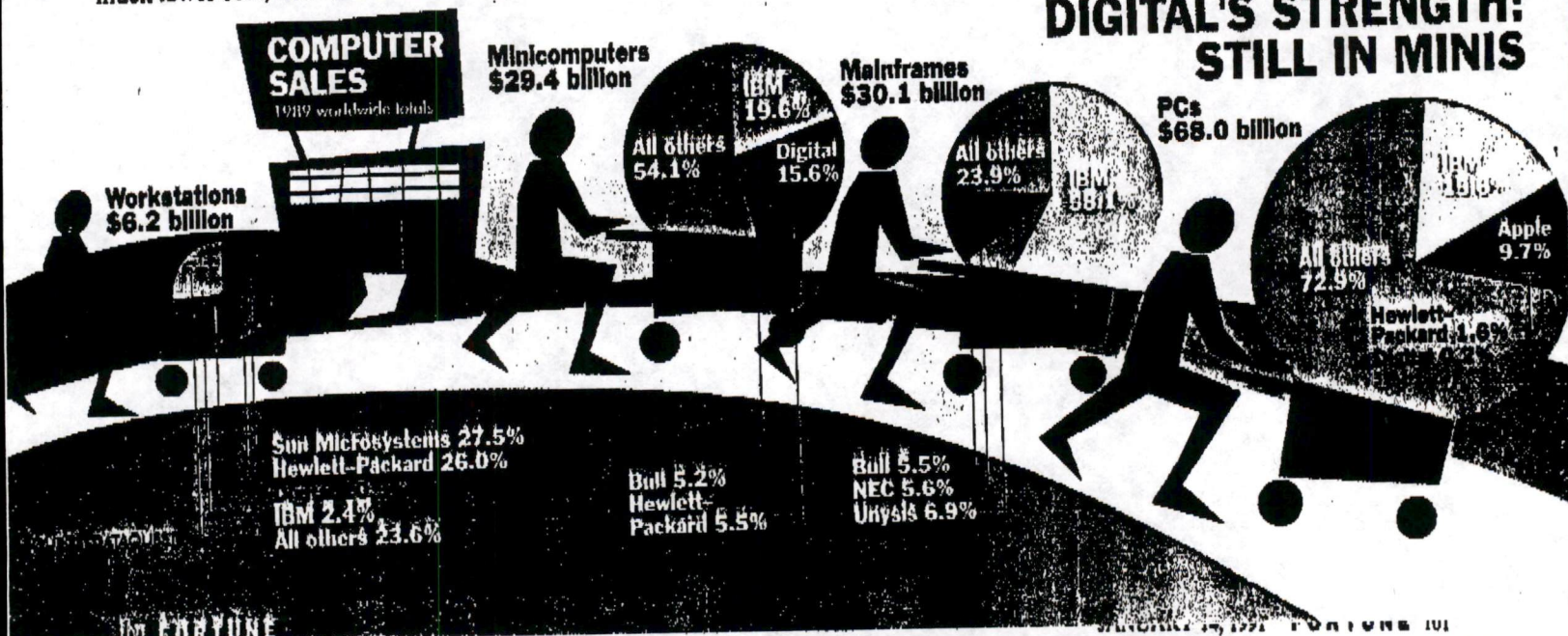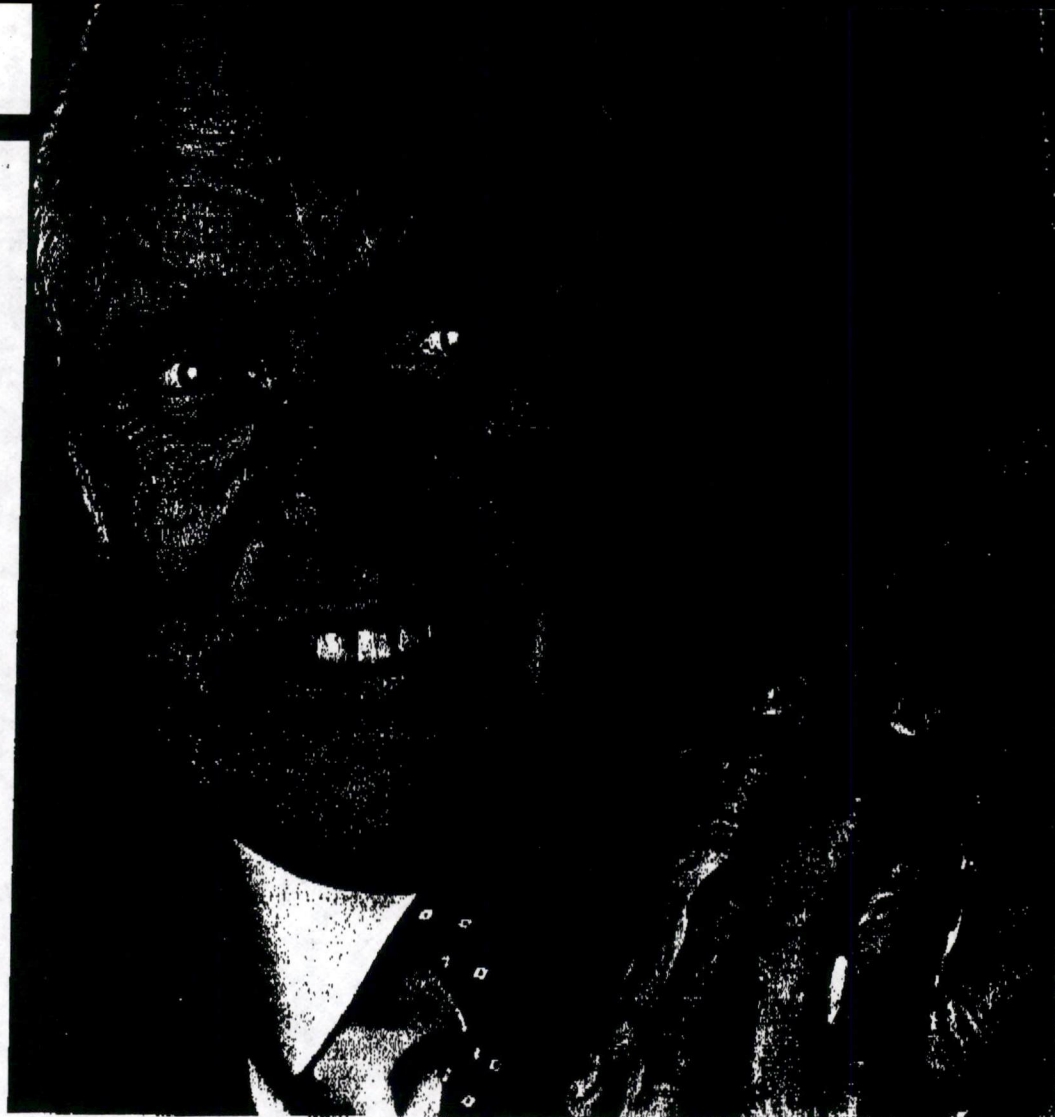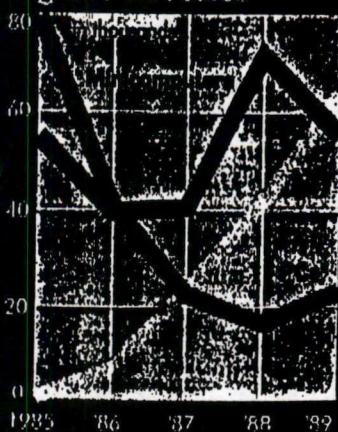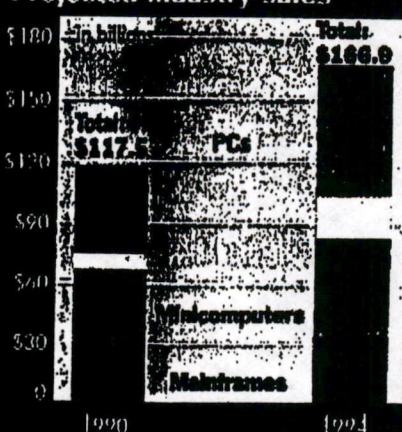Remote Addressee                    ( DAVE STARRATT @MKO )
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I N T E R O F F I C E   M E M O R A N D U M

Date:	30-Apr-1991 10:15am EDT
From:	Ken Olsen
	OLSEN.KEN
Dept:	Administration
Tel No:	223-2301

TO: See Below

Subject: LAST THURSDAY'S MEETING


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Sometimes, we think there is magic in sitting through
presentations. There is only magic if we do something about the
presentations. I would like each one of you to look at what I
asked for at last week's WOODS meeting and make comments on
whether or not the questions were answered.

Also, make notes on the conclusions you came to about the
presentations. Did they answer the questions? Did they give us
the information needed to make a decision? And, did they give us
information we can use when we choose between investments? For
example, did Gary Eichhorn's discussion help you decide on the
desirability of approving his investment? Did you learn if he
promised enough profit to be on the approved list?

KO:5289
(DICTATED 4/30/91 BUT NOT READ)

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