

Action

KO

KO - D-Inued
Rozu Razi's summary
attached

E.C. folder

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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: 021027
Date: 30-Apr-1991 10:15am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win + Exec, Comm.
TO: See Below

Subject: LAST THURSDAY'S MEETING — *agenda + B/G is attached*

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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)

Distribution:

- TO: Win Hindle (HINDLE.WIN)
- TO: Martin Hoffmann @CORE (HOFFMANN.MARTIN)
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- TO: Jim Osterhoff (OSTERHOFF.JIM)
- TO: Ken Senior @ CORE (SENIOR.KEN)
- TO: John Sims (SIMS.JOHN)
- TO: PETER SMITH (SMITH.PETER)

RR

TO: Jack Smith
TO: Bill Strecker

(SMITH.JACK)
(STRECKER.BILL)

CC: Mick Prokopis @ CORE

(PROKOPIS.MICK)

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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: 003904
Date: 29-Apr-1991 11:01am EDT
From: Roger Rose @ CORE
ROSE.ROGER
Dept: Administration
Tel No: 223-3843

TO: Win Hindle

(HINDLE.WIN)

Subject: Woods Meeting - 4/25 - Update

Win, after you left Thursday there were presentations throughout the afternoon.

I. Profit via VMS (Theme: "VMS is Forever")

Presentations from Stone and Swanton focusing on Digital's need to focus on VMS as the way to "feed the children". Focus placed on where VMS is a competitive advantage (e.g., time-sharing, network servers, production systems, technical/vectors). Some discussion of Woolf's "flavors of VMS" plus other ongoing activities. In addition, a list of actions not yet started was presented. Follow-up is expected to E. C. in the near term. Ken Senior, in my opinion, fired a shot in Peter Smith's direction regarding VMS not being included in the multipage "Open Advantage" internal Ambassador's package.

II. Eichhorn

Did his commodity/traditional VMS/SI profitability models he had shown you in your one-on-one.

III. Lacava/Gaubatz

Again showed a non-profitable workstation plan for FY'92 even though a number of costs were pulled from the PCU plan and put in the IBU/MBU side. Unit count assumptions were high in comparison to the eight quarter product plans (\$75K units per Dom/\$50K+ per geographies). The business becomes over \$2B without profit. Big pushbacks from Ken and especially Jack. ACE view as a big help. Some belief too

much is being applied for sales/support costs. Question asked was why don't they know what they are and why? Why not behave more like Eichorn who refuses to pay for DCCs, etc.. Dom will also be back.

IV. Jim Willis

Discussed selling components to other IT suppliers. Planned a specialized sales force that would have \$10M yields. Poulsen asked why a geography-based sales force? Willis used GIA as an example where the PAC RIM would respond more effectively to localized selling versus corporate based effort. Model assumes almost no sales support since support would come from the appropriate PCUs at an engineer to engineer level. To my knowledge, no decisions or requested actions were made.

V. Dell Model

Further discussion of the Dell model similar to what we've seen recently from John Rose and probably what you'll see in part at the next BUC meeting.

Regards,

Roger

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AGENDA

KO WOODS MEETING
Thursday, 25 April 1991
The Simon Tuttle House
King Street
Littleton, MA

8:15 a.m. - 7:15 p.m.

<u>Time</u>	<u>Subject</u>	<u>Presenter</u>
8:15 - 8:30	Opening Remarks	Ken Olsen
8:30 - 11:00	EIS	Russ Gullotti Pete Smith Bill Strecker
11:00 - 12:00	Business Review	Charlie Christ
12:00 - 12:30	Lunch	
12:30 - 3:30	VAX/VMS	Bill Demmer Bob Glorioso David Stone
3:30 - 5:00	Commodities	Pete Smith Grant Saviers Dom LaCava
5:00 - 7:00	Dinner Commodities (cont'd)	Pete Smith Grant Saviers Dom LaCava
7:00 - 7:15	Closing Remarks	Ken Olsen

Distribution:

TO: Bill Demmer

(DEMMER.BILL)

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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: 020878
Date: 23-Apr-1991 10:45am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE BUDGET I PROMISED THE BOARD OF DIRECTORS

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Here is the format for the Board of Directors' budget which I plan to present at the May meeting. I would like to have you lay it out and use it as a format for our Thursday, April 25, 1991, meeting.

The budget, of course, is laid out in three groupings: the products; the integration businesses; and the account business units.

The products are broken into the commodity business, the VAX/VMS business, and the services.

For each business, we will project what will be spent for each of the next three or four years, the NOR, and the profit for each of those years. We may want to take into account the capital planned or, for simplification, leave it out for this pass. Assets unused by a product will not be charged to the product, but if, as in the case of disk investments which are not used by the disk being produced, a flip out will mention assets not being used.

I. PRODUCTS

A. COMMODITY BUSINESSES

- (1) Gary Eichhorn's business

- (2) PC
- (3) PC connect
- (4) ULTRIX
- (5) ULTRIX workstations
- (6) Other ULTRIX computers
- (7) Terminals, printers, etc.
- (8) Cheap Ethernet
- (9) Disks
- (10) Tapes
- (11) ALPHA UNIX
- (12) ALPHA Computer

(13) I am unilaterally pronouncing LDP as a commodity product business. When LDP stopped the development of hardware and software and became a simple marketer of someone else's software, it became an absolute failure and we lost all market share. To succeed, this business has to sell products that are easy to use and a delight for laboratory users to put together.

B. VAX/VMS

- (1) Traditional VAX
- (2) Traditional VMS
- (3) ALPHA VMS

C. For the Services sections, list all the separate Services as if they are each a business, viewed, judged, budgeted and measured as businesses.

II. INTEGRATION BUSINESS UNITS

- A. Medical
- B. Utility
- C. Media
- D. Manufacturing
- E.
- F.

G.

H.

(If Engineering is a systems/marketing group, it should be listed here. If it is a marketing arm of workstations, it should be listed with the commodities.)

III. ACCOUNT MANAGEMENT

KHO:eh
KO:5246
(DICTATED ON 4/23/91, BUT NOT READ)

Distribution:

TO: Jack Smith	(SMITH.JACK)
TO: Mick Prokopis @ CORE	(PROKOPIS.MICK)
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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: 021262
Date: 08-May-1991 02:40pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Bill Strecker

TO: See Below
cc: Win + others

Subject: ENGINEERING PROJECT MANAGEMENT

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Instead of having one committee which reviews all subjects after the plans are done or the project is started, it is now our plan to have a number of committees. Each of these committees would be expert in a particular field, and would participate, where possible, before the project is started and continue involvement during the project so a positive relationship will develop between the people responsible for the project and those making suggestions and criticizing it.

For new projects, the committee, made up largely of experts in that particular field, would lay out alternative strategies. The Company would choose between these strategies, evaluate them, and maybe make a suggestion about what they believe is optimum. Because of the nature of the request, we will also ask for the minority report. In fact, we should have the opinion of each member of the committee.

Our desktop strategy is well under way. However it is confusing and it needs to be sorted out. This strategy is not clear to our sales people, is definitely not clear to our customers, and no one believes we have optimum products in all cases.

I'd like Bill Strecker to choose a group of eight to twelve experts from throughout the Company -- some will be expert in technology, some will be expert in architecture, etc. -- and request they study all our alternative strategies. If possible, this should be based on the products we have already started.

This group might list all alternatives for each of the business' components and then suggest selections from each category that

RR

would make an overall desktop strategy. The first thing would be the future application for dumb terminals and traditional timesharing. If we make a list of all the jobs in an organization -- clerks, order entry, letter writing, electronic mail, simple spreadsheets, factory terminal, and shipping clerk terminal -- the question would be: what percentage of the total keyboards need nothing more than character type terminals? Then the next question is: When people do need a workstation or a PC, in the average organization, is terminal mode an adequate communication tool with all the beautiful advantages of requiring no thinking by the user?

I. TIMESHARING

What should our server strategy be for timesharing?

II. PERSONAL COMPUTERS

What choices do we have for a PC strategy? What can we do different and better? Can we make a market for disciplined personal computers that are networked, do not need to have software entered locally, and do not have the capability to interfere with other people's work and databases? Can we limit the software people use?

What should our PC servers be? What are our choices? When do we want to use Novel; when do we want to use our PC connect? Can we guarantee they will be crash proof? Can we make a better living selling PC connect without selling PCs?

III. SMALL BUSINESS COMPUTING

How do we reconcile Gary Eichhorn's equipment into the PC strategy? Can we use the same equipment as the PC? Can we use the same servers?

IV. WORKSTATIONS

What choices do we have for an optimum family of workstations? How fast and how expensive are they? Are they worth going into? Where is the big market? What is the range of monitors people want? What options are most important?

What is the most concise server strategy we can offer to workstations which will take care of everything we need? To present an exciting family to the customer, can we use the VAX 9000 vector machine as a server?

V. WINDOWING TERMINALS

What should our complete windowing system be? Are the servers the key? Is our server strategy the most important decision?

If we make a stripped, but otherwise identical workstation and sell it as a windowing terminal, do we save money? Might some people want a workstation with no removable disks? Would they want the features of a windowing terminal, and possibility of small, fixed disk?

Do our window terminals work with all VAX computers and with all UNIX machines?

VI. MANUFACTURING

Can we manufacture all desktop devices in one building, semi-automatically, like McDonalds makes hamburgers - one stop in each town, all the same parts?

We could assemble PCs, workstations, and windowing terminals similar to the way a McDonalds hamburger is assembled. When the order comes in, it could be passed on to an employee (in this case electronically) and all appropriate pieces of the order could drop down in front of this person. The order could then be assembled and the employee could plug in the network for software installation. When this is done, the employee could put tape on the package and place it in a chute, sending it to the UPS truck.

Is it practical to make all these units with three or four boxes, two towers, and two desktop boxes? Is it possible to get by with two each of four types of monitors -- a large one and a small one, a black and white and a color CRT, and a black and white and color flat screen? Could we get by with two mother boards, one with an EISABUS on it, which we could call a PC, and one with a turbo channel, which we could call a workstation? Can we get by with a collection of little square boards in the corner that make it do various things? One could be a 386, a 486, an R3000, an R4000, a VAX and an Alpha. Could we use only 3 1/2" disks?

With this system, we could make parts all over the world, wherever optimum, and we could build assembly plants any time and any where there is a demand, because the facility would be constructed almost as simple as a McDonalds. We could erect one locally in every country to save taxes and give next-day delivery. All we would need is a computer with enough capacity to store the memory we would need to pre-load into it.

VII. OTHER QUESTIONS

Should we include MacIntosh in our line of PC workstations? Some companies are starting to use Apple because the training period is shorter and employees find them much more friendly. Should we sell Apple machines directly; should we ask for a license to put an Apple in our boxes; or should we get a license to put their software in one of our boxes or one of our computers?

JUDGMENTS WITHOUT STF

For years, we passed judgment on business plans by very thorough detailed analysis of the products from a technology point of view, but little for the business point of view and the completeness of a business plan. This year, we are presenting to the Extended Executive Committee on the assumption that they will do more than quietly listen. They will be critical of all the questions and look into those areas where there may be technical issues.

I think we have not looked with enough detail at the technical issues in the Intel and PC products area. I would like every member of the Extended Executive Committee to present their detailed budgets. Have we followed the new product commitment and the new product introduction procedures? Have we tested the products thoroughly? Do we now have the experience we should have for the time we have been in this business to know the products are good and that we are set up for training, maintenance, and support. Does the Sales Department understand the products? Do they love them? Do they think they make a contribution? Do they understand how they fit together? Do they have confidence in them? Do they understand how they work?

What printers do we make? What are their advantages, reliability, and quality? Are they cheaper and better? Do we sell enough of them to compete?

What do you think of the future plans for dumb terminals?

What do you think of the monitor program? Should we make monitors to sell to everyone, or should we just buy monitors?

Do we offer a complete system for windowing terminals? Can we take an order and install it and make the customer happy? Do we have unique advantages? Do they fit in with the rest of our products? Are they expensive because there are whole new ways of doing things that people have to introduce? Are they compatible, and do they fit in with the rest of our desktop strategy? For the money we save by not using a stripped workstation, do we add enormous costs for other special things? Are they competitive and reliable? Do the sales people like them? Are our plans good?

If we go through the list of our PCs which we are selling and about to sell, how well have they passed our quality, testing, reliability, and ease-of-use tests?

In our list of PCs, have they followed the procedures for approval for testing, quality, and life testing? Are they well documented and salable? Do we have training programs? Do the sales people love them? What does Field Service think of them? Can we make money out of them?

Gary Eichhorn's products are the same family, but they look as if they are from a different company, and often overlap. Are these products wise? Is the way of selling going to be profitable? In the time we have been working with SCO, how much experience do we have with this sort of software? Have we tested it? Do we know that it is good? Do our support people like to support it? Are we able to go in and salvage customers who have problems with third party software? Have these products passed our normal tests before we ship them in large numbers?

I'd like every member of the Extended Executive Committee to make notes on concerns and approval or disapproval on the issues I have raised and those I should have raised.

KHO:eh
KO:5356
(DICTATED ON 5/6/91)

Distribution:

TO: BILL STRECKER	(STRECKER.BILL)
CC: Bill Demmer	(DEMMER.BILL)
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D- Ask Ken's office to send a file. = E.C.
copy to Roseann Gaudane - She
is mentioned in the text.

Done
5/14 HK.

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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: 021386
Date: 13-May-1991 02:02pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MESSAGES AT THE STATE OF THE COMPANY MEETING

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I will make a long introduction at the State of the Company meeting. I will explain our strategy, our businesses, and our approach to business now.

I want each speaker to go over, in detail, each of the things they have budgeted, planned, staffed and scheduled that will sell and deliver products this year.

I will say that in the history of Digital only once did we have the fastest equipment available, and that was the day we opened our doors. Ever since then, we have not been the fastest. (One might argue though, that the 1145 and the 780 were faster than our competitors.) What we did offer was all the hardware, software, gadgets, pieces and parts, and all the aids to make it easy to do the jobs with our equipment.

We concentrated on all those things that the customer needed, quickly and inexpensively, to get a job done. Many of these were mechanical parts. Many of these were simple services, and many of these were systems engineering which made things fit together easily. We owned most industries because we understood their problems, and set about to solve them. Never did we claim to be the fastest, that we were using the latest technology, or that we were leaders in research.

With hundreds and thousands of people out there, all striving to be faster, and without the burden of being able to complete systems, never could we be the fastest. That is not what the customer wanted anyway.

AK

I am going to say that within the last few years, when Engineering took over the management of the Company, our strategy said that speed was the only thing that counts. If we do not have the fastest, we cannot sell the product. We had many features in VMS no one else had. We solved problems no one else could and we could solve, and we did the things customers needed. But, because they could get faster computing somewhere else at a lower price, we would not tell them about these things.

I am going to announce that today we are starting a new renaissance at Digital. Today we solve the customers' problems. If they need speed we will give them speed. If they need clustering, fault tolerant, high-availability, catastrophe tolerant, grow-ability, or multi-vendor computing, we will solve their problem for them, even if our MIPS may cost more.

The theme of the conference will be a quote from the great Italian philosopher, "Rosanno" Giordano, who said those immortal words: "Our customers want us to tell them what they need."

I am going to announce that no longer are we delaying selling this year because next year or the year after we will do better. No longer are we stopping to see VAX/VMS because, when we get Alpha working (one to three years from now) it will be so fast people will beat a path to our door, even though speed is not their problem.

At this meeting, we will not talk about Alpha. We will not even mention Alpha, or anything we plan to do after 1992. We will list only those things we have today which we will organize to market and sell. We will list those things which are missing, no matter how mundane a detail, and we will dwell on all the details that are necessary to make it easy for the sales person to sell and the customer to order. We will dwell on the systems engineering to ensure things fit together quickly and easily, and that they work and do the job for which they were sold.

We are announcing a revolution in Digital. Our goal is to again solve the customer's problem. Technology is one of many competences necessary to do this. We are going to train managers to do the whole job and develop customers who trust us and depend on us, and want to do business with us.

KHO:mtw
KO:5388
(DICTATED ON 5/12/91, BUT NOT READ)

Distribution:

TO: John Sims	(SIMS.JOHN)
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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: 018777
Date: 05-Feb-1991 01:19pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win Hindle & Exec. Comm.
TO: See Below

Subject: CORPORATE MARKETING VICE PRESIDENT

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We sometimes have the view that the Corporate Marketing Vice President's job is to take care of events and to prepare Corporate advertising. I propose that person's primary job is to make sure we have a marketing plan for every activity we engage in.

I believe the Marketing Vice President should prepare a marketing plan which would outline the strategies and products of each of our major competitors, (which probably would be IBM, Hewlett Packard, and Sun), and then lay out a Corporate plan for competing with them. These plans should take into account the competition's plans and activities in networking, mini-computers, RISC computers, workstations, and clustering. In addition, it should compare our plans with the competition's plans in areas such as Engineering, Manufacturing, Office, Medicine, Science, and Education.

BUSINESS UNIT MARKETING PLANS

The Corporate Marketing Vice President should help, organize, and ensure that we have a marketing plan for each of our activities. In the last few years, we have lost almost all of the networking business by lack of a plan for Ethernet and all the parts that go with it. The marketing plan should be overt in saying we plan to lose that market, or should have a plan to gain the market. The marketing plan should make us face questions such as: Have we lost OSI? Should we drop it and go one-hundred percent to TCP/IP? If we are going to do TCP/IP, how do we present it? Or, if we are going to do an addition to DECnet OSI, we should, as part of the marketing plan, outline all of the components and

We brought this to a halt by announcing that from then on we would be one Company with everyone working together towards a common goal with no independent factions. Several people quit because it obviously was a slap in the face to their pride and independence. Following this, however, were the best years of Digital. We went from no products to a very efficient product generating machine. We had everyone behind a common theme of all working together and there should be no internal competition.

The by product of this cooperation and working together was "One Company, One Strategy, One Message." This was not a hollow marketing theme. It was a statement of what we had accomplished in getting people to work together.

But alas, we did not have the management mechanisms nor the accounting system to keep people working together. In time, much of Engineering developed products independent of the Sales Department and independent of any plans to take care of all the details necessary to make money on the products. Engineering, to some degree, became an end in itself and decided the budget and the projects, with no contact with either the Executive Committee or the Field.

Engineering felt no responsibility to do marketing, and the marketing group we had felt no obligation and had no system to go about marketing all the products Engineering developed. The marketing group was largely made up of junior people and had little influence on Engineering.

The marketing group did a lot of good things. In fact, they did a lot of very good things, but they did not have the marketing plans to take care of all the details to make sure we sold the products and made money. Nor, did they have the authority or interest to make sure we had all the products necessary to deliver systems to the customer.

Meanwhile, the Field operation set about to take care of these weaknesses by developing the MSSC committee to tie everything together. They developed the Field marketing groups and Field sales programs groups to do the marketing no one else was doing, and they even set up Field engineering groups to finish products.

Needless to say, the Company became more and more polarized and there was less and less cooperation. The New Management System is designed to make people concentrate on their part of the problem and make their part work, to save costs and overhead in their area, and to make sure their activities are profitable. In general, the system does not have a central planning group in the Russian sense that requires everything to be spelled out in rigid form to guarantee integration. Instead, it forces dependence on other groups. Product people will surely fail if what they do is not what is needed by the Integration group. Integration groups will surely fail if they do not generate products that are wanted by and can be sold by the Sales Department.

software necessary to do this.

The marketing plan should also lay out our strategies relative to the rest of the world. Are we going to follow a strategy in the networking area? Will we follow a strategy of bridges, or a strategy of routers?

The marketing plan should also outline the plan and strategies of our competitors and compare it with our own marketing plan. Is it a vehicle for passing judgment on other people's dreams, or are the dreams stifled by committees before they get to the Executive Committee?

I think they would like to know what new products outside of disks, integrated circuits, CPUs, and workstations we have developed.

Is the Executive Committee's job to encourage, develop, and grow new ideas, or is it to squash them to keep the Company troubles down?

I am convinced they don't want to hear from me. I think they hear so much from me. They would like to know how much the Executive Committee thinks of these questions and what they can expect from the Executive Committee.

I'd suggest that each member of the Executive Committee, on their own, draw out their view of Digital's organization chart so that when they are asked, they can explain to the Board how every part of the world and every part of Engineering, Product Development, Marketing, and Selling reports to the Executive Committee.

KHO:dao

KO:4942

Dictated on 2/5/91, but not read

Distribution:

TO: Ken Olsen	(OLSEN.KEN)
TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
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TO: Jack Smith	(SMITH.JACK)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: Bill Strecker	(STRECKER.BILL)

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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: 019813
Date: 13-Mar-1991 01:24pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MAGIC CHARTS AND MSSC

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In the last few years we developed technologies and products without a clear business plan ensure all the details were take care off, to make sure the products were marketed, and to make sure we made money. Jack Shields set up MSSC, a Field engineering group, and a Field marketing group to attempt to finish the products and put them in a form that could be useful to the Field.

MSSC probably did a lot of good, but it was obviously unwise to try to rationalize products after they were completed in a uncoordinated way.

The New Management System supposedly takes care of these problems. Integration Business Units have the responsibility for making sure our products are completed and in a form necessary to be sold, all the details are taken care off and the offering is complete, and they should guarantee that, in the research area, there are no products being built for which there is not a plan to make money.

We still have two problems to solve: First, we are lacking the system to match our marketing needs and plans, with the myriad of products needed in order to complete the plans.

Secondly, we are missing critical feedback from the sales people. Often, the Integration Units are quite distant from the Field and are very critical of the results, but there is no systematic way to fit Field feedback into the system. Many products were designed and built, and never sold, because the Field was not

RR

interested in them. We should get feedback from the Field very early in the development process in a very systematic way.

I propose, to solve the first problem we set up an ad hoc, short-term, informal committee of those addressed in this memo to develop a systematic way of presenting the Integration Business Units needs and the commitments from the Engineering groups that match these needs. Let's take one of the projects like the 9000, list the need, and then propose a way in which it can be laid out and used for planning and review.

This should be done in a way that we can then extend it to all Integration Business Units and it should be laid out so that projects being done, but not needed, are flagged, projects that are needed and not being done are flagged, and projects that are done differently but should be integrated into one project are also flagged.

Then, I would also like Don Zereski to propose a way of getting the Field to review our plans and pass judgment on them. This is difficult because of the diversity of interests in the Field, and because we normally pick managers who, themselves, are distant from the customer, but let's try to do the best we can.

KO:5078
(DICTATED 3/13/91 BUT NOT READ)

Distribution:

TO: Don Zereski	(ZERESKI.DONALD)
TO: Bob Glorioso	(GLORIOSO.BOB)
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CC: Bill Johnson	(JOHNSON.BILL)
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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: 021970
Date: 06-Jun-1991 09:58am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

BJ
TO: See Below
cc: Win + others

Subject: THE PROBLEM WITH OUR MARKETING

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In talking with the analysts yesterday, the meeting went well, and they were polite, but they did hit very hard on the subject which others have hit us on before and that is our sales people do not understand our strategy, and they do not understand our products.

Many people at these kinds of meetings are also our customers. Our customers talk to our sales people, they know first hand our problems. Some of them, like the conference host yesterday, are our best customers who understand and use almost everyone of our strategic products.

Our marketing seems to been aimed to by-pass the sales people and to hit the customer. Those who lay out the training programs do not understand the strategy and do not have the products in mind. Let's make this a high priority in our planning and budgeting.

KHO:dao
KO:5505
DICTATED ON 6/6/91, BUT NOT READ

Distribution:

TO: Bill Johnson (JOHNSON.BILL)
CC: Mick Prokopis @ CORE (PROKOPIS.MICK)
CC: Bill Demmer (DEMMER.BILL)
CC: Remote Addressee (PIER CARLO FALOTTI @G

RR

E.C.
THE ROLES' OF KEN'S SUCCESSOR



E.C.

Ken's words

KNOWLEDGE OF TECHNOLOGY

A successor to Ken Olsen would need to have a keen grasp of the various technologies that are the basic components of the computer industry. This knowledge would be essential both in making critical business decisions and in gaining the respect of the engineering community within Digital.

KNOWLEDGE OF THE BUSINESS

A successor to Ken Olsen would need to understand how the various parts of a computer company fit together in a complex equation, and possess the ability to make that equation clear and simple in the daily activities of running the Company.

KNOWLEDGE OF MARKETS

A successor to Ken Olsen needs to possess a knowledge of the various major markets that have traditionally been Digital's. In addition a successor would need to be able to identify those markets where Digital could be successful in the future.

CHARACTER

A successor to Ken Olsen would need to have a sterling character. They would need to be a leader in every sense of the word. They would be judged not only on their business leadership, but on their moral leadership.

GOAL SETTER

One of the roles that a successor would need to fill would be that of a goal setter. They would need to have a clear vision of where they wanted the Company to go, and set clear goals for each of the major Digital organizations to realize that vision.

21 April 1989

- Characteristics for leaders -

~~see John~~

Manage large org. sensitively (skill at managing)

Understand ~~to~~ how all functions work together (skill at integration)

Enjoying working with customers. (skill at empathy & ~~with~~ ~~customers~~)

Communicate.
~~Have~~ a vision for your group. (skill at marketing)

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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: 019112
Date: 15-Feb-1991 09:59am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: DIGITAL AND THE AMERICA'S CUP RACE

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The MIT development team for next year's America's Cup Race has asked us to donate some workstations.

This might be a great opportunity to attract attention to some of our most exotic products. It might be worth quite a bit of money if we fully take advantage of all the opportunities that will be available, if we push this hard.

I'd like to consider doing the whole job for them. They are planning to use MIT's Cray computer to process the enormous amount of data they will collect. I suggest we make a list of all the great products we have that we would like to get the world to understand and we use this as an opportunity to get them across.

I suggest we give MIT the workstations they need, but we insist on networking them together with copper wire FDDI. We can then claim this is the fastest network of workstations.

Then I'd like to donate, for that period, a configuration of Vector 9000s, which is more powerful in MIPS, bandwidth, and memory bus than the Cray machine that MIT now has. We should insist that they put it in the same room as the Cray machine.

We should insist on using our latest and best database system, whether they need it or not.

We probably want to cluster less significant VAX computers for one reason or another, in order to sell clustering. We may use

RR

another VAX to fill up the disk cluster while the 9000 is processing numbers. We might even insist on connecting to the Athena network so, when the boat people are not using it, it is open to students. Our goal might be to make this the standard Athena compute server for everyone who wants an Athena-like network in their school.

It would be nice to arrange this so it could be set up and demonstrated at our announcement on February 25, 1991, in Burlington.

We do not have FDDI on the 9000 yet, but I think super computing tends to be more batch oriented than realtime and we would need to make no apologies for not having FDDI on the 9000 for a few months. Giving each workstation FDDI's speed to access the database would be interesting, however.

We should exploit the publicity in a planned way and take advantage of every possible opportunity. We should have a detailed story written in every sailing magazine. We should also write a good story for each of the PC magazines telling the PC world how serious PC work is done.

If we figure out an elegant way of tying everything together, it probably would be simple to explain. It should make a front page story in the Sunday edition of The New York Times. We could tell of the importance of networking, the importance of workstations, the importance of relational database, and, of course, tell exactly what a super computer is.

I do not care who wins the sailboat race. I think the computer race is much more fun and exciting. We should make this the challenge, and we should be the one who wins this race.

If we work hard, we may include a message on everything we make in this project. I can't quite imagine selling TP as part of the system, and we may have to stretch to use relational databases.

It is not unlikely that the towing tank is instrumented with DME bus products. Our LDP group should really grab hold of this, learn from it, and get as many of our products as possible into that system.

It will take Wide Area Networks to tie the tank to MIT. Surely, we can justify the need for a distributed database at the tank.

We might, with care, get across our message of "uncomplicating complex computing." We could develop the job and for security and safety reasons separate it from everything else being done at MIT, but still make the super computer available to Athena when the sailboat people are not using it, and still have access to all of MIT and be able to change data, software, mail, and pictures on the Athena net.

We might be able to demonstrate how we can tie multitudes of computers with little discipline and massive computers with traditional disciplines on the same network and still hook up to all the outside networks such as the UNIXnet, ARPAnet, and maybe EASNet, and still guarantee no one is going to crash the system either by accident, on purpose, or with some poor PC software.

This might even be the next semester of "The KO School of Marketing."

KHO:eh
KO:4979
(DICTATED ON 2/14/91, BUT NOT READ)

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TO: Bob Glorioso	(GLORIOSO.BOB)
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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: 019568
Date: 05-Mar-1991 04:40pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

B de Palmer
TO: See Below
cc: Wei + others

Subject: LOW COST MANUFACTURING

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We lose money when we compete in commodity computers. It appears our strategy is to rush head long into commodity computers as soon as possible. So far, we have not proved the wisdom of this.

Sometime soon, at an Extended Executive Committee meeting, I'd like to have you tell us if you feel we can compete with the rest of the world in commodity computers.

Please analyze the costs on our RISC computers. What makes our computers cost more than the apparent costs of our competitors? Do we pay much more for the CPU chip? Do we burden our disks in ways that the competitors do not? Are we charged overhead and variances which our competitors do not have? Do we build our workstations in multiple boxes with many cables and many connectors, when our competitors build them in only one box? Do we build them in very tiny boxes so the minimum system looks cheap but because of the add-on boxes and cables the usable system is very expensive?

If we gave the project to Taiwan, and gave them a free hand to re-design, could we then walk off with as much of the market as we did with terminals? When the work is done in this country, are there too many people with a finger in the pie and too many people who claim part of the money for their group?

Should we have Taiwan make a very aggressive approach to the design and building of monitors?

Do we purchase disks with the same aggressiveness as Sun?

RR

Do we look at the cost of connecting a computer to the network?
Does a fifteen-pin connector cost a lot more than a ThinWire
connector when it is hooked into a daisy chain network.

KHO:eh
KO:5037
(DICTATED ON 3/5/91, BUT NOT READ)

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TO: BOB PALMER	(PALMER.BOB)
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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: 019585
Date: 06-Mar-1991 11:46am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: QUESTIONS THAT NEVER SEEMED TO GET RAISED

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For some time, there appears to be questions among members of Central Engineering, and between the Field and Central Engineering, which never get raised because they seem to be impolite. I'd like BJ, as Vice President of Marketing, to ensure these questions get raised and get answered. On Thursday, I was in an office where they are working on a very large workstation order. In order to be competitive (and the customer insisted on it) they had to bid disks directly from the disk manufacturer.

We expect our salespeople to do things which normally would be considered engineering, manufacturing, and marketing, and then we complain about their overhead. I'd like BJ to assemble the appropriate people and then, for our next Executive Committee meeting, answer the question: Why do our salespeople think our disks cost twice as much as they could charge for the same disk if they bought it directly?

I'd also like BJ to give us an answer as to why some salespeople think our PCs are significantly higher than the street price of PCs of equivalent power. We have to either convince our customers and our salespeople that the costs are worthwhile, or we have to fix the situation.

The new accounting system should eventually (but only heaven knows when) correct these problems. We cannot afford to wait.

KHO:eh
KO:5032
(DICTATED ON 3/4/91, BUT NOT READ)

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TO: Don Zereski	(ZERESKI.DONALD)
CC: David Stone @ CORE	(STONE.DAVID)
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E.C.

Bonnie Bodek
for Sarah Sumner
to Roger

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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: 019591
Date: 06-Mar-1991 12:22pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: THE BOARD AND THE COMPENSATION COMMITTEE MEETING

DIGITAL RESTRICTED

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The Compensation Committee spent a lot of time very aggressively and very critically going over our organization. First they worked with me for two or three hours, then they worked with Jack Smith.

When I reviewed the potential of those people who would be running the Company some day, they jumped on me very hard because none were members of the Executive Committee, and they are all paid half as much as the Executive Committee members.

They were very critical of the fact that the Executive Committee members, with the exception of Jack Smith, are staff people with little knowledge of the Corporation's strategy, technology, products, and planning.

It appears to them that when we draw the Company's organization chart, the Executive Committee draws all of the staff positions first and then tends to lump all of the operations off to the side somewhere.

Our Executive Committee meeting with them at the Headmaster's House did not give them the feeling that the Executive Committee is running the Corporation.

I told them we would develop a list of ten or twelve people, at all levels of the Company, who have the potential to run the Company some day, and that we will set about a program of training and educating them and give them various jobs to gain experience.

I told the Committee about the list of Vice Presidents evaluated by the senior people, and, interestingly, those I suggested had

the potential to lead the Company, did not end up at the top of the list. In fact, they were quite far down. Of course, there was no systematic way of evaluating those people -- they are normally evaluated on their personality and social standing within the Company.

I also told the Committee that, for next Monday, we would make a list of those who might someday run the Company, and we would record their ages so we can see how this develops over a number of generations. I said we would also make a list of the characteristics one would look for in a Company leader.

It appears, in the normal evaluation of the people, we think most highly of those who take no risks, and those who continue the traditions, the products, and doing things as they have been done in the past. That person normally avoids anything they would be measured on, but above all, keeps a low profile and stays out of trouble.

The list should identify those people who think strategically, can decide the direction of the Company and what products and services the Company should go into, and can take complete responsibility for planning, staffing, funding, managing, marketing, selling to both the Sales department and to the customer, correcting mistakes as they are found, and can lead and manage.

Let's organize these characteristics in such a way that they can be listed on a chart.

Let's then make a list of all the businesses we have gone into and those we have gotten out of in the last three years, and let's identify those businesses where we just followed tradition. Also, we should list those businesses we have become better in but in which we have done little bold risk taking, and those which are quite new to the Company, along with their size potential which could be significant to the Company.

Let's identify those businesses we are in which are followers of the rest of the industry and our competitors, and those businesses which are boldly doing new things.

Let's make a list of those things which follow the literature and the fads and those which have the potential of setting direction. We had this ten years ago, but what have we had in the last five years?

Let's also break the Company into those areas which are commodity items, and those which have the promise of being proprietary and highly profitable. In those areas which are considered commodity and of little risk, do the managers understand the nature of that business where every penny of product cost and overhead, and marketing and selling has to be counted, and time-to-market efficiency, marketing, and image are extremely critical. Do

those who are in a risky, proprietary market understand the importance of making significant profit to cover the risk?

Let's have a list of Vice Presidents and identify them by their interest in going to school, studying literature, reading books, and, in general, getting educated. Then let's make a list of those people who are interested in taking on new responsibilities, doing new things, broadening their experience, and, conversely, those who want to hang on to everything they have and avoid risk, learning, and the effort of taking on a new job or concentrating on one of their current jobs to make it a great success.

KHO:eh
KO:5045
(DICTATED ON 5/6/91, BUT NOT READ)

Distribution:

TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
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E.C.

send to RR
Done 3/7/91
~~(Hind not)~~
forward this
(to Roy)

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Doc. No: 019592
Date: 06-Mar-1991 12:30pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: POTENTIAL LEADER

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The Board asked me if there is anyone who has left the Company who would be a potential leader for Digital someday. I said, "Definitely not." However, it is interesting that the characteristics they look for in a leader - being bold, the ability to train and educate people and give them responsibility, the ability to encourage them to take risks, and the ability to start new businesses and to turn them off when if they do not work, are best met by Jack Shields.

Jack is someone I am happy not to have here any more. He ended up doing a number of things which were not right or good, but we should not rule out the good things Jack did when we look for new leaders.

KHO:eh
KO:5049
(DICTATED ON 3/6/91, 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: 018601
Date: 30-Jan-1991 03:14pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: MATH FOR THE NEW MANAGEMENT SYSTEM

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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!

RR

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:

$$2\text{PBU} = \text{MLP} = \text{PBU} + \text{IBU} + \text{ABU} + \text{Discount} + \text{Allowance}$$

Or we could say:

$$\text{Price} = \text{PBU} + \text{IBU} + \text{ABU}$$

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.

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KO:4920
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E.C. New memo since Win's return to office

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: 020298
Date: 02-Apr-1991 11:21am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE NEW MANAGEMENT SYSTEM AND THE DELL MODEL

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The woman who runs a boutique in the center of Maynard gets advice from all her friends regarding what she has to do to be successful. When all these things are added up, they come to many times any income she can possibly make.

Within Digital, everyone knows all the things that a commodity business has to spend money on in order to be successful. Some are sure the secret is advertising; others are sure the secret is selling through third parties; while others feel the answer is giving commissions to our own sales force; etc. The New Management System is devastating to most theories about how to run a commodity business. It makes the problem very simple and very easy to understand, but devastating in its conclusions.

I. ASSUMPTIONS

We make the following assumptions for a commodity business:

- (1) Price is all important. Quality, reliability, service, good packaging, good ergonometics, and good functionality are all assumed, but price is all important.
- (2) Price is all important.
- (3) Price is all important.
- (4) The selling cost is the sum of all the costs involved, divided by the NOR of the orders received.

RR

- o This means the most important cost in sales is the cost of the orders not won. Therefore, anyone, whether they be a third party, a VAR, or a direct sales person, can quickly be devastated by sales not won. If the price is too high, the sales cost mushrooms and the price gets higher.
- (5) Sales cost in the model can only be actual sales cost. Order processing is part of product cost and service is completely separate and not included in the sales cost.
 - (6) For this model we will assume that, like Dell, the street price and the list price are exactly the same, and there will be no further discounts given.

II. PRODUCT COST

Today, Dell's price for a PC is \$1700, and our product cost for the equivalent is \$1232, which, I believe, includes all the engineering, order processing, and overhead in the PC operation. This means the cost of goods sold is 72%.

III. PRODUCT BUSINESS UNIT MODEL

The PBU P&L should be:

PBU NOR	=	\$1369
Cost	=	\$1232
PBU Profit	=	\$ 137

IV. MARKETING P&L AND SALES P&L

We then have \$331 left for marketing, advertising, and selling. We expect 10% profit for the marketing PBU and for the sales PBU, which means expenses for the sum of marketing and sales can only be \$298.

If we spend 17% on advertising, we have zero left for sales. If we spend 17% on sales, we have zero for advertising.

There is no magic here. Third parties will not make any difference, and VARs make no difference. We have just 17% to spend for selling and advertising. If we spend 10% on advertising and marketing, the marketing/advertising/literature (integration is done by Tandy) P&L statement will be:

MBU NOR = \$189

Expenses = \$170

Profit = \$ 19

This leaves \$142 for selling.

V. SELLING PBU

Telephone selling can be very efficient because very little time is spent preparing complex bids which may be lost, and the cost can probably be 3%. This leaves 4.5% for direct selling or third party selling.

VI. THE CORPORATE P&L

The Corporate P&L would then be as follows:

NOR	\$1700	100%
PRODUCT COST	\$1232	72.5
	<hr/>	<hr/>
	\$ 468	27.5%
ADVERTISING & LITERATURE	\$ 170	10
	<hr/>	<hr/>
	\$ 298	17.5%
SELLING	\$ 128	7.5
	<hr/>	<hr/>
PROFIT	\$ 170	10%

The Business Unit P&L would be:

	PBU	MBU	SELLING	TOTAL
NOR	\$1369	\$189	\$142	\$1700
Cost	\$1232	\$170	\$128	\$1530
	<hr/>	<hr/>	<hr/>	<hr/>
PROFIT	\$ 137	\$ 19	\$ 14	\$ 170

In this model we separate service cost. The service cost includes opening the cardboard box, setting up the equipment, making it work, and fixing those that do not.

If people want to do all this work themselves, then they will pay only the product price.

People who want this service done for them can get it from Xerox, as with Dell, or they can request Digital's service, but our prices have to be competitive.

Some people like the service price included in the product price, as Businessland does. In this case, we would have to include it, and the cost of service has to be equal or better than Businessland.

KHO:eh
KO:5170
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D-1. Ask Pres. Office to send a copy to Russ Gullotti ✓ done
2. Ken Senior is on dist. tour ✓ done
3. file 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: 020450
Date: 05-Apr-1991 01:23pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: CHARTING VAX/VMS MARKETING

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Back in the old days when life was simpler, we always had charts that showed the future development of our machines. We plotted them with MIPS versus time, price versus time, and we probably should have plotted band-width versus time.

With these charts, we added up the development costs each year and because manufacturing and marketing costs tend to be somewhat constant, we had a good picture of the Corporation.

In the last few years, we've felt the technologists have done equivalent charts, and they were quite rationally laid out. However, so much of our costs and so much of the important part of each project was in the preparation for each market. The myriad of costs involved in making a product useful for the myriad of areas we wanted to sell them in, included service, set-up, training, installation, hand-holding, demonstration centers, benchmarking, and all the things involved in a complete business plan.

The reason we are separating marketing from the generation of hardware and base software is to make sure we plan, schedule, budget, and staff every single detail necessary to complete a business plan. We then will face the costs, time, and the question of whether or not it can be profitable.

Today, it seems that we have better control over hardware development than we ever did before. Even though we maybe critical of some of the mistakes we make, they are tremendously fewer than in the past. I assume our project management,

RR

planning controls, and budgeting for hardware and software are the best in the country. But, now we have to plan all the other parts that go into a business plan. In my view, this is what Bob Glorioso's job is in the VAX/VMS world.

For now, I would like to assume our CPU plans are good and there is enough of the Company watching, reviewing, criticizing, and helping them and that they will continue to improve and be satisfactory.

I also assume ^{from} from a business plan point of view, we have a long, long way to go. I'd like Bob Glorioso to make a brief presentation of our VAX/VMS product line for the next number of years to the Board of Directors two weeks ~~for~~ now and to show in chart form all the factors, costs, staffing, and all the planning that has to go into each one of these projects to make a complete business plan and then, demonstrate our faith that they will be profitable.

We sometimes act as if we're still in the mini-computer business where the cost of a machine is the whole thing, but today, most of the cost is in other factors and these we have to spell out very carefully and make sure we count the cost before we start the war.

For this presentation, I think we have to separate out the cost of development and producing a platform from all the other costs. We probably have to charge that way so we can compete against the people who make only a platform. Then, we have to set up a charge for everything involved in delivering a complete operating service to the customer.

We should break down the applications we expect to service and then we should break down the different models and make sure there is someone assigned to be responsible for the whole plan for each market and each unit.

I assume some of the markets are:

1. Vector Processing and other scientific computing
2. Transactional, Processing
3. Accounting
4. Various servers
5. Timesharing
6. Engineering

I'd like to assume that Bill Demmer's group has all of the platform work laid out and it does not have to be presented

except by name, price, date, and speed.

I assume all of Pete Smith's groups and other application groups have separate plans and do not have to be included in this presentation.

I assume that much of Russ Gullotti's work should be included. Today, we say that we said we would just turn over all the real work and planning to Russ with the result that he tends to do, at high cost, many of the jobs that should be part of the product cost because they are reproduced many times over.

KHO:dao
KO:5184
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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: 020549
Date: 10-Apr-1991 02:01pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

*- BS + Guelletti
TO: See Below Copy to WRH et al*

Subject: INTEGRATING IBUS & EIS

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I just visited with Bankers Trust. Following is a quote from their chairman:

"Leadership is to be best at what you do."

Our sales person for Bankers Trust also has her own quote which is:

"The customer wants us to tell them what they need."

For me, these are quotes to support the idea that we have to be good at specific things, those specific things which the customer wants. We have to be able to tell them what they need in order to solve their problems.

Today, we have Integration Business Units which are quite isolated from Engineering and tend to be too junior in the organization to influence engineering or to show leadership in the Integration Business.

Today, most of the time we ask the customer to write a specification, and we give it to a geography to propose and then to accomplish with little help. Often the Integration Business Unit doesn't even know about projects done in their area of expertise.

Today, we cannot say we have leadership in solving customer problems, and we cannot say that we are, as a goal, developing the background to tell the customer what they need to solve their problem. We call on consultants to do the job with no plan to

become experts ourselves.

I'd like BJ and Russ to propose a way in which the Telecomm Integration Business Unit can be integrated with EIS so that we can take all our experience with Telecomm and organize it, unify it, and systematize it so that when the next Telecomm job comes in, we can tell the customer what we have done before, and what they can build upon. When we do use consultants, we should use it as a way of gaining more expertise so the next time that job is requested, we too can be experts.

I'd like to see you do this first with Telecomm because Ernst might be senior enough and worldly enough to lead this integration program.

KHO:dao

KO:5213

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Doc. No: 020950
Date: 25-Apr-1991 01:18pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: PARAPHRASING PHIL

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It sometimes seems that Phil Caldwell is unfair in criticizing us for doing poorly in the markets where everyone is doing poorly. Sometimes we feel like answering him and saying: "Don't you know what's going on in this world? The whole computer world is in trouble."

I think we miss Phil's point. He is saying that when things do not go according to your plan, either because you planned wrong or you implemented poorly, or because the world has changed, what are you doing to correct the situation?

It appears to him and, indeed, it appears to our employees and the Executive Committee that when projects do not go well, not only do we put a major effort on changing the situation, but we also have a tendency to cut back and invest more on future projects where technology will eliminate the need for marketing important services. Once the war was over, some Southern states had vast store houses of food, clothes, shoes, and guns. The Southern army was starving. They were without clothes, shoes and ammunition, while some states were saving for the future. The more they lost, the more some states planned to save for the future.

The Board would like to know and, indeed, I believe the Corporation would like to be told at the State of the Company meeting, how much we invest in dollars, time, energy, and thinking, and the emotional investment on making today's products successful. How much do we invest in technology that will not pay off for a long time?

We appear to be scientist who are working for some wonderful technology in the future, and we give the impression that we are not to be disturbed by today's problems. In fact, we use every

RR

excuse to cut investments today for our future visions.

At our next Board meeting, I'd like to go with numbers, data, plans, and examples of how much we invest in recovering from internal mistakes and external changes.

We may be right, but the Board and our employees would like to know that we at least know what we are doing.

The Board, in particular, would like to know what things have changed in our view, or from the outside world's view, in the area of the 9000. What tactical things do we have to do now to get significantly more business? What will it cost? How many people will it take? And, what cuts in future investments might we have to make in order to accomplish this?

The Board has not asked, but I am sure they understand, the great success of the AS400. The AS400 has received its success largely in Pete Smith's areas. I think Pete and Bill Demmer should explain why they have been unsuccessful with IBM's traditional customers in almost all new market areas, and what are our formal, organized, planned tactics to recover some of that business.

We owe it to our employees and to the Board to explain the history of timesharing. How much time and energy have we put in to it? How much have we lost to IBM? To some of our people it seems it is more important to not ~~waver~~ from Gordon's statement that timesharing was dead fifteen years ago than it is to get a share of that market today. *WAVER*

In summary, for many years we have been predicting great things for the products coming out two years later. The Board has told us many times that it is after the product comes out, that the important work happens. That is when costs are cut, the product is made effective and efficient, and all the things are straightened out which were forgotten. We seem to have lost the message they gave to us many times, which is that after the product is introduced, the major work happens.

Let's spend the time at the State of the Company meeting and the next Board of Directors' meeting explaining how we will invest heavily to a product to make it successful after its introduction and to not immediately drop it after introduction and put our love and interest in the next one which is off in the future.

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KO:5247

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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: 020968
Date: 26-Apr-1991 10:47am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE JOB FOR A STF-TYPE COMMITTEE

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Here is a tentative answer to your question about the use of expert committees such as STF.

*Something Bill
Spector + Ken
discussed
Verbally -
no hard-copy
background.*

For sometime, STF was very much appreciated as a committee, but after a while it devastated product groups. There is definitely a job for a competent, expert group to study a number of long term strategic issues. These are normally in conflict with the short term operation of the Company.

For the next few years, we clearly have to explain the technology we have already developed and use all our energies, skills, money, and people to make today's product the very best in quality and serviceability and we must do all in our power to make our products completely satisfactory to the customer. The goal for the immediate future has to be profit and customer satisfaction, or customer delight.

Too often STF passed judgment on today's projects that will pay off in the next two or three years as to whether they fit in to the long-term strategic view of the experts. Too often this very critical, very severe judgment demoralized the engineers, the marketers and the sales people, and indeed the customers about the reliability of the products we had to sell in the immediate future. We have indeed proved that at any one time the products we see in the future are much better than those we have to sell today. With our history we can be sure that the products we dream about today will look mundane when they are finished.

Because we destroyed products with just timesharing and laid out impossible standards such as everything has to be open or UNIX,

RR

we ended up giving away the AS/400 and the timesharing market to IBM, and we let SUN take most of the market with technological weaknesses we would not tolerate.

I think it is obvious we should take full advantage of one or maybe more committees of experts to evaluate the future strategies for the Corporation. We should lay out a number of these and ask to have them reviewed, analyzed, and summarized once a year. Then, as we judge today's products, we can look at it relative to the expert's view of the future and still keep both in perspective.

We expect the views of the experts to change year after year, and it would be very meaningful to have a history of their views once a year on each subject. There are a number of examples that should be stated every year. Some of these are: Case, Parallel processing; disciplines for software and hardware engineering; natural and easy human interfaces.

How do we satisfy those customers who want the simplicity and ease of use of traditional timesharing with the very low support cost they used to love, but can take advantage of new technology. There is a vast number of applications where Ethernet rates are never needed.

I have also wished, many times, that we had a team of experts who make ad-hoc studies for the Company and, as a team, propose how they would do something for the business they are running. For example, it would be very useful for us to have a study outlining all the algorithms and all the technologies.

At this time, it would also be useful for us to have experts outline all the servers we should consider. What choices we have with each one, and what unique ideas and technologies we can contribute to the industry. These ad-hoc, before-the-fact reports should not be one solution reports. We should outline the choices and probably express an opinion as to which one the experts think is best. We might even have a number of minority reports. We normally consider our experts to be those who come from computer science or architecture. When they make judgments on manufacturing or physics, and sometimes hardware, they do not often have the clout they would have if we had teams of experts in particular areas that we would like to have studied. We might make the rule that on each subject there should be at least four people who are truly expert in the area being considered.

I would also like to see us make the rule that with each report all minority opinions should be included. There are times, I believe, when we should call on experts outside the Company to analyze specific questions for us. For example, some day we may want to ask outside experts what is the place of polyimid interconnect for high-speed logic. Does this allow a significant improvement in time to market? Does it make a significantly smaller investment in design in its introduction cost? Does it

make possible applications which are not practical with one large chip.

KHO:eh
KO:5256
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Doc. No: 020998
Date: 29-Apr-1991 02:12pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

D. LaCava + G. Saviers
TO: See Below

cc: Win + others

Subject: SELLING IN THE DELL MODEL

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Advertising and telemarketing are always considered the Dell method of selling. This allows the easiest and cheapest way of selling medium to small quantities of units.

I believe this is the only way we can survive in the commodity business. The organizations we have to set up to sell through all the channels, the discounts we have to give people, and impossibly complex system of discounts, allowances, and services are beyond our capability of maintaining.

However, I do believe Dell, and, I am positive we have to have an additional marketing and selling force who sells large quantities to large customers.

This marketing and selling group can probably be financed because of the increased profit resulting from large sales. However, it has to be very efficient. We probably want to call it marketing, but it really is selling from the home office. It cannot justify all the expenses that normally go with a marketing group, such as large staff, grand announcements, and advertising. But it does make the budgeting easier if one estimates how much the selling group will sell in a year and how much profit there is justified because of their selling, and this will make clear what expenses they can justify.

It is very important that we lay out our Dell model for 1992 because all of the marketing systems engineering and all our marketing group budgets are dependent on the model.

KHO:dao

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KO:5264
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TO: Grant Saviers	(SAVIERS.GRANT)
CC: Remote Addressee	(JOHN ROSE @LJO)
CC: Donald Gaubatz	(GAUBATZ.DONALD)
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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: 021075
Date: 01-May-1991 01:50pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE FUTURE OF OFFICE

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In the last thirty years, universities have turned out tens of thousands of computer engineers and computer scientists and hundreds of risk capital organizations. The result is, many of these engineers want to be entrepreneurs to invent or develop something that exploits their knowledge of the computer industry. Thousands of them put their hearts, souls, and energy, twenty-four hours a day, into projects which they can get their arms around, such as PCs, workstations, scanners, character recognition systems, word processors, and all kinds of imaging devices.

This makes it very difficult for a large company, with only one team competing with hundreds of more motivated teams without all the help, advice, criticism, controls, and red tape of a big company. This means, in general, large companies should do large jobs which small companies cannot do. This means then that, in general, we should concentrate on systems integration, complete services, and taking care of all the details the customer wants that small companies cannot do.

We always have a tendency to limit our view of Office. The question is, what is the complete scope of services and products that the customer wants from one supplier and in an application, like Office.

It appears Xerox is taking a very systematic, thorough, and detailed approach to Office. Could you make a study of what they are doing, and extrapolate their plans, in order to see what we can learn from them? Do they have a plan to take over the whole

RR

Office environment by doing every single detail and taking care of all the things the customer wants.

KHO:eh
KO:5305
(DICTATED ON 4/30/91, BUT NOT READ)

Distribution:

TO: David Stone @ CORE	(STONE.DAVID)
TO: Henry Ancona	(ANCONA.HENRY)
CC: Win Hindle	(HINDLE.WIN)
CC: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
CC: Bill Johnson	(JOHNSON.BILL)
CC: Ken Olsen	(OLSEN.KEN)
CC: Jim Osterhoff	(OSTERHOFF.JIM)
CC: Ken Senior @ CORE	(SENIOR.KEN)
CC: John Sims	(SIMS.JOHN)
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

Doc. No: 021109
Date: 02-May-1991 04:37pm EDT
From: Win Hindle
HINDLE.WIN
Dept: Administration
Tel No: 223-2338

TO: See Below

Subject: INPUT TO APRIL 25 MEETING

I remember that someone once said: "If you want concise answers, ask concise questions." Your April 25 WOODS memo was precise, and we did not get the answers to the questions you asked. However, they did not have a lot of time to prepare precise answers, since your memo went out April 23.

I believe we are asking too many questions at different times so that we have confused the business units. We are not consistent and sometimes ask about profit, products, and overhead; then at other times about growth, market share, and customer satisfaction. We own the responsibility of asking consistent questions so that the business units know what we want. I believe we need to show some discipline to help them propose their plans.

dk

Distribution:

TO: Ken Olsen (OLSEN.KEN)
CC: Mick Prokopis @ CORE (PROKOPIS.MICK)
CC: Martin Hoffmann @CORE (HOFFMANN.MARTIN)
CC: Bill Johnson (JOHNSON.BILL)
CC: Jim Osterhoff (OSTERHOFF.JIM)
CC: Ken Senior @ CORE (SENIOR.KEN)
CC: John Sims (SIMS.JOHN)
CC: PETER SMITH (SMITH.PETER)
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Jim Bourg for The New York Times

"There is a fundamental change happening in the profession," said Michael Simmons, left, group vice president in charge of technology and operations at

the Bank of Boston, shown in his office with Newton P. S. Merrill, a colleague. "Technology is changing so fast that we haven't learned how to manage it."

Heads That Roll if Computers Fail

By GLENN RIFKIN

The last decade has brought chief information officers, the executives who manage corporate computer systems, into the upper ranks of their companies. But their prominence has come with a price: When something with the computers goes wrong, they often get the blame and the dismissal notices.

Martin Stein arrived at the Bank-America Corporation 10 months ago as the fourth chief information officer in six years. Mr. Stein professes to be unafraid. "At Paine Webber, there were eight C.I.O.'s in six years," he said, referring to his previous post. "I consider this job low risk."

Mr. Stein's experience is hardly unusual. More than a third of 600 chief information officers said in a survey that their predecessors had been dismissed or demoted, according to Del-

When systems fail, managers are often dismissed.

oitte & Touche, the consulting and accounting firm.

The chief information officers, who go by a variety of formal titles, have become vulnerable as computer networks grow more sophisticated and companies' demands on them multiply. Cost-conscious companies whose systems fail to meet their sometimes extravagant expectations often hold their chief information officers responsible.

More top executives are learning enough about computers to become dangerous to those directly responsible for the machines. "The mystique

is coming out of information technology," said DuWayne Peterson, the chief information officer at Merrill Lynch. "This puts some C.I.O.'s at risk because they once had a niche that no one else understood."

But some computer managers themselves say the turnover results as much from their own failings as from scapegoating. Trained as technicians, they must think more like other business people to survive.

"There is a fundamental change happening in the profession," said Michael Simmons, group vice president in charge of technology and operations at the Bank of Boston. "Technology is changing so fast that we haven't learned how to manage it. C.I.O.'s have to become managers rather than tech nerds and a lot just don't make that transition."

More chief executives are asking

Job Security Is Questionable

How executives who manage computer systems at U.S. and Canadian companies explained why their predecessors left.

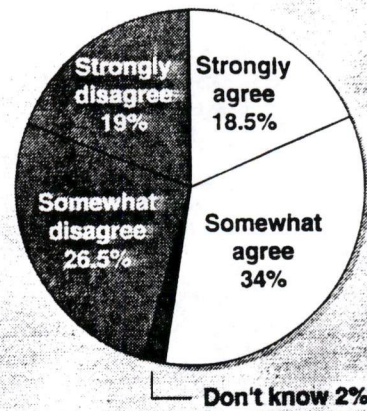
Dismissed	24.8
Left voluntarily	19.8
Promoted	12.5
Made a lateral move	11.0
Retired	10.3
Demoted	7.1

Nearly 15 percent of respondents said theirs was a newly created position.

Sources: Andersen Consulting, Computerworld, Deloitte & Touche

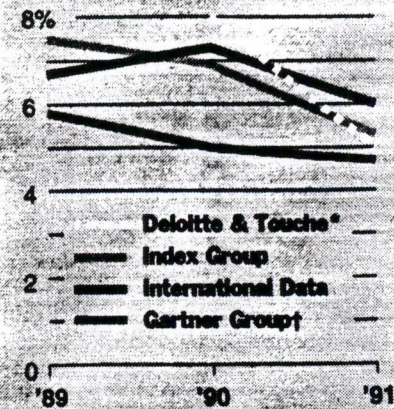
Effectiveness Is Often Doubted

Responses to the statement, "I do not feel my organization is getting the most for its information systems investment."



Budget Growth Is Slowing

Planned increases in corporate spending for information systems, based on consultants' surveys.



*Data not available for 1989. †Actual changes for 1989 and 1990.

The New York Times

Computer Chiefs' Rise (and Fall)

the question many computer managers dread: What is the company getting for all that money? Though corporations continue to spend billions of dollars on technology, white-collar productivity has stagnated. No longer are chief executives confident that throwing computers at their office staffs will result in greater efficiency, said Stephen Roach, an economist at Morgan Stanley. Major computer suppliers, including the International Business Machines Corporation, are facing declining sales, especially for their largest systems.

"If the C.I.O. cannot reduce his own cost structure, then he is destined to extinction," Mr. Roach said. "Information technology has to be directed, bottom line, to productivity enhancement."

The current recession is causing many chief executives to take a harder look at technology spending. Computer managers have to justify every dollar of what, for many companies, is the single largest capital expense. In a recent survey of 200 chief executives and chief financial officers by Computerworld newspaper and Andersen Consulting, more than half doubted that their companies were getting the full benefit of their computer investments.

'Serious Technology Bets'

Chief information officers are often buried under an avalanche of technological change. New computer architectures, networking, open systems, and powerful desktop computers linked to even more powerful, specialized machines called servers confound anyone trying to make decisions as simply as they did a decade ago. "There are serious technology bets that have to be placed in most corporations now," said Bill Laberis, editor of Computerworld, a leading industry publication. "Is the profession up to handling this change? In many cases, the answer is no."

In the 1980's, the failure of many companies to achieve major advantages over their competitors after investing heavily in computers damaged the reputations of many computer managers. As professional information systems people, "we have just about lost it," said Henry Spencer, assistant vice president of Cigna Systems, the computer operations of the Cigna Corporation. "There are countless examples in most major corporations of late or never-completed projects and cost overruns."

H. Ross Perot, chairman of Perot Data Systems, said many major computer projects were ill conceived. "They went from massive funding to massive implementation to failure," Mr. Perot said.

Many new computer managers find they have to clean up messes left be-

hind by predecessors or consultants. Mr. Simmons — who preceded Mr. Stein at BankAmerica before joining the Bank of Boston a year ago — found the Boston company using 11 different brands of large computers. "They were shell-shocked," Mr. Simmons said. "They had listened to a consultant in the mid-1980's who told them to decentralize everything, and they didn't realize they would have to put everything back together eventually." He has already cut back to seven computer makers, and plans to end up with four.

Mr. Simmons is used to inheriting snarled systems. At BankAmerica, he stepped in after management had scuttled an \$80 million system designed to automate the employee benefits and trust departments.

The most savvy technology managers now speak of re-engineering company operations, not just computerizing antiquated processes. For 25 years, the old data processing departments focused on automating back-room procedures. "We automated everything just because it was there," Mr. Simmons said. "We were taking the same bandy-legged horse and putting him in a faster race."

Now, computer managers try to introduce new, streamlined techniques. The Ford Motor Company was able to cut its 500-member accounts payable

Some companies wonder whether all the technology cost is paying off.

department by 75 percent. Rather than having rows of clerks manually match suppliers' invoices with Ford's purchase orders and receipt records, then authorize payment, a constantly updated computer data base matches purchase orders and receipts automatically — with no invoices required — and the computer authorizes payment.

Not that such thorough changes are easy to bring about. As F. Warren McFarlan, a Harvard Business School expert in information technology, said, "People look at glitzy examples of technology implementation and they overlook how complex it is to drive these processes through."

Many large companies, searching for ways to cut costs, have turned their computer operations over to outsiders like I.B.M., Electronic Data Systems or Perot Data Systems. Earlier this month, Continental Airlines signed a 10-year agreement handing over its computer reservation system to E.D.S. Such "outsour-

ing" has many chief information officers worried about the future of their departments.

Proponents of outsourcing point to potential savings. Kathy Hudson, chief information officer at the Eastman Kodak Company, said the company's agreement in late 1989 for I.B.M. to run its data center has cut annual capital spending on technology to \$3 million from nearly \$60 million. The collaboration has succeeded beyond all expectations, she said, although she would not disclose I.B.M.'s fee.

But some managers point to companies whose own computer staffs have scored major victories. John Hammitt, the chief information officer of the United Technologies Corporation, mentions American Airlines' Sabre reservation system and American Hospital Supply's ASAP system for delivering orders. "Technology can be a powerful weapon and still bring competitive advantage," he said. "We'll have a few more surprises in the next few years."

Many in the industry, however, have grown tired of hearing about these same few examples over and over. Max Hopper, the chief information officer of American Airlines responsible for much of Sabre's success, says that the era when large new computer systems can bring insurmountable advantages is over. "Hitting the big home runs has become almost impossible," because computer technology has become so pervasive, he said.

In the Middle

Competitive pressures are squeezing computer systems managers as never before, he said. "Introducing change is tough," Mr. Hopper said. "If the C.I.O. drives it too fast, the C.E.O. hears complaints that systems is buying technology just for technology's sake. But if he doesn't move fast enough, he hears how Company X down the street just put in a new whiz-bang system and why don't we have it here."

Consultants say that instead of blaming chief information officers for every glitch, senior managers ought to become more involved in their computer departments.

But the top executives most likely to stay involved and support their computer managers are those who once managed computer operations themselves. "The best systems are in companies where the C.E.O. once had responsibility for technology and understood what systems could do," Mr. Perot said. "When a C.E.O. wants something new, he should spend time with the systems people rather than send it through three levels of command."

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: 021427
 Date: 14-May-1991 12:05pm EDT
 From: Ken Olsen
 OLSEN.KEN
 Dept: Administration
 Tel No: 223-2301

Dom LaCava
 TO: See Below
 CC: *Win + others*

Subject: A QUICK PASS AT THE MODIFIED DELL MODEL

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DO NOT DISTRIBUTE OR COPY

I think we will take forever trying to make our commodity business profitable if we keep trying to sell through all channels, with all kinds of discounts, to everyone in the same way we have always done before. I'd like to make a quick pass at a modified Dell model to see what it does to the profitability.

Will you quickly figure out what the price of each of your products would be if we assumed that if we pared down all engineering overhead to exactly what is needed, we had zero marketing, (which probably means two or three percent) we assume we sold only through a handbook catalog, we had no advertising, and we took the orders by telephone and shipped them with the software installed out the same day the orders were received. The cost of ordering would be negligible, and the cost of inventory would be small because they could be made to order. Then assume we need ten percent profit, all installation, service, help, and handholding is charged separately, and no credit is given to the Sales Department for hardware sales, only for services. What then would the price be? Would it be lower than today's street price, as I think it would be?

After we see the numbers, I would then like to look at the price, compare it with the street price, and consider the proposition that the price is lower than today's street price and the price itself, with a complete handbook, would do all the marketing to get all the commercial business.

This would change our marketing approach significantly because no way can you afford to buy software to sell workstations this way.

People will have to write software for the consortium, rather than us paying to have the software written. The software is written because the price is low and a lot of people are making the computer.

KHO:dao
KO:5392
DICTATED ON 5/14/91, BUT NOT READ

Distribution:

TO: Dom LaCava	(LACAVA.DOM)
CC: Bill Demmer	(DEMMER.BILL)
CC: Remote Addressee	(PIER CARLO FALOTTI @GEC)
CC: Bob Glorioso	(GLORIOSO.BOB)
CC: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
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CC: Frank McCabe	(MCCABE.FRANK)
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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: 021511
Date: 16-May-1991 02:05pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE NEW MANAGEMENT SYSTEM IS BROKE

DIGITAL CONFIDENTIAL

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THE CHARTER OAK STORY

When I was a boy living in Connecticut, we were conscious nothing interesting ever happened in the history of that state. There were no war stories, no storms, no floods, and no heroes, except for one thing: we did have the Charter Oak Story. This piece of history is so important to the little state of Connecticut that it is on the state flag, the state seal, the official state letterhead, and all license plates.

It seems the King of England gave Connecticut a charter declaring its independence from his rule, making it a separate entity. This charter was so significant people from Connecticut claimed it was the basis of the United States Constitution.

One day, the King decided to take it back, so he sent soldiers to Hartford to retrieve it. Independence was so important to the people of Connecticut that they defied the King and hid the charter in an old, hollow oak tree, which became known as the Charter Oak. This tree was still standing and held in awe by all school children in Connecticut when I was one of them.

PRODUCT LINE MANAGEMENT

The product line management system fell apart because product line managers claimed the product line management accounting system gave them a charter of freedom from the Company, and their only responsibility was to the accounting system, regardless of

RR

the harm it did to the Corporation or other business units. Eventually, we had to start over again because we could not change their attitudes, even if there was no written charter giving them this freedom.

One thing was clear at the State of the Company meeting: Business Units are beginning to see the accounting system as a charter, giving them independence from the Corporation, and profit goals independent of the Company's good or the good of the Business Units. The accounting system was, in no way, an organization charter of rights.

To help manage the Business Units and to make the responsibilities clear, we broke the Company into pieces: One group made the product and sold it at a competitive, benchmark price; one group invested in marketing and justified their investments on the profit made because of their marketing; and another group did selling and justified all their expenses on the profit they made.

Our pricing was not fixed by the Product Business Unit or the Marketing Business Unit, but by the sales person. The internal pricing was mechanical. The base price was the competitive price and had to be greater than the sum of the cost, plus desired profit. The marketing cost was exactly the cost of marketing, plus a profit.

A very key part of this accounting system was to separate the marketing from the product, so the people doing the work could understand it, and everyone could understand exactly what the costs were.

Therefore, we have lost the whole accounting system. The VAX group claims, in the name of base marketing, that they do all the marketing, and they set the prices. They have gone back to the old system where they have rights, they control it all and are the end all, and they even define the products without Marketing's help.

We defined base marketing as the literature, the price list, and those things which are necessary to make ordering, selling, and system design easy.

The clear message from yesterday's State of the Company meeting was that each of the Commodities said: Because my product is better, I can get more money and, therefore, I can afford all the marketing, people and groups, costs, and all the traditional, fun things business units did, and I can run it like a little family operation.

One would think we have been doing great in commodity products in the last five years. People are insisting we proved, with our great success in the last five years, that we need two marketing groups to market workstations. One would think that they proved

in the last five years the key to our success is paying others to develop software for our commodity items. One would also think that purchasing software to work on every ACE platform rates in moral contribution to giving aid to Bangladesh.

The sheer logic of three or four commodity groups doing almost the same product but with different groups in different channels, and with different sales people, literature, and announcements, is the secret to our great success, and therefore, we have to keep doing it. And, it would be wrong to separate them and look at them individually the way the new accounting system says.

Mick Prokopis continues to say that the Executive Committee must make closure on the budget. This is not the problem. We need good proposals.

For the next pass at the presentations, I would like to have Frank McCabe present the base price on all our products. Then I would like the presentations to the Executive Committee and later to the Board of Directors, to be on the marketing plans -- all their expenses, the duplication, and everything that adds value for which the customer is willing to pay. I would like them to clearly tell why the customer will pay more than the base price, which is the price we would sell the product through telephone ordering with no advertising.

I would also like each marketing group to define what they mean by marketing. What is their exact definition of the broad spectrum of marketing? Who do they think are the ones doing the things they are not doing? And who is it they hold responsible if the customer is not willing to pay for the extra costs they incur?

KHO:eh
KO:5406
(DICTATED ON 5/16/91, BUT NOT READ)

Distribution:

TO: Remote Addressee	(JOHN ROSE @LJO)
TO: Ralph Dormitzer	(DORMITZER.RALPH)
TO: Remote Addressee	(MIKE THURK @LKG)
TO: Bill Demmer	(DEMMER.BILL)
TO: Remote Addressee	(PIER CARLO FALOTTI @GEC)
TO: Bob Glorioso	(GLORIOSO.BOB)
TO: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
TO: Dom LaCava	(LACAVA.DOM)
TO: Frank McCabe	(MCCABE.FRANK)
TO: BOB PALMER	(PALMER.BOB)

TO: DICK POULSEN
TO: Grant Saviers
TO: Local Addressee

(POULSEN.DICK)
(SAVIERS.GRANT)
(STEUL.BILL)

TO: David Stone @ CORE

(STONE.DAVID)

TO: Don Zereski

(ZERESKI.DONALD)

TO: Win Hindle

(HINDLE.WIN)

TO: Martin Hoffmann @CORE

(HOFFMANN.MARTIN)

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TO: Ken Senior @ CORE

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TO: John Sims

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TO: PETER SMITH

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TO: Jack Smith

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TO: Bill Strecker

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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: 021595
 Date: 20-May-1991 03:13pm EDT
 From: Ken Olsen
 OLSEN.KEN
 Dept: Administration
 Tel No: 223-2301

Win + others
TO: See Below

Subject: THE DELL MODEL

 DIGITAL CONFIDENTIAL

DO NOT DISTRIBUTE OR COPY

I am not sure the Executive Committee understands the full significance of the modified Dell Model. In this model, all our advertising is done in a catalogue, and part of the catalogue's expenses are borne by advertising revenue from other people's software products that we sell.

The financial statement runs something like this:

List price = 135%

	Net price	=	100%
Less	Manufacturing Cost	=	70%
Less	Engineering and Documentation	=	6%
Less	Sales and Distribution	=	7%
Less	Overhead	=	1%
	=====		
Total	Profit	=	16%

This means a major restructuring of our commodity products. There is no marketing, just documentation necessary for the catalogs. There is the assumption that we only do products we can engineer and document for six percent, all the sales costs are borne by the catalog handbook, and the distribution and sales are all done by the Sales Department.

This also means that large numbers of people who are doing other things throughout the world and call it marketing, will then have

to do marketing for jobs not being done in the Company today.
This means out of our standard components, we will make products
that customers can use to do real things.

KHO:eh
KO:5421

Distribution:

TO: Bill Demmer	(DEMMER.BILL)
TO: Remote Addressee	(PIER CARLO FALOTTI @GEC)
TO: Bob Glorioso	(GLORIOSO.BOB)
TO: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
TO: Dom LaCava	(LACAVA.DOM)
TO: Frank McCabe	(MCCABE.FRANK)
TO: BOB PALMER	(PALMER.BOB)
TO: DICK POULSEN	(POULSEN.DICK)
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TO: Remote Addressee	(MIKE THURK @LKG)
TO: Don Zereski	(ZERESKI.DONALD)
TO: Win Hindle	(HINDLE.WIN)
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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: 021593
Date: 20-May-1991 03:07pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

BJ
TO: See Below
cc: Win + others
Subject: COMPANY MESSAGES

DIGITAL CONFIDENTIAL

DO NOT DISTRIBUTE OR COPY

I am always shocked to find out the small number of people on the outside who do not know what Digital has to offer and what our Company messages are. I think it is also true inside, especially among our sales people.

We somehow have the idea that the only legitimate, legal, and honest way to get our messages across is to have advertising agencies do them and to spend money on advertisements. This, of course, is ridiculous, because no one reads ads and people do not trust ads anyway.

Everyone reads The New York Times, Business Week, and Fortune Magazine. Articles appearing in these publications are quite believable, even when they are nonsense. People do not realize that ninety percent of the stories in the press are planted by interested parties.

If we spent less effort and less money writing ads, and spent more timing figuring out what are messages are -- such as worldwide networks -- and then worked hard to get some interesting stories -- such as the NAC story and DEC's Easynet story -- planted in these places, we would become a lot better known than if we wait for people to read the ads that do not get read, and if they were read are probably not believed anyway.

Will you formally document exactly what the Corporate messages are, and state all our means for getting them across. (Please do not include advertising.) Then, please lay out a program to ensure these messages get across.

KHO:eh
KO:5419
(DICTATED ON 5/20/91, BUT NOT READ)

Distribution:

TO: Bill Johnson	(JOHNSON.BILL)
CC: Bill Demmer	(DEMMER.BILL)
CC: Remote Addressee	(PIER CARLO FALOTTI @GEC)
CC: Bob Glorioso	(GLORIOSO.BOB)
CC: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
CC: Dom LaCava	(LACAVA.DOM)
CC: Frank McCabe	(MCCABE.FRANK)
CC: BOB PALMER	(PALMER.BOB)
CC: DICK POULSEN	(POULSEN.DICK)
CC: Grant Saviers	(SAVIERS.GRANT)
CC: Local Addressee	(STEUL.BILL)
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CC: Jim Osterhoff	(OSTERHOFF.JIM)
CC: Ken Senior @ CORE	(SENIOR.KEN)
CC: John Sims	(SIMS.JOHN)
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~~H~~ 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: 021851
Date: 31-May-1991 04:47pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

BJ, J. Smith, P. Smith

TO: See Below

cc: Win & others

Subject: GETTING OUR MESSAGE ACROSS

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You did a good job at the analysts meeting the last two days. I think, in general, we got our message across.

However, I think it is devastating to say I also believe we have not got our own product message across to our own marketers, sales people, and the rest of our employees.

We have to set a goal to get our message across to all our people, particularly the marketers. The message is somewhat complex, but we have to get it across. Simple themes like Open Advantage have no content to them. People have to understand the content. I think this is particularly true in Europe.

We should work very hard to get a good, long, detailed, technical story in Fortune Magazine. If they know the potential, I am sure they would love it. There is a lot of politics, a lot of conflict, and a lot of excitement in the whole story of Open Systems and UNIX. It is important enough that it should be a cover story.

I have asked BJ to arrange, with the new advertising agency, a luncheon meeting with Bill and I, and the Executive Staff of Fortune to see if we can talk them into doing the story.

Once we have the date, I would like to write the story for them, give it to them to rewrite, and let them check it against our competitors' party line to see if they can come up with a complete story.

KHO:eh
KO:5480
(DICTATED ON 5/31/91, BUT NOT READ)

Distribution:

TO: Bill Johnson	(JOHNSON.BILL)
TO: Jack Smith	(SMITH.JACK)
TO: PETER SMITH	(SMITH.PETER)
CC: Bill Demmer	(DEMMER.BILL)
CC: Remote Addressee	(PIER CARLO FALOTTI @GEC)
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CC: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
CC: Dom LaCava	(LACAVA.DOM)
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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: 021875
Date: 03-Jun-1991 11:42am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Jim Ostaroff

TO: See Below

cc: Win + others

Subject: POOR CONTROLLERSHIP

DIGITAL RESTRICTED

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I believe many of the problems we have suffered in the last few years are the result of poor controllership.

Our controllers have seen no reason to have thorough, complete, and detailed budgets and then to control them during the year.

The idea of having informal budgets and then informally stealing from one, adjusting another, changing priorities, canceling obligations and, in general, rejecting the budget details, has created great turmoil, frustration, pressures and tensions within our product development groups.

This is one of the reasons why managers want to "own" as much product development as possible, because they then have a big budget to manipulate to take care of the latest ideas they feel are the most important. This is, of course, why I insisted this year's budget be made up of individual pieces and everything managed by one vice president does not imply they have the total budget to manipulate all year long.

The misunderstandings, the criticism and the tensions over the 9000 came about, for the most part, because all the details, largely software and systems work, were not budgeted. As a result, too much priority was put on the technology of the project, and even today, people involved with the 9000 are complaining they do not have the priority they need, which means stealing from someone else's budget. Others are claiming it has too high a priority, which means they would like to steal some of

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the 9000 budget.

We are probably in the midst of doing exactly the same things with the Alpha project. Both are good projects, both are critical to the Company's future, and both have sloppy controllership.

Both the 9000 project and the Alpha project will probably total a billion dollar investment. Neither was formally presented early in the project with this total budget or anything close to it. The difference is that the 9000 was always unwanted by the opinion leaders, while the Alpha is high on the wish list of the establishment, and this gives the potential for even more danger.

It is clear the 9000's success is overwhelmingly dependent upon one factor, which is the success of VAX/VMS for the next three years. Without a formal strategy expressed in our fall plan and budget, we will continue to steal from the VAX/VMS project in order to finish the Alpha project. This is like starving your children to save money for their college education.

This year, I want a budget which separates projects and identifies all costs and all pieces of every project. When there is a change, I want to make it a formal change. Above all, I want the controllers to be responsible and to ensure that the budget is complete, that it is wise, that it will be enforced, and that the changes will be made formally.

A very critical part of each budget is identifying those commitments the owner of a particular budget has made to other groups in the Company. When these commitments are made, they are considered sacred unless formally changed.

An equally critical part of the budget is identifying those commitments other groups in the Company have made to the owner of the budget. These too should be considered sacred.

I will send a letter of introduction with the Corporate budget to the Board of Directors. I will explain in this letter that the budget is not complete, and we do not have close to the profit we need, but this is the budget as of June 11, 1991.

As part of your presentation to the Board, I would like you to explain the meaning of budgets this year at Digital. I would like you to explain the controllers' responsibility to enforce the budget, their responsibility to ensure the budget is wise, honest, and all stupidities have been removed or identified, and their responsibility to ensure that a responsible individual has put their name on a document that overrules a controller on a particular stupidity.

KHO:eh
KO:5484
(DICTATED ON 6/2/91, BUT NOT READ)

Distribution:

TO: Jim Osterhoff (OSTERHOFF.JIM)
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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: 022853
Date: 15-Jul-1991 10:23am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below
cc: Win + others

Subject: MARKETING ARCHITECTURE WOODS MEETING

DIGITAL CONFIDENTIAL

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If one wanted to make an overly simplified, perhaps quite unfair, statement of today's marketing architecture, I think one could say, from observation, that we have a number of people who know everything there is to know about computers and, therefore, are absolutely confident to make statements to customers, analysts and reporters on just how businesses should be run, how laboratories should be organized, and how their world should be tied together with computers and networks. All the niche applications are much too numerous to organize in our heads, so company policy is to spend our investment on architecture, networking, technology and generalized software.

The major part of our architecture says that all the niches, which are much too trivial for us to invest in, we will buy outside from new, small companies, many of whom developed their niche while at Digital (and left because of our lack of interest in it and the fact we said we aren't capable of doing niches). We said we would buy the software and jointly sell it to the customer. We would make no money on the software, even though we often paid for part of it, and even though it was our sales force who sold it. But, above all, we would guarantee it by implication or tradition. If the company was too small to support it, too small to survive, or completely incompetent, we would end up paying the price, which was often more than the profit we received from selling the hardware.

The second part of our application architecture says that if we do develop an architecture, such as TP, and it does not sell immediately, it is a failure and we should back out of it. The

Research Board said we were two years late and now there is Haitachi and a couple of others in the business, so there is no need for us, and this seems to prove to us our architecture is correct.

We did not immediately make money with fault tolerant computing (we do not make money on any other processors anyway). This seemed to show our architecture is correct. We only know how to do one thing, which is architecture and technology, and that is why our applications fail.

MARKETING ARCHITECTURE IN THE GREAT DAYS OF DIGITAL

When Digital was doing particularly well and growing 40-50% a year, the company was divided into as many as thirty three Product Lines, each of which had the task of taking the good architecture, the good hardware, the good operating systems and the myriad of special software and hardware, and using this as a kit of tools to go out and research the needs, problems, ideas and home-grown applications of our customers. The result was that they made specialized software and hardware, or they influenced Central Engineering.

We spent most of our money on marketing, which was doing niche products, niche applications, niche software, niche hardware, and exploiting out architecture and technology. The customer loved this because we were indeed expert on their needs. The Product Lines were not controlled by Engineering. Often they were irresponsible and frustrating to work with, but they did dominate the world of computing and they did introduce computing to a myriad of new applications.

They did not frustrate young people who wanted to do things that were different and new and could change the world. There was no one telling the young people they were incompetent to do new applications and to do things that small companies could do. They were not overwhelmed with red tape, but they did have to justify their financial investments with a plan.

If that group had TP, they would not have come back and said that all the things in transactional processing have been done and customers are happy with IBM and Haitachi. They would have gone out and discovered all the things still waiting to use transactional processing. Certainly, all the things that are still being done by batch processing should be updated instantly. They would find all the things run by fault tolerant machines customers need.

In the old days, the Product Lines would have taken all the tricks and the things we have, and they would have gone out and found new applications. They would have found all the jobs waiting for us to do with imaging, instead of concentrating on the things being done today, which we would have trouble catching

up on, and which is today's largest market. They would have gone out and found all the imaging markets for which there is no nice solution today, many of which we could solve quickly and easily if we allowed young people to concentrate on something which would be theirs, and if we would allow them to invent, create and do new things.

Last week, The Research Board was happier and more enthusiastic with Digital than they have ever been before. The one thing they were most interested in asking about was the new young blood we have introduced into management. They like people who are enthusiastic, not tired, who are full of ideas, and above all, who will listen to them as customers. They said they had become quite worried about Digital, but they left very enthusiastic. At this Marketing WOODS meeting, perhaps we should have none of the old timers, no one with the title Vice President, and no one with a need to defend today's architecture.

KO:5637
(DICTATED 7/14/91 BUT NOT READ)

Distribution:

TO: Bill Johnson	(JOHNSON.BILL)
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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: 022751
Date: 10-Jul-1991 11:57am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

*Don Zieski, Pat Cataldo
Peter Zotto + Russ Bullotti*

TO: See Below

Subject: UNEDUCATED SALES FORCE

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Two years ago, we acknowledged we were doing very poorly with an uneducated sales force. To get started, we, with a lot of enthusiasm, had DEC University at Brown University. We had great plans and enthusiasm for training our sales people to make them experts in our products and to exploit training to help our customers and to make money doing so.

It is two years later, and we still have an infinite number of people involved in an infinite number of programs and it appears to be quite uncoordinated. We still receive complaints from our customers that our sales people are uneducated in our products.

The world thinks we are in a war of survival. We seem to act as if it is still political and bureaucratic.

World War II lasted only three years and, in that time, trained 11 million people, filled the sky with airplanes, and the sea with ships. In two years, with a lot of money, we still do not have a program for training our sales people in a way that it is at all satisfactory.

KHO:dao
KO:5624
DICTATED ON 7/9/91, BUT NOT READ

Distribution:

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TO: Don Zereski (ZERESKI.DONALD)
TO: Pat Cataldo (CATALDO.PAT)
TO: Peter Zotto (ZOTTO.PETER)
TO: Russ Gullotti @ CORE (GULLOTTI.RUSS)

CC: Win Hindle (HINDLE.WIN)
CC: Martin Hoffmann @CORE (HOFFMANN.MARTIN)
CC: Bill Johnson (JOHNSON.BILL)
CC: Ken Olsen (OLSEN.KEN)
CC: Jim Osterhoff (OSTERHOFF.JIM)
CC: 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: 022661
Date: 03-Jul-1991 02:59pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win + others
TO: See Below

Subject: DECISION MAKING AT DIGITAL

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People complain that it takes too long to make decisions at Digital. On the other hand, I have trouble trying to remember clear, straightforward proposals upon which no decision was made when they came to the Executive Committee level. It is my assumption that the long delay in decision making comes about because of our enormous overhead structure. People who have little responsibility and little knowledge of the subject have trouble making good plans and budgets.

I am disappointed we made our decisions so quickly in the just-completed budgeting period. The budget system was supposed to be set up to identify any unnecessary overhead structures and any proposed work that was not being done efficiently, effectively and wisely. It was also hoped that we would cut out all unnecessary activities.

Instead, the system has been set up to propagate overhead structures. The delay in getting good plans was the result of enormous engineering overhead. The plans we were asked to approve were vague on many points, and they did not appear clear, crisp, or wise.

Organizations and their managers have an overpowering ambition to develop a stable, well-staffed organization which they hope will last forever and will give them a peaceful life. They set about to get "credits enough" by various means to justify this organization. The New Management System is designed to break up the old management system and organize the Company into many

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small groups. Each of these groups is to be run by the people who understand the business and are motivated by it, and who are ready to make decisions and be freed from the overhead structure.

We have some interesting examples of how the New Management System is to work. Some of the new groups, like Ralph Dormitzer's, David Stone's, and Charlie Christ's appear to have no trouble getting decisions made because they did the work themselves, understood what they wanted to do, proposed it and drove it.

So far, David Stone and Ralph Dormitzer have been able to keep outside overhead out. They know what they want to do. They can explain it and they get little hassle.

Ralph Dormitzer is a particularly interesting example. He seems very unsocial because he refuses to be under any of the large overhead structures in the traditional Digital groups. He is growing very fast with a product line too trivial for the traditional groups to have any interest in. His product is something a traditional product evaluation would reject because of its lack of new technology. His product is contrary to the Digital tradition of not improving old products, but always doing something new. Free of all the overhead structures from engineering, the departments, and headquarters, he is making a lot of money, growing very fast, and is recapturing a market which we decided to give away to others. He is an example of what the New Management System should be about.

The traditional way at Digital, in a Communist country, or in any American company, is to continue to propagate organizations with overhead and management structures, and to avoid new ideas and the entrepreneurial way of doing things.

It is suggested now that we re-combine Ralph Dormitzer's group with the NAC group. This, of course, would kill him. The reason for his success is that he can make and propose decisions without going through an enormous overhead structure, and he can make a profit because he does not have to pay for an enormous overhead structure. However, this does make him very popular because the whole Company, including the Executive Committee, has a main goal of keeping a number of very stable organizations going without rocking the boat. They like the idea of allocating a large sum of money every year and then forgetting about it.

The Executive Committee, of course, wants to cut down the number of personnel and finance people, but this is not the problem. The problem is that we have an enormous number of other people we can get along without.

The budget system cannot catch this, because the whole system is designed to hide overhead, surplus people, and all our old friends. People cannot make a reasonable proposal because the overhead structure has to be justified.

I think what we should do is break more and more entrepreneurial groups completely away from their establishment, as we did with Ralph Dormitzer. We should encourage more people from NAC to separate, become entrepreneurial and successful, and then go back and try to justify the space, the people, and the marketing expenses with what is left.

Theoretically, we could do this on paper by dividing one group into a number of entrepreneurial groups and separating the decision making and overhead. However, the overhead people are the ones who prepare the budgets, and they are not about to give up the authority of telling people what to do. It appears the only way to make it work is to completely separate entrepreneurial groups.

I have asked Jim Liu to set up an Asian Business Unit to make the simplest, most profitable products and take all the cost and all the profit. I have asked him to separate those easy, big money-making commodity products like one workstation, one PC, and one terminal, with maybe a printer. The establishment gives a very negative reaction to this, because their attitude is that the people who "own" these businesses need these simple, money making projects in order to pay for all the things they want to do, for non-business reasons, which do not make any money.

For example, the printer group has a passion to make twenty-seven different printers. There is no business reason for making twenty-seven printers. However, if they can make enough profit on a few good sellers, they can, somehow, with the cooperation of the decision makers, hide the fact that the others lose profit and they can also hide their overhead. If a couple of really good sellers in the printer line were done outside, then they would have to face the wisdom of all the others. This is contrary to the way in which business is done at Digital.

If we carry out this program of isolating the money makers and isolating the profit, and we leave all the overhead and money losers to stand by themselves, we may be really criticized by our lack of interest in supporting the American way. But, we might drown our guilt in wealth.

KHO:eh
KO:5607
(DICTATED ON 7/3/91, BUT NOT READ)

Distribution:

TO: Bill Johnson (JOHNSON.BILL)
TO: BILL STRECKER (STRECKER.BILL)

CC: Bill Demmer (DEMMER.BILL)
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CC: Bob Glorioso (GLORIOSO.BOB)
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*This was sent A-1
F.C.*

+-----+
| d | i | g | i | t | a | l |
+-----+

INTEROFFICE MEMORANDUM

TO: Bill Johnson
Vice President/Marketing

Bill Strecker
Vice President/Engineering

DATE: 1 July 1991
FROM: Ken Olsen
DEPT: Corporate Administration
M/S: MLO12-1/A50
EXT: 223-2301

CC: See Below

SUBJ: All Bosses and No Workers

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It appears in the last number of years, we have developed the policy or the attitude that we cannot afford to write applications, but we have to buy them from third parties for various reasons. I would like you to make a study of the wisdom of this policy and report it to the Executive Committee in three steps.

First, I would like to have you immediately outline your approach to the question. Then, part way through, I would like a tentative report. And then, I would like a final report which we should present to the Board of Directors.

It is common knowledge that Digital does not have the money to do applications, and we must buy them from the outside. It is also believed we do not have the competence to do applications. Sometimes, it seems it is believed that the customer is happy to take the responsibility for contracting separately for the application and the hardware.

- I. There are several questions I think you should answer. First of all, how much cheaper is it, and why is it cheaper, to maintain an administrative staff at Digital and to buy the software applications outside? What are our costs for this buy-out software if you take into

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account the testing, the documentation, the guarantees, and the responsibility we accept or should accept when we sell or recommend the software?

- II. What does the customer want? Do they want to buy their software from a number of small companies, many of whom are likely not to survive and some of whom cannot afford to backup the software?
- III. How many people have left Digital and started their own business because they learned to be an expert in an application while at Digital, but because of our policy not to write the software ourselves, and because it makes one a lower class citizen at Digital, they went elsewhere to write their application or to sell the application they wrote while at Digital?
- IV. Do we still have a lot of people who are expert on applications, who would love to develop software at Digital and sell their expertise as part of the Digital team? Or has our culture already removed all of those people and now it is only socially acceptable to be a buyer and not a doer?
- V. Do we burden people to the point of discouraging them with our rules, regulations and red tape? Do we remove all the fun and excitement of doing an application in Digital? Are we stricter on software done in-house than we are on software we buy outside? Applications are clearly the weakest link in our product offerings.
- VI. If we lengthen our product offering, could you give us a feeling of the groups who are getting applications for us? What percentage of the people are doing supervision/marketing, and what percentage are doing actual generation of applications?
- VII. How many times a year do we have people who propose that they would like to market an application we have developed in-house, or they would like to write applications for us themselves? Is there a well understood, well defined path that people understand if they want to take on this responsibility?

KHO:eh
KO:5595
(DICTATED ON 6/30/91, BUT NOT READ)

Distribution:

TO: Bill Johnson	(JOHNSON.BILL)
TO: BILL STRECKER	(STRECKER.BILL)
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CC: Remote Addressee	(DAVE COPELAND @CORE)
CC: Remote Addressee	(GARY EICHHORN @CORE)
CC: Remote Addressee	(HGREENFIELD@CURIE@VMSMAIL)
CC: Remote Addressee	(PGRAHAM @MR4DEC@VMSMAIL)
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CC: Remote Addressee	(RAY BEDARD @AKO)
CC: Remote Addressee	(PETER BROWN @LKG)
CC: Remote Addressee	(MIKE CONNOR @MSO)
CC: Remote Addressee	(PETER COOK @REO)
CC: Remote Addressee	(PAT GILLOGLY @MRO)
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CC: Remote Addressee	(ARMBRUSTER @CIMNET @VMSMAIL)
CC: Remote Addressee	(BCROSS @RAVEN1 @VMSMAIL)
CC: Remote Addressee	(CALDWELL @SHARE @VMSMAIL)
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CC: Remote Addressee	(FREDERICKC @COMET @VMSMAIL)
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CC: Remote Addressee	(JENNINGS @MSBCS @VMSMAIL)
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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: 022580
Date: 01-Jul-1991 01:43pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: SCIENTIFIC MANAGEMENT

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Scientists have the human tendencies to look for reward, prestige and power. However, they are trained and disciplined to, above all, look for the truth.

In the scientific method, scientists develop an hypothesis, an idea, or a theory, and then they develop the experiments or the data collection necessary to prove or disprove the validity of their hypothesis.

The techniques of science are to remove all extraneous or irrelevant effects from the data. There is random phenomena which have to be isolated and eliminated, and often the data does not immediately or cleanly prove or disprove an hypothesis.

The scientist is always looking for the truth and will avoid, with a passion, anything that would hide or confuse the truth.

It is commonly accepted knowledge that business people, and especially sales people, are motivated only by greed, power and prestige. Management literature is filled with measurement and reward systems to motivate management and sales people, and to exploit their need for power and money.

Reward systems are often too simple to motivate people to do what is in the best interest of a company, customers, or society, and they do not generate team work. Measurement systems eventually grow to be too complicated to be practical and result in devouring much of the creativity and time of those who are to be motivated.

RR

The New Management System is designed to allow managers and sales teams to find the truth about their hypothesis upon which they based a new product, a marketing program, or a specific strategy with a customer.

The New Management System is based on the idea that the motivations and techniques of science are basic motivations and joys within a human being, and do not come just from training. It is believed that people, above all, want to know they are doing a good job and they want to know whether their plans, strategies and products are basically good. It is not satisfying in one's life to hide the results of one's work in irrelevant data to make one look good and to get rewards. It is obvious that the Corporation's long term future will never be good if everyone's motivation is for short term rewards. It is also obvious that if people's goals are to make their program look good at the expense of others, it is not satisfying even if rewarded. Clearly, if we hide the data on our experiments, programs or campaigns, we will not learn and become better at everything we do.

Some think the New Management System is so contrary to accepted knowledge it cannot work. The best years at Digital were those when we had no commissions and no complex reward systems for the sales force. We had better yields, better efficiency, and happier customers when sales people were motivated to do a good job and their satisfaction came from their expertise and the knowledge that they were doing right for the customer.

The New Management System's theory is that every manager will have the data which will show the results for every hypothesis they make.

If a manager hypothesizes a product, a marketing campaign, or a program to get a particular order from a particular customer, the data should show how well it has done. If the manager does this over a long period of time, the knowledge gained will be enormous. The manager's usefulness in managing a group or a company will be invaluable.

If, on the other hand, a manager's motivation is to confuse the data and collect results from other things to make the project look good so more money, people and space, and more reward and prestige can be acquired, the manager has sacrificed a personal long term future and definitely the long term future of the Company.

Modern society's great business school is television. Its clear lesson is that one gets ahead by a step-by-step exploitation of friends and position, and by making oneself look good. It teaches that one then exploits power to gain more power and, eventually, arrive at the top. A more sound theory would be that satisfaction only comes from knowing one has done a good job, and

the only sound way to the top is by learning more and more.
Learning from one's failures or successes, is the way to grow.

Good managers not only want data with which to measure themselves and from which they will learn, but they passionately want every manager under them to do the same. This is completely contrary to the motivations of managers who feel they have the power to make arbitrary decisions for everyone under them, or some managers want to take credit for people's work who are outside their sphere of responsibility.

We believe the scientist's and business person's job satisfaction is basically the same. Both want to know whether or not they have done a good job. It is harder in business because the scientist is in a community that does not tolerate hiding the truth or distorting the facts, and the business community, particularly the financial world, admires someone who can market a poor product.

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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: 022590
Date: 01-Jul-1991 03:51pm EDT
From: Ken Olsen
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Dept: Administration
Tel No: 223-2301

Biel Stuecker

TO: See Below

Subject: RE-DOING COMPILERS ON NEW CPUs

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From computing's beginnings, it has always been the assumption of any one group that they should optimize their piece of hardware or software, and the other parts of the system should adapt to their's. These days, it is often proposed that we optimize CPU chips and re-do our compilers to match them. It has even been proposed that all the people in the ACE program would be happy to re-do all the compilers in order to get the assets of the Alpha chip.

Will you outline for the Executive Committee, in a brief tutorial session, the costs and problems of this approach? It appears to the Executive Committee that every time we re-do a new version of VMS, it takes enormously more time and effort, and creates more trouble and frustration than any one ever estimated. From a distance, it seems that putting AIX on the IBM 6000 and putting Hewlett-Packard's operating system on their new computer was a much bigger burden than they understood.

At one time we said VMS was modular, disciplined and defined, and it was easy to make changes. But, sixteen years of improvements have made it more complex. Could you give us a feeling for how complex it is, and how easy it is to move VMS or ACE systems to new CPU chips?

Scott McNealy, Chairman of Sun Microsystems, told me he changed very quickly and easily from Version 3 to Version 4 of UNIX. Yet, it is very hard for us to change from one version to another. Could you also give us a feeling for what is involved in a new version of an operating system? If practical, could you also outline what is contained in an operating system? If

Microsoft has the kernel done for NT, why is the financial community so terrified by the problems of finishing NT to be a useful operating system?

Can you outline graphically the components of a VMS system and separate the various functions outside the kernel? Could you also do this for ULTRIX, and graphically show us what we will continue to do with ULTRIX and which parts will be dependent on SCO?

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Doc. No: 022237
Date: 17-Jun-1991 11:29am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Bill Johnson
TO: See Below
cc: wmi + others

Subject: INCOMPETENT MARKETING

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I was once again unbearably hurt and offended when a public statement was made to the Press about layoffs and numbers without an agreement or even a notification from me.

The Public Relations, Marketing and Finance people, and the Executive Committee, love bad news and love to pass it on to the press. They feel like heroes when we hurt ourselves.

Nothing is more devastating to sales than to pass on the word that we are doing poorly.

When I talk to friends, or when I meet people, I say that Digital has not shrunk is size, is still profitable, and is still making major improvements in products. They are amazed. Because our press is so negative, they are convinced we are dying on the vine. The worse thing is, we do it to ourselves. We say this is the news people want to hear; we have to make it up and tell them a story.

My goal with the budget, although not well understood, is to make every Business Unit an efficient, effective, and profitable business. This means, with effort and hard work, patiently tracking each one to ensure it is effective and efficient.

The world wants grand layoffs and grand corporate-wide decision making. When we take part in these things, we do nothing to prove the efficiency of each group and, therefore, the Corporation. We devastate the people inside; we ruin the customer's confidence; and, we do little to improve the efficiency of each business group.

The real story is not that Digital has been devastated by the

This may reference the attached recent publicity.

recession, and we are shipping less and doing less. Rather, the real and honest story is that the nature of the electronics business and the computer business is to continuously increase efficiency in design, manufacturing, marketing, and selling. This is ongoing; we must continue to do it, regardless of what happens with the economy.

Our story really is very positive. We have not grown during the recession, but we have held our own. We continue to become more and more efficient in every aspect of the Company.

If we were entrepreneurial we would use our cash for in-house development, instead of buying manufacturing, software, engineering, marketing and selling from outside sources.

It is a narrow view of business to think that we shrink, and yet, we continue to purchase outside companies. When we purchase other companies, and software and manufacturing from outside sources, our contribution to these activities is cash and overhead.

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Rec 6/17

SUBJECT: _____
PUBLICATION NAME: New York Times
DATE: 6/17/91
PAGE (S): _____

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N.Y. Times 6/17/91
**Digital Sees
More Layoffs
To Cut Costs**

Special to The New York Times

BOSTON, June 16 — The Digital Equipment Corporation, continuing to feel the effects of a sluggish computer market, acknowledged last week that more employees would be laid off in the company's fiscal year that begins on July 1.

James M. Osterhoff, the company's chief financial officer, said costs at the nation's second-largest computer company continued to be too high. "We're continuing to look for places to cut costs and that is likely to mean fewer jobs," he added. The company, which is based in Maynard, Mass., ranks only behind the International Business Machines Corporation.

At a recent meeting for financial analysts, John F. Smith, the company's chief operating officer, said the number of layoffs might be similar to the reduction in the 1991 fiscal year, which totaled 8,000. A Digital spokeswoman noted that 1,800 of those who left took a voluntary severance package.

23 Percent Fall in Profits

Mr. Osterhoff said Digital's work force peaked in 1989 at nearly 126,000 and was currently between 117,000 and 118,000. He insisted that no target number of layoffs had been determined as yet but much would be depend on how the company fares in the coming months. Digital's profits fell by 23 percent in the first nine months of the 1991 fiscal year, to \$254 million, on revenues that grew by only 4 percent, to \$9.97 billion.

Mr. Osterhoff also said the continued layoffs were unrelated to slow sales of Digital's mainframe computer, the VAX 9000, which has thus far failed to meet expectations in revenues. Analysts had expected the company to sell at least \$1 billion worth of the new machines in the 1991 fiscal year, its first full year on the market; Digital has sold about half that amount. Mr. Osterhoff said the company was not planning on cutting back the production of the machine.

SUBJECT:

PUBLICATION NAME:

DATE

PAGE (S)

Boston Globe
6/15/91

7,200 at Digital face new layoffs

Boston Globe 6/15/91

By Lawrence Edelman
GLOBE STAFF

With no upturn in its business in sight, computer giant Digital Equipment Corp. of Maynard said yesterday it will begin a new round of layoffs that could cut its work force by roughly 7,200, or 6 percent, in the next 12 months.

Digital, Massachusetts' second-largest employer, said the specific number and timing of layoffs had not been decided and would depend on whether sales rebound in the fiscal year that begins June 30. It could not say how many of its 29,000 Bay State employees may lose their jobs.

"There will be further work force reductions," said Dallas Kirk, Digital's director of public relations. If business conditions do not improve, the cuts "could be roughly the same size" as the 7,200 jobs Digital will have eliminated in the fiscal year that ends June 29, Kirk said.

DIGITAL, Page 17

7,200 at Digital Equipment face new round of layoffs

■ DIGITAL

Continued from Page 1

The pending layoffs at Digital were disclosed a month after Prime Computer Inc., a Natick-based computer and software vendor, said it will dismiss at least 800 workers in 1991. Rumors are also swirling that Wang Laboratories Inc. of Lowell will soon dismiss thousands of employees. Frank Ryan, a Wang vice president, said layoffs were being studied, though a final decision had not been made.

Taken together, it is clear that the Massachusetts minicomputer industry is still being battered by recessions in the United States and other key computer markets, as well as a shift by customers to smaller computers. What's more, despite predictions of imminent economic recovery by economists, the state's big computer makers say they have seen no signs of improvement.

"We haven't seen any substantial indications of an economic upturn in the United States or Europe," said Mark Steinkrauss, Digital's director of investor relations.

For the first nine months of its fiscal year, Digital's profits fell 23 percent to \$253.9 million on sales that rose just 4 percent to \$9.97 billion.

Wall Street analysts said it was next to impossible for Digital's sales to increase quickly enough to stave off more pink slips. "There is no way around it," said Robert Herwick of Hambrecht & Quist Inc. in San Francisco. "Revenues won't pick up until fiscal 1993," added David Wu of S.G. Warburg in New York.

That's when Wu expects Digital to begin selling large numbers of a new computer line that combines its popular VAX software with hardware that it will eventually be 10 times faster than current VAX models. The new line, codenamed Alpha, is Digital's bid to halt the loss of sales to rivals that have exploited the low-cost and high speed of the Unix software system and a computer design known as reduced instruction-

set computing, or RISC.

Digital has been cutting its payroll since October 1989, when it initiated voluntary severance programs accepted by about 5,550 employees. Last January it resorted to layoffs, the first in its 33-year history. Since then another 4,650 employees have left, Steinkrauss said.

Though Digital has eliminated about 10,200 jobs, total employment has only fallen by 9,000 because it continues to hire in selected areas. Steinkrauss said the worldwide work force - excluding additions resulting from its acquisition of a German computer company - will number about 116,800 by the end of this month, down from a peak of 125,800 in fiscal 1989.

The company is also slashing nonpayroll costs. It has restricted employee travel and consolidated plants and office space. Steinkrauss said Digital has moved out of 5 million square feet of space out of a total of 44.2 million square feet.

Analysts said Digital has been particularly hurt by disappointing sales of its biggest computers, the VAX 9000 mainframes. While they had estimated that the company would ship \$1 billion to \$1.5 billion of the machines in their first full year on the market, actual sales have come in under \$500 million. That shortfall alone leaves Digital with about 5,000 more people than it can afford, analysts said.

Others product lines are struggling too, including the company's bread-and-butter VAX 6000 minicomputers. One bright spot: Its Unix-based engineering workstations are selling strongly. Unfortunately, these machines carry much thinner profit margins than Digital's bigger systems.

Analysts say Digital will likely take a big charge against its fiscal fourth-quarter earnings to cover the expense of additional layoffs. They don't know how big the charge will be, but they think it will be less than the \$550 million Digital took in fiscal 1990.

SUBJECT:

PUBLICATION NAME: *Wall Street Journal*

DATE

PAGE (S)

6/17/91

6/17/91

... Wall Street Journal

More Job Cuts Due in Digital Equipment Plan

Latest Round Could Total 10,000, or 9% of Payroll, Depending on Revenue

By JOHN R. WILKE

Staff Reporter of THE WALL STREET JOURNAL
MAYNARD, Mass.—Digital Equipment Corp. has drawn up plans to cut its work force by an additional 9,000 to 10,000 people, or as much as 9% of its payroll, if revenue growth remains weak, a senior executive said.

"Our cost structure is out of line," John F. Smith, senior vice president for operations, said Friday. The new cuts will be painful, he said, "but our long-term competitiveness is at stake."

Mr. Smith said the latest round of cuts would occur in the fiscal year starting July 1 and could be adjusted higher or lower according to economic conditions during the year. The nation's second-largest computer maker has already cut about 10,000 jobs, including 1,500 still to go by June 30, from a peak employment of 125,900 on Dec. 31, 1989.

Big Charge Is Likely

To pay for the costs of severance, analysts figure Digital will take a charge against earnings of at least \$250 million, probably in the current quarter. Mr. Smith wouldn't confirm the charge but said it was indeed being considered. "We're looking at it, but it is a decision of the board," he said. He indicated, though, that if a charge is taken it would likely reflect reserves for consolidating plants and other cost-cutting in addition to worker-severance costs.

The new cuts underscore rising anxiety about Digital, International Business Machines Corp. and other major computer makers. "What I'm hearing now is scary," said Jay P. Stevens, an analyst at Dean Witter Reynolds Inc. "The industry is bleeding."

For most of its 34 years, Digital, like IBM, was able to avoid layoffs in tough times by retraining and transferring workers or relying on attrition. But relentless advances in chip technology have permanently reduced the number of hands needed to build a computer, and demand that the remaining workers learn new skills.

At the same time, recession and an industrywide shift toward smaller, cheaper computers have slowed Digital's sales and sapped its earnings. Digital was helped for a while by strong growth overseas, but Europe and Asia have slowed down significantly over the past year. In the nine months ended March 30, net income fell 23%, to \$253.9 million, while revenue, eroded by declining sales of the flagship VAX minicomputer line, increased just 4%, to \$9.97 billion.

Digital has sought to offset lower product revenue by boosting software sales and pushing into services such as designing and maintaining networks of computers, including those manufactured by other companies. The effort has met with some success: In the most recent quarter, service revenue soared 20% over last year's level.

Plants Overstaffed

But Digital is still overstaffed. "None of our manufacturing plants are economic right now," Mr. Smith said. "Almost every one of them is underutilized." He said management hasn't decided on a specific number of layoffs yet but that they would equal the number cut so far, unless economic conditions improve. He said cutting 9,000 to 10,000 jobs "is in the ballpark of what still has to be done, and it is in everyone's interest to get it done rapidly."

Analysts say the cuts are long overdue. They note that Hewlett-Packard Co., Palo Alto, Calif., generates almost exactly the same annual revenue as Digital, yet employs 20,000 fewer people. So layoffs and a fourth-quarter charge should be welcomed by investors.

"At this point, the bigger the charge, the better it will be going forward," said Shao Wang, an analyst with Smith Barney, Harris Upham & Co. "They need to get it all over with quickly."

Analysts don't expect much from the current quarter. Most have cut their estimates in recent weeks and are forecasting that Digital will earn just \$1 a share, or \$3.05 for the year, before the effect of any charge. Last year's fourth quarter brought Digital's first-ever loss, of \$2.11 a share or \$256.7 million, including a pretax charge of \$400 million. For the year, Digital earned

just 59 cents a share or \$74.4 million, with pretax charges of \$550 million.

Most analysts also expect profit to improve in the coming year. But they say it will be driven mostly by cost-cutting, not by new revenue, which is expected to grow only by single digits at best.

"Real revenue growth isn't likely until the next fiscal year" beginning July 1, 1992, said Don Young of Shearson Lehman Brothers. "It takes more than just a year to turn around a \$12 billion company."

Mr. Smith, Digital's second-in-command, insists that the need to cut jobs flows not just from slow sales but from fundamental changes in the industry.

To illustrate the pace of change, he picked up two parts displayed on a windowsill of the old woolen mill that is Digital's headquarters. One is a dense module about half the size of an ordinary brick, the heart of Digital's new line of mainframes. It's the state of the art in processor packaging, he says. Next to it is a tiny chip labeled Alpha EV-3, an experimental design that will power Digital's next generation of computers. It has 15 times the power of the mainframe unit, yet isn't much larger than a postage stamp.

To realize the potential that core competencies create, management needs the imagination to envision markets that do not yet exist.

Corporate Imagination and Expeditionary Marketing

by Gary Hamel and C.K. Prahalad

The global competitive battles of the 1980s were won by companies that could achieve cost and quality advantages in existing, well-defined markets. In the 1990s, these battles will be won by companies

conceivable but also create new and largely uncontested competitive space. Over the next decade, more and more companies that have not already done so will close the gap with their rivals – mostly Japanese – on cost, quality, and cycle time. But without the capacity to stake out new competitive space, many will find themselves interned in traditional, and shrinking, product markets.

Early and consistent investment in what we have called core competencies is one prerequisite for creating new markets.¹ Corporate imagi-

gary Hamel is associate professor of strategy and international management at the London Business School. C.K. Prahalad is professor of corporate strategy and international business at the University of Michigan. Their most recent HBR article, "The Core Competence of the Corporation" (May-June 1990), won a 1990 McKinsey Award for excellence.

that can build and dominate fundamentally new markets. Speech-activated appliances, artificial bones, micro-robots, cars that park themselves – products like these not only make the inconceivable

Innovative products like self-parking cars can create new competitive space.

that can build and dominate fundamentally new markets. Speech-activated appliances, artificial bones, micro-robots, cars that park themselves – products like these not only make the inconceivable

1. Gary Hamel and C.K. Prahalad, "The Core Competence of the Corporation." HBR May-June 1990, p. 79.



nation and expeditionary marketing are the keys that unlock these new markets. A company that underinvests in its core competencies, or inadvertently surrenders them through alliances and outsourcing, robs its own future. But to realize the potential that core competencies create, a company must also have the imagination to envision markets that do not yet exist and the ability to stake them out ahead of the competition.

A company will strive to create new competitive space only if it possesses an opportunity horizon that stretches far beyond the boundaries of its current businesses. This horizon identifies, in broad terms, the market territory senior management hopes to stake out over the next decade, a terrain that is unlikely to be captured in anything as precise as a business plan. The early enthusiasm that several Japanese companies brought to developing high definition television grew out of just such a vision. Careful and creative consideration of the many new opportunities that might emerge if HDTV could be made a reality led them beyond the traditional boundaries of the color television business to identify potential markets in cinema production, video photography, video magazines, electronic museums, product demonstrations, and training simulations, among others.

As this example demonstrates, a company's opportunity horizon represents its collective imagination of the ways in which an important new benefit might be harnessed to create new competitive space or reshape existing space. Commitment to an opportunity horizon does not rest on ROI calculations but on an almost visceral sense of the benefit that customers will ultimately derive should pioneering efforts prove successful – a deeply held belief that “with all this benefit about, there must be a market in there somewhere.” The more fundamental the envisioned benefits and the more widely shared the enthusiasm for the opportunity horizon, the greater the company's perseverance will be.

Sony persevered in its 13-year effort to commercialize charge coupled devices (CCDs) because it refused to view the tiny, high-resolution, image-sensing chips in solely technological terms. Instead, CCDs were seen internally as “electronic film,” with the potential to provide much the same range of benefits as traditional chemical-based film and to open markets that Kodak and other companies had served in the past. A similar “benefits view” of an emerging core competence (the pocketability of radios and other consumer electronic products) prompted the company's enthusiastic embrace of transistor technology two decades earlier. Sharp's commitment to mastering flat-screen display tech-

nology is likewise based on a belief that high-resolution, thin, energy-efficient video screens will provide a wide range of benefits to customers through many different product applications.

In Japan, the task of creating new markets dominates senior managers' agendas, partly, perhaps, because their domestic rivalry is so intense. New competitive space does not stay new for long. Building one new business after another, faster than competitors, is the only way to stay ahead. The fruits of this obsession are visible. Think of Yamaha's strong position in electronic pianos, synthesizers, and other digitally based musical equipment, Sharp's strengths in pocket LCD televisions and ultrathin displays, or Toshiba's leadership in laptop computers.

Conventional wisdom says it is almost impossible for big companies to be truly innovative. New businesses that wriggle out from under the deadweight of bureaucracy and short-term thinking exist despite the system not because of it. Yet no one believes that big companies' employees are any less imaginative than their peers in smaller companies. So to protect imaginative individuals from corporate orthodoxies, senior managers in many companies tend to isolate them in new venture divisions, skunkworks, incubators, and the like.

The goal of such programs is to create a greenhouse in which 1,000 flowers can bloom. But the greenhouse seldom has more than six inches of headroom, partly because of a lack of corporate conviction about the opportunities being pursued and partly because the venture managers cannot tap the company's resources worldwide. Trying to leverage corporate competencies into new businesses while at the same time protecting new ventures from corporate orthodoxies is a contradiction in terms. Rather than move new business development offline, the challenge of creating new markets must be met head-on. Individual imagination must become corporate imagination.

New markets are seldom created by some mysterious process of spontaneous generation. Bolts-out-of-the-blue will always be an important part of the creative process. But more important, we believe, is the logical process through which companies can unleash corporate imagination, identify and explore new competitive space, and consolidate control over emerging market opportunities.

The Imaginative Company

At some point in almost every big company's development, most of management's time and effort

shifts from exploiting new opportunities to protecting existing businesses. In such a climate, the first question the sponsor of any new opportunity hears is, "How will this affect the current revenue stream?" The concern is valid, but it can stifle corporate imagination. If every new opportunity is seen only through the lens of existing businesses, most will be stillborn.

Think about the ambivalence with which Xerox addressed the small copier business in the 1970s and early 1980s. Small copiers were sold through dealers

Motorola sees itself as a leader in wireless communications, not just as a producer of mobile phones.

rather than a direct sales force. Profits depended on the number of units sold, not on margins. High reliability threatened service revenues. Consumables like paper and toner were seldom sold on a package basis. The new business eroded the pillars of Xerox's traditional profitability in almost every respect. Under such circumstances, it is all too easy for managers to develop a defensive attitude, to focus even more intently on protecting the "core" businesses, and to surrender new, potentially more attractive opportunities with hardly a fight.

Four elements combine to quicken a company's corporate imagination: escaping the tyranny of served markets; searching for innovative product concepts; overturning traditional assumptions about price/performance relationships; and leading customers rather than simply following them.

Escaping the Tyranny of the Served Market. If a company's strategic business units are hampered by overly narrow business charters, the search for unconventional market opportunities will be cut short. Conceiving of a company as a portfolio of core competencies rather than as a portfolio of products is one way to extend the opportunity horizon dramatically. Motorola sees itself as a leader in wireless communications, not just as a producer of paging devices and mobile phones. As a consequence, the company's charter permits it to explore markets as diverse as wireless local area computer networks and global positioning satellite receivers. Ajinomoto, a giant grocery-products company, is not only in the food business: it also applies the skills it has mastered in fermentation technology to produce an elastic paper for Sony's top-end headphones.

If managers are unable to think outside current business boundaries, they will miss opportunities

that depend on the combination of skills from several divisions. Thus another way to fire corporate imagination is to get managers to explore the *white spaces* that lie between existing business units. Most companies work very hard to delineate the executive ownership of existing competitive space. But how many give equal attention to assigning the responsibility for finding and then filling in the white spaces that represent new competitive territory?

Kodak recently extended its opportunity horizon substantially by searching explicitly for markets that fell between or, more accurately, across its traditional areas of competence in chemicals (film) and electronic imaging (copiers). One of the product opportunities that emerged from this cross-divisional exercise was what insiders are calling the "electronic shoebox." Recognizing that in many homes, family photographs sit in a shoebox, gathering dust in the attic, Kodak's chemical and electronic engineers dreamed of a medium that would let customers store their photographs easily and safely, view them on a standard television, and rearrange them at the touch of a button. The result was a process, available through photo developers, that turns chemical images on photographic film into electronic images that can be viewed and edited on a videodisc player connected to a television. While it is too early to say whether this product will be a great success, it has already shown Kodak how a synthesis of skills residing in seemingly disparate businesses can stretch its opportunity horizon.

Searching for Innovative Product Concepts. New competitive space is created when a dramatic innovation in a product concept reshapes market and industry boundaries. Such innovations take one of three forms: (1) adding an important new function to a well-known product (Yamaha's digital recording piano or Toto's "intelligent" toilet, which uses biosensors and microprocessors to provide medical diagnostic data); (2) developing a novel form in which to deliver a well-known functionality (automated teller machines or Sharp's "Electronic Organizer" pocket calendar); and (3) delivering a new functionality through an entirely new product concept (camcorders and home fax machines).

Standard approaches to market analysis are not likely to lead to innovations like these. They are created when people substitute a matrix of needs and functionalities for the more conventional matrix of customers and products. This is a new, reconfigured view of the market. To illustrate, imagine a long line of impatient staff waiting to use a large copier in the subbasement of a corporate tower. A conventional market analysis would look at the queue as a customer-product problem. Viewed that way, the solu-

tion is an even faster, even larger copier – in other words, an extension of the existing product.

Now look at the same long line in terms of needs and functionalities. The copier's functionalities include both speed and accessibility. And if most of the people in the line are making only a few copies of short documents, they may value accessibility over speed. If so, the solution would be an entirely new product, a smaller, slower copier in the office or at home that would minimize the total time each user had to spend getting a copy. Disaggregating a product or service into its functional components is a logical process. Discovering and developing a new product that appropriately reconfigures functionalities to satisfy a previously unmet need is an act of corporate creativity.

Conceiving of markets in terms of needs and functionalities may look straightforward, but we find such thinking in only a few companies. Even fewer seem to have the imagination to translate this understanding into fundamentally new product concepts. Asking "innocent" questions (why does the product have to be this way?), understanding what the current product concept doesn't do for customers, and imagining how functionalities could be unbundled and rebundled are just some of the means

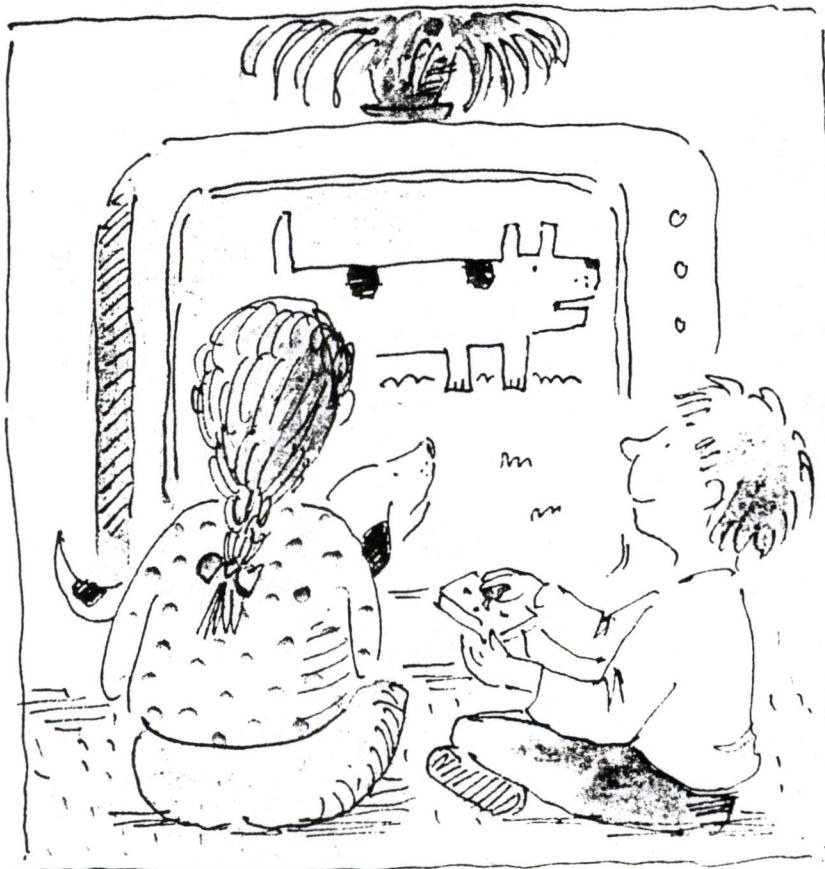
through which managers can escape the orthodoxy of conventional product concepts.

Overturning traditional price/performance assumptions. Managers and product designers typically think about price and performance in linear terms, which limits the potential for radical innovation. Overturning this assumption often reveals undiscovered competitive space. For example, when Sony and JVC engineers were exposed to Ampex's \$50,000 video tape recorders in the late 1950s and early 1960s, they envisaged a market where the same functionality could be delivered with a \$500 price tag. Fidelity Investments unlocked a vast new market for financial services when it challenged the assumption that sophisticated investment vehicles could be made economic for only the wealthiest investors. Sony recently introduced a video sketch pad that a child can use to draw vividly colored pictures on a television screen. In many ways, the product mimics the computer graphics capabilities of much more expensive computerized workstations. But it is made expressly for youngsters and is modestly priced. You can almost hear parents asking, "What will they think of next?"

Companies that refuse to challenge existing price/performance trade-offs usually assume that an

existing product concept is the only jumping-off point for new product development efforts. Yet some of Sony's most successful products were once labeled unattainable dreams. In pursuing these dreams, Sony managed to overturn existing product concepts by giving its engineers and designers both the freedom to imagine and the technology necessary to make what they imagined real.

As this suggests, understanding how emerging technologies might allow customers' unmet needs to be satisfied or their existing needs to be better satisfied is crucial to discovering new competitive space. Yamaha started out making traditional pianos. But its managers and engineers transformed the industry: first, by distinguishing the piano's functionality (the musical keyboard) from its traditional form (uprights and baby grands); and second, by understanding how it could apply a new technology (digital-sound encoding) to satisfy customers in new and unexpected



Sony's moderately priced video sketch pad leaves parents asking, "What will they think of next?"

ways. Yamaha's engineers used the new technology both to enhance the piano's existing functions – it could be kept in tune, put in a much smaller space, and used with headphones (to the relief of neighbors) – and to imbue it with entirely new functions, such as giving a one-finger virtuoso the accompaniment of a big band. In contrast, few of Yamaha's competitors understood the threat the new technology posed to their business, nor were they able to separate the piano's function from its traditional product form and construction process.

Getting Out in Front of Customers. Yamaha's experience illustrates another important point: when the goal is truly innovative products and markets, simply being customer-led is not enough. Go back a decade or two. How many of us were asking for microwave ovens, cellular telephones, compact disc players, home fax machines, or electronic whiteboards? Of course it is important to listen to customers, but it is hard to be a market leader if you do no more than that.

One Detroit automaker recently introduced a new compact car. The company conducted extensive market research when it began its product development efforts in the late 1980s. Four years later, it introduced the perfect car to compete with its Japanese competitors' three-year-old models. The company was following its customers all right. But its customers were following more imaginative competitors. Honda recently introduced its NSX sports car – a car with the manners of a family sedan and the performance of a Ferrari. The NSX was not a car buyer's dream. No car buyer could have dreamt of such a car. Instead, says Honda, the NSX was a carmaker's dream and represents the fulfillment of the company's long-standing ambition to produce a car that is both exotic and domestic. It is interesting to ask, "Who is Honda going to benchmark now?" The answer may well be that Honda is more intent on outpacing competitors than benchmarking them.

We believe there are three kinds of companies: those that simply ask customers what they want and end up as perpetual followers; those that succeed – for a time – in pushing customers in directions they do not want to go; and those that lead customers where they want to go before customers know it themselves. Today NEC dreams of (and pursues) a telephone that can interpret between callers speaking in different languages. Motorola envisions a world where telephone numbers are attached to people rather than places and where a personal communicator allows millions of out-of-touch business travelers to be reached anytime, anywhere. Market research and segmentation analyses are unlikely to reveal such opportunities. Deep insight into the

needs, lifestyles, and aspirations of today's and tomorrow's customers will.

Some companies ask customers what they want. Market leaders know what customers want before customers know it themselves.

There are many ways such insights may be garnered, all of which go beyond traditional modes of market research. Toshiba has a Lifestyle Research Institute and Sony explores "human science" as passionately as it pursues the leading edge of audiovisual technology. Yamaha gains insights into unarticulated needs and potentially new functionalities through a "listening post" it established some years ago in London. Stocked with leading-edge electronic hardware, the facility offers some of Europe's most talented musicians a chance to experiment with the future of music making. The feedback helps Yamaha continually extend the boundaries of the competitive space it has staked out in the music business.

Yamaha's approach illustrates a basic point: to gain the most profound insights, a company must observe up-close the world's most sophisticated and demanding customers.

Toyota has adapted powerful computerized design tools normally used by automotive designers to allow potential buyers to design their dream cars on a video screen. In the process, Toyota gains insights into product possibilities perhaps undreamt of by its own design staff. Mazda has created a subsidiary company, under the control of its senior managing director for R&D, that will provide a facility and forum for customers to share their ideas directly with the senior design staff. The insights Mazda gains will help it create new product concepts aimed at specific lifestyle segments.

Companies that succeed in educating customers to what is possible develop both marketers with technological imagination and technologists with marketing imagination. In many companies, marketers seem to be winning the long-running debate over whether new product development should be technology-driven or market-led. Technologists are accused of being out of touch with the marketplace, more interested in technical wizardry than in understanding customers. Much of this criticism is valid. Though scientists and engineers often claim that "the market wasn't ready," the truth, more often

than not, is that the technical community either did not understand the customers' underlying needs or missed the appropriate price/performance target. Yet it is paradoxical that as many companies are striving to be more market-oriented, their world-class competitors are increasingly using advanced technology to create new businesses that few marketers could have imagined.

Neither technology nor marketing can be the sole departure point for creating new competitive space. Multidisciplinary product teams and "better com-

Senior technical officers at one Japanese company spend up to 30 days a year outside Japan talking to customers.

munication" between sales and development are useful but not sufficient. While many companies have procedures that allow the sales organization to relay customer requirements to technical personnel, few have procedures that work in reverse – to inform those closest to the customers about emerging technological possibilities.

In one Japanese company, senior technical officers spend as many as 30 days a year outside Japan talking to customers. The goal is not to solve technical problems nor to close a sale but to observe customers and absorb their thinking. In another Japanese company, the chief engineer of a major new business development program lived for a time with an American family thought to be representative of the customers his company hoped to win. And in yet another, a senior technical manager with a Ph.D. in physics from an American university (who eventually went on to head corporate R&D) spent several years running an important sales subsidiary in the United States. In every case, the objective was not to improve the flow of information between marketers and engineers, nor to manage the balance of power between the two groups, but rather to blur organizational and career boundaries by ensuring that both communities had a large base of shared experiences. The result was a potent mixture of market and technical imagination.

Expeditionary Marketing

Creating markets ahead of competitors is a risky business. Sometimes the hoped-for market does not exist. Almost always it emerges more slowly than

anticipated. Companies that create markets ahead of their rivals do not have perfect perspicuity. They have found ways to minimize the risks of staking out virgin territory through the process we call expeditionary marketing. The goal of expeditionary marketing is to determine the precise direction in which to aim (that is, the particular configuration of product functionalities that the customer really values) and the distance to the target (the technical and other hurdles that must be overcome to achieve the combination of price and performance that will open up the new competitive space).

A product or service is a hit when it combines just the right blend of functionality, price, and performance to penetrate its target market quickly and deeply. In new business development, there are two ways to increase the number of hits. One is to try to improve the odds on each individual bet, or what we call the hit rate. The other is to place many small bets in quick succession and hope that one will hit the jackpot.

Most companies have a plethora of policies aimed at increasing their hit rate: thorough market research, careful analysis of market segments, competitor benchmarking, industry structure analysis. But market research carried out around a new product concept is notoriously inaccurate. Among other problems, it understates the opportunity about as often as it overstates it – and often by a wide margin. In either case the results can be fatal. If the opportunity is seriously understated, the pioneer leaves itself open to a second strike by a competitor. Conversely, overoptimism can create such a gap between expectations and reality that the company prematurely abandons the opportunity.

One way to minimize the risk of creating new markets is to let others go first and learn from their mistakes. But what if your competitors very seldom make fatal mistakes and quickly recover from the smaller errors they do make? If the pioneer is a small, essentially national company, it may still be possible to deliver a decisive second strike. But if the pioneer is a well-managed, global company, there may be little chance to recover.

In the past, large European and U.S. companies could often afford to be fast followers thanks to their worldwide distribution systems and brand presence, while Japanese companies succeeded on the basis of superior cost and quality. But as Japanese competitors build up their own global infrastructure and Western competitors race to catch up on cost and quality, the maneuvering room for a follower is getting tighter and tighter.

Patience isn't the only way to lessen the risk of a new market entry. If the goal is to accumulate under-

standing as quickly as possible, a series of low-cost, fast-paced market incursions—expeditionary marketing—can bring the target more rapidly into view.

Staking out uncharted territory is a process of successive approximations. Think about an archer shooting arrows into the mist. The arrow flies at a distant and indistinct target, and a shout comes back, "right of the target" or "a bit to the left." More arrows are loosed and more advice comes back until the cry is "bull's-eye!" What counts most is not being right the first time but the pace at which the arrows fly. How fast can a company gather insights into the particular configuration of features, price, and performance that will unlock the market, and how quickly can it recalibrate its product offering? Little is learned in the laboratory or in product-development committee meetings. True learning begins only when a product—imperfect as it may be—is launched.

JVC's success and Sony's near-success in opening the consumer market for VCRs in the late 1970s came on the back of a whole string of product launches (many of them less than outstanding successes) over more than a decade. For example, Sony introduced a reel-to-reel video tape player aimed at the consumer market as early as 1965. And its U-Matic VCR, launched in 1971, was also intended for the consumer market. (Priced too high, it found a niche with professional users.) Matsushita, JVC's parent, likewise made several attempts to crack open a consumer market for video tape players before finally blanketing the world with its VHS standard.

In contrast, RCA experimented with a broad range of alternate video technologies and probably spent more time and money on development than many of its competitors did. But it did not put a product on the market until 1981—and then it was a videodisc that could play back but not record. In many respects, the product was a technical success, but the isolation of RCA's engineers from market trends and competitors' product innovations meant that a critical lesson went unlearned: consumers wanted the freedom to record programs and watch them at their leisure or, as a manager at JVC put it, "to escape the control of the broadcasters."



Market research would be unlikely to discover the need for a telephone that can translate conversations.

Expeditionary marketing increases the number of hits a company achieves not by raising its hit rate but by increasing the number of market opportunities, niches, and product permutations it explores and thus the rate at which it accumulates market knowledge. To use a baseball analogy, the objective is not to raise the player's batting average but to get more times at bat. Companies with very high hit rates can boast (legitimately) about their batting averages. But if those averages are the product of a cautious, go-slow approach to creating new markets, the company will be less successful overall than scrappier rivals with lower averages but more times at bat. The number of hits achieved is, of course, determined by the hit rate multiplied by the number of times at bat.

The practical problem expeditionary marketing presents is how to maximize the capacity for frequent low-risk market incursions. In the first instance, the solution depends on minimizing the time and cost of product iteration.

Speed of iteration refers to the time it takes a company to develop and launch a product, accumulate insights from the marketplace, and then recalibrate and relaunch. Other things being equal, a company with a 12-month iteration cycle will be able to close in on a potential market faster than one with a 36-

Toshiba Explores Every Corner of the Laptop Market

Year Introduced	Model	Drive**	Micro-Processor	Display	Price
1986	T1100*	720K	80C88	LCD	\$1,999
	T1100+*	620K × 2	80C88	LCD	2,099
	T3100*	720K + 10MB	80286	Gas plasma	4,199
1987	T1000	720K	80C88	LCD	999
	T1200F*	720K × 2	80C86	LCD	2,099
	T1200FB*	720K × 2	80C86	Backlit LCD	2,199
	T1200H*	720K + 20MB	80C86	LCD	2,799
	T1200HB*	720K + 20MB	80C86	Backlit LCD	2,499
	T3100/20*	720K + 20MB	80286	Gas plasma	4,699
1988	T1600*	1.44MB + 20/40MB	80C286	Backlit LCD	3,499/3,999
	T3100*	1.44MB + 20MB	80286	Gas plasma	3,999
	T3200*	720K + 40MB	80286	Gas plasma	5,799
	T5100*	1.44MB + 40MB	80386	Gas plasma	6,499
1989	T1000SE	1.44MB	80C86	Backlit LCD	1,499
	T3100SX	1.44MB + 40MB	80386SX	Gas plasma	5,699
	T3100/40	1.44MB + 40MB	80286	Gas plasma	3,699
	T3200	1.44MB + 40MB	80286	Gas plasma	3,999
	T5100/100	1.44MB + 100MB	80386	Gas plasma	6,999
1990	T1000XE	20MB	80C86	Backlit LCD	1,899
	T1000LE	1.44MB + 20MB	80C86	Backlit LCD	2,499
	T1000XE	1.44MB + 20MB/40MB	80286	Sidelit LCD	3,199/3,799
	T2000SX	1.44MB + 20MB	80386SX	Sidelit LCD	4,999
	T2000SX	1.44MB + 40MB	80386SX	Sidelit LCD	5,499
	T3100SX	1.44MB + 80MB	80386SX	Gas plasma	5,999
	T3200SX	1.44MB + 40MB	80386SX	Gas plasma	4,999
	T3200SX	1.44MB + 120MB	80386SX	Gas plasma	5,499
	T3200SXC	1.44MB + 120MB	80386SX	LCD active matrix color VGA	8,999
	T5200	1.44MB + 40MB	80386	Gas plasma	7,199
	T5200/100	1.44MB + 100MB	80386	Gas plasma	6,499
	T5200/200	1.44MB + 200MB	80386	Gas plasma	7,299
	T5200C/200	1.44MB + 200MB	80386	LCD color passive matrix	9,499

*Indicates a model that was withdrawn before March 31, 1991.
 **The first drive listed is a floppy disk; the second is a hard disk.

month cycle. Each product iteration unfreezes one or more aspects of the product design and thus provides an opportunity for a company to apply what has been learned from the marketplace and improve the product for another incursion. Consumers may consider a company an also-ran if its product development cycle is longer than the product life cycle established by a competitor. Toshiba's competitors in the laptop computer business face this risk now.

Toshiba's blistering pace of product introduction allowed it to explore almost every possible market niche and to outrun rivals like Grid, Zenith, and Compaq. (See the table, "Toshiba Explores Every Corner of the Laptop Market.") Moreover, if one particular model failed, its withdrawal would hardly cause a ripple in customer confidence. In fact, by 1991 Toshiba had discontinued more laptop models than some of its flat-footed competitors had launched.

In pursuing expeditionary marketing, cost is just as crucial as speed. If every arrow is gold-plated, management will be unwilling to shoot many into the mist. Consider the way Japanese carmakers are exploring every possible market niche, from exquisite luxury automobiles to cars that seem to be little more than shopping carts with engines. Nissan is targeting young female buyers with a retro-styled car that will initially be produced in a run of only 20,000 units. Dramatically lower product development and plant-tooling costs are critical to this breadth of experimentation.

Think of the dilemma for a manufacturer whose cost per product iteration is three to four times that of competitors. What will management's attitude toward new product development be? Simply, the company will not be able to afford the risks of market leadership. Consumers will come to regard the company as conservative and slow-moving. It may hold on to some of its loyal, aging customers, but it will almost certainly lose the excitement sweepstakes among new buyers. Inevitably, the mantle of leadership will fall on the shoulders of companies that are expanding the limits of customers' expectations.

In recent years, Sony, Matsushita, Nissan, and Toshiba have all had a large number of hits. Is this because they have more reliable market research, a more vigorous phase-review process, or a go-slow approach to new product development? No. They've simply been at bat more often. And if we assume that they do not have an inherently lower hit rate than their Western counterparts—but do have a higher rate of market experimentation and learning—then sooner or later they seem destined to take control of emerging market opportunities. (In fact, companies with a capacity for fast-paced market incursions may see both their hit rates and their hits go up over time.)

In addition to helping a company close in quickly on individual market targets, rapid experimentation also allows it to accumulate insights into the needs and desires of a particular set of consumers. Sony has accumulated a wealth of lifestyle knowledge about young consumers through the rapid pace and broad scope of its market experimentation. Now Sony is delving into the minds of a new generation of customers by aiming its line of "My First Sony" products at preschoolers. If there is a learning curve about lifestyles and markets, Sony is a long way down it. In the future, we can expect Sony's hit rate to go up—not because it devised better market research methodologies, but because it has gained deep insight into the habits, aspirations, and values of the world's young, fashion-conscious buyers.

What can be done to increase the speed and reduce the cost of market experimentation? Simultaneous development, where technologists, manufacturing engineers, and marketers work as a single team rather than in relay is one important contribution. But there are other strategies as well. Borrowing resources is one way to pare cost and time from new business development. In many cases, Japanese companies have conserved their resources by letting Western partners take on the initial expense and risk of investment in distribution and marketing. By concentrating on upstream product development and learning from their multiple partners, these companies have been able to improve products rapidly, hone-in on market opportunities, and establish absolute product leadership quickly. That was the division of labor between JVC and its European partners in the VCR business, between Fujitsu and ICL in the computer business, and between Mitsubishi and Chrysler in the car business.

Creatively reusing off-the-shelf technologies is another way of getting to market quickly and at low

In Japan, no technology is ever abandoned; it's just reserved for future use.

cost. Canon uses a version of the toner cartridge it developed for its personal copiers in its laser printer line and its plain-paper fax machines. It is said that no technology is ever abandoned in Japan, it's just reserved for future use. If migrating a technology from one business to another is one shortcut to market, another is the capacity to fuse distinct competencies from different parts of the company in new, unimagined ways. Mechatronics, biomechanics, optoelectronics, and electrochemistry have given birth to a range of new products that owe more to the marriage of existing technologies than to the discovery of a fundamentally new science. This suggests that the discovery of new competitive space is helped when a company has a class of technology generalists that can easily move between disciplines. Overspecialization is a constraint on corporate imagination and a hindrance to discovering new markets.

It also suggests that yet another way to speed up the pace of new market development is to develop the capability to redeploy human resources quickly from one business or opportunity to another. Sharp's top management sponsors a program that encourages all its employees to submit ideas for new business opportunities. If the target seems worthwhile, the company forms a project team. These teams are

given numbers rather than names to head off divisional disputes. Each team has the right to look worldwide within Sharp for the skills it needs to achieve the project's objectives. Over the past few years, Sharp has formed close to 150 urgent project teams, resulting in a stream of new product concepts, from the Electronic Organizer to LCD projection televisions.

In fact, almost every major Japanese company we are familiar with has high-level, cross-company project teams whose mission is to leverage the company's worldwide resources to create new businesses. Such corporate-sponsored new business development poses an interesting alternative to the skunkworks and internal venturing programs that are more familiar in Western companies. While skunkworks typically operate in obscurity, corporate project teams at Sharp, Sony, and other Japanese companies are very high profile. Project team leaders typically have access to the worldwide skill base of the company, whereas Western intrapreneurs often find it difficult to get access to resources outside their business or functional area. This capacity for internal borrowing and cross-pollination is critical. If every new business team has to gear-up on its own, opportunities will be lost to competitors with more

fluid internal resources and clearer new business development priorities.

Rethinking the Meaning of Failure

The way in which many large companies define and punish failure is one of the biggest impediments to the discovery of new competitive space. Because most companies are still tied to the old way of measuring the hit rate, they have a perverse way of defining failure. Home runs become the only criterion for success. Anything less is a failure. But if top management insists on a home run every time, few will be brave enough to step up to the plate, and many of the company's most exciting opportunities will remain unexplored. On the other hand, no one should go to bat expecting to strike out. Expeditionary marketing is not a license to fail; it is a mandate to learn when inevitable setbacks occur.

When a product aimed at a new market goes astray, the first step is to ask a series of questions: Did we learn anything that will improve the accuracy of our next attempt? Did we work hard to minimize the investment risk? Did we have reasonable

expectations about the rate at which the market would develop? Can we quickly recalibrate and try again? Does the potential size of the opportunity warrant another try? Failure should be declared only if the answer to all these questions is no. Otherwise, a genuine opportunity may get lost in the embarrassment of a missed attempt.

Unfortunately, verdicts of corporate failure rarely distinguish between arrows aimed at the wrong target and arrows that simply fell short of the right one. And because failure is usually personalized, there is a search for culprits rather than lessons. Even when some salient new fact about the marketplace comes to light, more often than not the manager in charge is blamed for not knowing it well in advance.

Not surprisingly, if the personal price for experimentation is high, managers will retreat to the safety of test-it-to-death, do-only-what-the-customer-asks-for conservatism. But conservatism leads to



To make your hit rate go up, delve into the minds of the world's young consumers.

much grander, though less visible disasters. Managers seeking to avoid obvious failures may let exciting new opportunities slip through their fingers. Failure is typically, and we believe wrongly, measured in terms of dollars lost rather than dollars foregone. In which computer company, for example, has a senior manager lost his or her job, corner office, or title for surrendering leadership in the laptop business to Toshiba? Managers seldom get punished for not trying, but they often get punished for trying and coming up short. For that reason, many managers are more concerned with their hit rate than with the number of hits they generate. But who is more valuable to a team: a .400 hitter who will step up to the plate only when a weak pitcher is on the mound and the wind is blowing out to the bleachers, or a player who hits .250 day in, day out?

Failure is as often the child of unrealistic expectations as it is of managerial incompetence. In the 1980s, General Electric faced a dazzling opportunity: to stake out a leadership position in the market for the factory of the future. Integrating CAD/CAM, computer-integrated manufacturing, robots, and automated material handling was an awesome challenge, and one GE was willing to confront. But unrealistic expectations about how fast the market would develop, combined with an all-or-nothing approach to market entry, set GE up for a spectacular failure and a sizable write-off. Subsequently, GE was able to regroup with more modest, short-term objectives and to find partners with whom to share much of the risk. But GE's confidence in the business opportunity never fully recovered from this self-inflicted wound. The point is not that GE's ambitions were too grand, but rather that what constitutes failure depends on management's initial assumptions. If the opportunity is oversold and the risks undermanaged, failure and premature abandonment of the opportunity are preordained.

Too often commitment to a new opportunity is measured in terms of investment dollars — "if it doesn't have nine zeros after it we're not serious" — rather than consistency of effort. Too often staying power is interpreted to mean deep pockets rather than sheer persistence in learning from the market. If a company has not learned to edge its way into new businesses purposefully but prudently, few new markets will ever be entered.

Stretching the Corporate Imagination

The Old Logic		The New Mind-Set	
Served markets	vs	Opportunity horizons	
Defending today's businesses	vs	Creating new competitive space	
The company is a portfolio of businesses	vs	The company is a portfolio of core competencies	
Following customers	vs	Leading customers	
Product markets	vs	Functionalities	
Maximizing the hit rate	vs	Maximizing learning	
Commitment = investment	vs	Commitment = persistence	

What about the Japanese failures? Where are they? Think back to Toyota's and Nissan's early, pathetic attempts to enter the U.S. market. Canon, one of the companies we respect most, failed to capitalize fully on a pioneering role in the calculator business. But although the Japanese failures are many, they are also comparatively small. The lessons they yield are quickly learned, and the recovery time is measured in months, not years.

To stimulate new business creation, we need a new yardstick for managerial performance. Financial theory teaches us to measure financial returns on a risk- and time-adjusted basis. How often do we make such adjustments when measuring managerial performance? Early in the new business development process, the most critical resource is not cash but management talent. New opportunities require a degree of management attention disproportionate to their short-term revenue prospects. If managers are wary of new opportunities or if management talent is allocated on the basis of the present size and profitability of the business, new markets will not be created and the company's best managers will accumulate in businesses that should run on autopilot. In companies where the best managers shuffle between the safest businesses, the results are status-quo strategies and a dearth of new market development.

Companies need to learn to manage tomorrow's opportunities as competently as they manage today's businesses. (See the chart "Stretching the Corporate Imagination.") If managers spend more time looking at their feet than at the horizon, they will find themselves stumbling along in the footsteps of

their competitors. If there is no shared view of the opportunity horizon, there will be no sense of the opportunity costs of failing to escape the gravitational pull of today's businesses. If customers are

Companies must learn to manage tomorrow's opportunities as competently as they manage today's businesses.

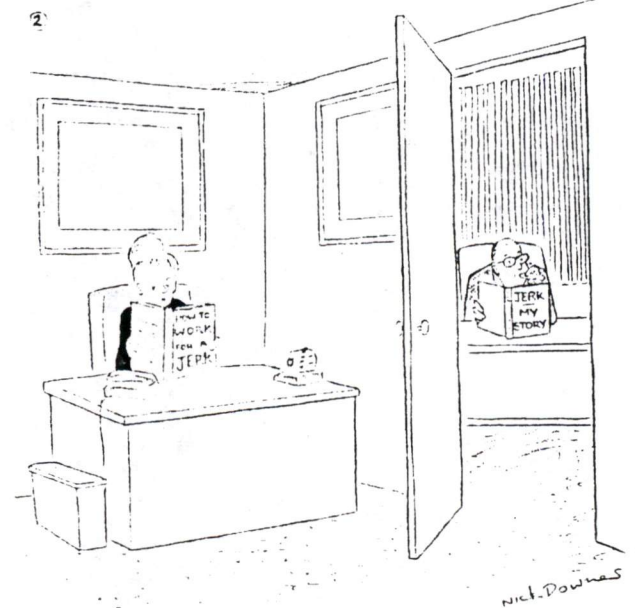
given merely what they've asked for when competitors are giving them what they haven't yet dreamed of, leadership will be an ever-receding goal. If commitment is measured in terms of investment rather than persistence, risks will be undermanaged and expectations overinflated. If there is no risk- and time-adjusted view of managerial performance, new

opportunities will wither from lack of managerial attention. If failure is seen only as dollars lost, and not as dollars foregone, new business opportunities will be prematurely abandoned.

In many companies, redefining the corporate imagination will require profound changes in policy as well as mind-set. Opportunity management must command as much of top management's time as operations management does. Creating new competitive space is too important to be relegated to those who happen to have time and superfluous resources on their hands. It is top management's responsibility to inspire the organization with a view of distant shores and then help the intrepid explorers set sail.

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Dick Tom Bill S.
Lucia Roy Hope
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SLT

- How do we re-hindle the spirit of Digital in our employees -

Adriana: Treat people with dignity

- Communicate - don't let things just "happen" to people without their control

Hope: Employee satisfaction leads to customer satisfaction

Lucia: Cannot communicate the truth anymore

People treated with disdain -

Tom: Change in discipline necessary - No infrastructure in H.R.

Dick: What do you "believe" about people of Digital -

P. Please ask the Pres. office
to send a copy to Rich Fishburn ^{Done 12/24}

file E.C.
Jag: BOD

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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: 026039
Date: 23-Dec-1991 12:50pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: WHITE PAPER ON ALPHA STRATEGY

DIGITAL RESTRICTED DISTRIBUTION

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We have convinced the Board of Directors of the importance of ALPHA in Digital's future, and we have asked them for major investments on top of those we have already made. I think we owe it to them to present a carefully analyzed proposal for licensing ALPHA.

There is always a danger that people do things in the technical world for pride rather than profit, and a Board of Directors should always watch for this trap.

I'd like you to prepare a White Paper explaining the alternate programs for licensing and the financial implications for each of the alternate levels of success.

It would be good to compare what we propose with the success of other companies, and maybe even compare it against those who maintain a monopoly.

We could present this at the next Board meeting which is scheduled for 23 January 1992. However, if we want to pursue the program before then, we should immediately mail it to all the Directors.

We are talking about a long term program and hundreds of thousands of dollars. At this time, careful documentation of our plan and presentation to the Board--if not for their decision at least for their knowledge--is clearly in order.

KHO:eh
KO:6350
(DICTATED ON 12/22/91, BUT NOT READ)

Distribution:

TO: BILL STRECKER	(STRECKER.BILL)
TO: Jack Smith	(SMITH.JACK)
CC: ROBERT R. EVERETT	(EVERETT.ROBERT)
CC: BOB PALMER	(PALMER.BOB)
CC: Win Hindle	(HINDLE.WIN)
CC: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
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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: 026041
Date: 23-Dec-1991 02:48pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: THE PLACE FOR WHITE PAPERS

DIGITAL RESTRICTED DISTRIBUTION

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We are going to do poorly this Quarter. We will sell as many computers as before and a lot more computation capability, but the NOR will be down. We probably priced our new products incorrectly.

Who did the pricing? Who had something to learn? Did the Company learn? Do we know what happened? Do we really know we priced too low? Do we really know we priced correctly? Pricing is a major policy question in the Company.

However, the only way we can learn is to clearly state our plan. It should be stated by the individual presenting it and the individual who will learn from the results.

I asked Bill Strecker and Jack Smith to present a White Paper to the Board of Directors on our policy for licensing ALPHA. If ALPHA is as important as we have told the Board it is, the question of licensing it or keeping it as a monopoly is the key strategy. If we do want others to use it, what the policies will be and how this will operate are key decisions. This should all be presented in a paper with the conclusion of what we want. If it does not work, we want to be able to learn from it.

Too often, presentations are made to the Executive Committee and the data is often misleading and sometimes people act so emotional about their proposal that the Executive Committee is embarrassed to say no. If this is the case, we should at least have the proposal written in a form which is complete and open and the conclusions we come to stated for the record.

KHO:eh

KO:6355
(DICTATED ON 12/22/91, BUT NOT READ)

Distribution:

TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO: Bill Johnson	(JOHNSON.BILL)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: Jack Smith	(SMITH.JACK)
TO: Bill Strecker	(STRECKER.BILL)

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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: 026069
Date: 26-Dec-1991 10:01am EST
From: Ken Olsen
 OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Don Zareski
TO: See Below
cc: Win + EC
Subject: NAS AND THE FIELD

DIGITAL CONFIDENTIAL

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It was a beautiful Christmas Eve day at the Mill. Everyone was in a good mood. The DEC Carolers were great and the food was good. However, I heard only one complaint and it was from several people.

The complaint is that NAS is not working in the Field. Each had a different point of view. One said the Field still measures itself by CERTS and this corrupts all the things we are trying to do. They say Accounts are measured by profit, but individual sales people are still measured by CERTS.

David Stone said that he has to re-price his software so it includes a certain amount of free consulting to the sales people because they would rather pay twice as much for Oracle software, where they get free consulting, than pay half the price and pay extra for consulting from David Stone. The profit motivation does not seem to work here.

The other complaint was that the overhead structure and the functions of the Field control what the sales people do, and it is not up to the Business Units and their counterparts in services to sell to the sales people. What gets sold is what is motivated by the functions within sales.

Sometime, I'd like to go over all the activities in the Field with the people who are there to serve.

KHO:dao
KO:6363
DICTATED ON 12/24/91, BUT NOT READ

Distribution:

TO: Don Zereski (ZERESKI.DONALD)
CC: Win Hindle (HINDLE.WIN)
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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: 026036
Date: 23-Dec-1991 11:28am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

BT

TO: See Below
cc: Win & others

Subject: PRESENTING AN ADVERTISING PROGRAM TO THE BOARD OF DIRECTORS

DIGITAL CONFIDENTIAL

DO NOT DISTRIBUTE OR COPY

It is a tradition with most Boards of Directors to have an advertising program presented to them, particularly when it is a new approach. It has been my experience these programs are presented to the Board for their knowledge rather than their approval. However, the Board is free to make suggestions and often they have very good advice.

Of course, one of the advantages of doing this is that people have to justify their logic and not just say they are doing as everyone else does.

I suggest you present your advertising program at the 23 January 1992 Board of Directors meeting. If you want to do it earlier, prepare a White Paper and mail it to the Board members.

The obvious questions are:

- (1) what is the message we want to get across; and
- (2) what is the alternate means?

Have we fully exploited those means such as writing magazine articles and helping to write newspaper stories?

If we are going to use TV advertising, are we doing it because it is the easiest way to spend our advertising budget with the least involvement by ourselves, and it

is the thing everyone else is doing?

If we do TV advertising, we have to justify where we are doing it. Do we do it where everyone else spends millions and where it may get lost, or do we carefully analyze all the alternative places on television?

If we identify those we would like to hear the message, are they the ones who watch football or basketball? Do they show interest in sports but not enough to watch television? Do they watch the weather channel? Do they regularly watch one or two of the business programs each day?

KHO:eh

KO:6352

(DICTATED ON 12/22/91, BUT NOT READ)

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TO: Bill Johnson	(JOHNSON.BILL)
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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: 026085
Date: 27-Dec-1991 02:04pm EST
From: Ken Olsen
 OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: PROPOSED TENTATIVE JOB DESCRIPTIONS FOR LEADERS

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It is our plan to generate four new technical marketing groups:

- (1) The first is the Components group which does those things which have been in the R&D budget for the past five years. This group will design and build computers, memory systems, disk systems, tape systems, databases, networks and general software.
- (2) The second group is the Worldwide Information Systems group, which we have sometimes call Mainframe Systems. There have been times when it has been called Production Systems, but this is clearly a misnomer. Sometimes people have thought of this just as the building of large computers. The group's job is to be expert in all the needs, approaches, solutions and new things that can be contributed to a large company whose central computing is usually used worldwide. This is the area that probably shows most concern for the managers of large companies.
- (3) The third group is Departmental Computing, which includes Small and Medium Business, Office, or any collection of Desktop Devices, be it in the factory, laboratory or office. The leader of this group has to understand thoroughly and completely the needs and problems of departmental computing all the way from tiny businesses to large departments.

Personal computers have not contributed what was promised. Companies are torn between wanting gross simplicity to even more complexity. Often, they need organizational discipline more than new technology. Sometimes they need less technology. However, sometimes

they need much more powerful desktop devices and servers. The manager of this group has to have the techniques for learning and leading both Digital and our customers.

- (4) The fourth group is the Industry Marketing group. We are not looking for a new leader here, but we will include the job description for that position. This job is to organize a team for every industry to which we should make a contribution. Each team should be expert in the specialized needs that are not covered by the global information systems and the departmental computing group. They should understand the specialized hardware, software, and applications, as well as all the problems of the industry. They should develop enthusiasm, love and passion for the industry. They should know everyone in the industry, their concerns and worries.

The leader of this group has to have a systematic, orderly approach to make sure that all the industry groups--whether there be fifty or one hundred and fifty--have plans, budgets, schedules and programs that define the products the customer needs, and ensures they are developed and ready for delivery. Each group should be aligned with their counterpart in Systems Integration. Each Industry Marketing group should be a partner with their part of Systems Integration.

This management job is special because there are so many groups that have to be supervised, motivated, coached, helped and trained, and the manager has to ensure each one does, each week, what is planned for that week.

We should probably separate out the job of base product marketing, the job of corporate marketer and the job of supervisor of each industry marketing group.

GENERAL CHARACTERISTICS OF THESE GROUP LEADERS

A. KNOWLEDGE

These leaders have to be knowledgeable and expert in their field. They should know enough so they can lead and insist on a strategy everyone can understand and follow, and one which can be sold to the sales people and everyone else inside, as well as our customers, the press and the analysts. However, it should not be their strategy. They should not be the inventor, but they should know enough to lead the strategy and not to back down until it has all the characteristics needed.

They should not be followers either. They should understand the competition and the needs well enough to develop

leadership programs and products the rest of the world wants to follow.

These leaders have to be knowledgeable and know where they are going. Usually, the best leaders lead the team into developing the best strategies, goals and products.

They should also be experts in flexible manufacturing which should cut significantly the total cost of product development, make it much faster, and leave money for other product development.

B. TEAM BUILDING

These leaders should tolerate and sometimes encourage experimenting and trying of new ideas. When we do not know which of two ways we should go, they should follow two paths until it becomes clear, and then pick one. But, above all, they should develop the feeling of team playing, cooperation, helpfulness and goodwill between all members.

There should be no favorites, no insiders, no outsiders. There should be no enemies within the group. There should be no one who feels they are not part of the team because the leader does not like them or their product.

Leaders should be removed if there is dissension, fear, a feeling of unfairness, favoritism, an inside group and an outside group, or the fear of staff and overhead people, regulatory or police groups.

Staff should be there to facilitate operations, not to make decisions and allocate budgets. Staff and overhead should be small. Everyone in the group should feel the price they pay for staff is well worth it. There should be no police groups to make and enforce rules and dole out punishment. All regulations, all rules, all standards should be simple and understood and agreed to by everyone, and their authority should come from written statements signed by the leader.

Two or four times a year, the whole group (but especially the leaders) should be reviewed for results and all these characteristics of team building. Leaders should be removed if they cannot form a team with the desired cooperation and productivity.

C. TRAINING

Through the years, Digital has not concentrated on training and teaching managers and leaders in the characteristics that make good managers and leaders. Therefore, we should set about to, first of all, fill one or two of these positions with outsiders who have been trained in team building and leadership. Then we should set about to have a training

program for all our managers, particularly the very senior team builders.

D. **REWARD SYSTEM**

If we develop a bonus system, it should clearly be for those groups who grow in profit and size. For those teams investing in the future, the bonus can wait until the future. The bonus system (if we have one) should not include managers, but just those teams who grow in profit and size.

The New Management System is not a measurement system, but a system for helping people manage. It gives them the data they need to manage and to see how good a job they are doing. However, it will be clear which groups are profitable and growing. The senior managers shall not be measured by these results because they should not be measured by sacrificing long term goals for the short term goal. Nor should they cut, remove or add to people's budgets in order to make their bonus look good.

KHO:eh
KO:6361
(DICTATED ON 12/23/91, BUT NOT READ)

Distribution:

TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO: Bill Johnson	(JOHNSON.BILL)
TO: Ken Olsen	(OLSEN.KEN)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: Jack Smith	(SMITH.JACK)
TO: Bill Strecker	(STRECKER.BILL)
CC: Dick Farrahar	(FARRAHAR.DICK)
CC: Bill Johnson	(JOHNSON.BILL)
CC: Bonnie Bedell @ CORE	(BEDELL.BONNIE)
CC: Sarah Sumner @ CORE	(SUMNER.SARAH)
CC: Susan Stevenson	(STEVENSON.SUSAN)
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EC.

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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: 026109
Date: 30-Dec-1991 03:32pm EST
From: Ken Olsen
 OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: THE NEW PRODUCT ORGANIZATION

DIGITAL CONFIDENTIAL

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For many years, the Components engineers have received almost all of the developmental budget, and, therefore, the things which make computers useful to customers have suffered. I would now like to divide Product Development into three different parts. We will look at each as if it was a separate business with investments, assets and returns. However, we will not make a public announcement that we are dividing up the Company, as IBM did.

I. THE COMPONENTS GROUP

The Components Group will continue to develop general computers, disks, disk systems, memories, tapes, and general software. The budget will be significantly less because we will make a lot less disks and tapes and because our computers will be made up of standard components and will be assembled to order most of the time.

The majority of our computers will be built in standard boxes which will fit either on a desk or on the floor, or will fit into racks which are tall and look good in the office, a computer room, a shop or a laboratory. There will be a small, standard set of power supplies, and much of the assets tied up in inventory, much of the cost of new inventory, and the disposing of old inventory, will disappear. We will use fewer cables because each collection of components will not need a new set of cables.

The standard for six foot racks will be measured in metric units, but will take nineteen inch packages. Most of the computers will be sold as servers, and they will just plug into the racks.

The racks will each have redundant power supplies and back-up batteries, and they will distribute forty-eight volts to each board. We will use the same approach to power supplies the fault tolerant computer uses.

For years, we have been multiplying the number of CPUs, operating systems and networking ideas, and we have expected the Sales Department to be expert on all of them and to design systems for the customers from them. From now on, the bulk of our business will be selling these as standard servers, so our sales people only have to know fifteen to thirty servers, and they can design systems for the customer on the fly. The systems can be integrated at the customer's site. Computers are heading toward a cost of almost zero, so we can be casual with CPUs.

II. GLOBAL INFORMATION SYSTEMS

We used to call this group "Mainframe Computing." Five year ago, Bob Glorioso said that mainframe computing was not a big, fast computer, but a way of doing computing. Whether these computers are large or small, they are approached with a great deal of discipline and care because of the critical nature of the computer.

Many VAX 9000s are not sold for mainframe applications, and 3090s do not make mainframe computing. Sometimes they are used for timesharing and sometimes for CAD work, but they are not the definition of a mainframe computer. Many 9000s are not sold for mainframe application.

This group will be called "Global Information Systems" because most problems are much broader than that which fits in a mainframe computer room, and these problems involve tying critical computing and information together from around the world.

Customers are terrified by the complexity and the concentration of their worldwide computing. Often the networks are a hodgepodge of historical decisions, and they are in terror of their vulnerability.

The theme of this group is to "Uncomplicate Complex Computing." Another theme would be: "Isolate Computing for Safety and Security and Integrate it with Networks." This group will be expert in the customers' needs and their solutions. It may mean that we have to be expert

in the running, installation and application of 3090s and UNISYS machines. It also means we will convert applications to VAX, and maybe sometimes to UNIX.

We should exploit the NVAX as a CPU chip because its speed is very capable today, and when we are ready, we should take on those applications which we can do well with the ALPHA chip. These customers are not open to casual changes. Those who see no need to go beyond traditional VMS would change vendors rather than be forced to drop the traditional VAX where their software is running so well today.

III. DEPARTMENTAL COMPUTING

Departmental Computing includes the computing within a department of a large company. It also includes computing for a small or mid-range company or laboratory.

Departmental computing is broken into two categories: Desktop; and Central Departmental Computing.

A. Desktop Computing

Desktop computing will continue to offer just about everything. People can have timesharing, MS-DOS, UNIX, SCO, OS/2, and someday, NT. On the MIPS chip they can have UNIX, OSF/ULTRIX, and someday, NT. We will also support Apple and maybe NeXT. This is a lot of units to support, but it is relatively easy because another manufacturer takes all the responsibility for application and software support.

Each desktop device will have a desktop server in the central departmental computer, which will hold all the applications used by those desktop devices and which will convert the information coming in into the correct format and also change it back again on the way out. This server will also do any other miscellaneous activities to facilitate use of that desktop device.

Other types of computing, such as the old Kienzle machine or an ALPHA computer which does special applications, will each have their own server to integrate with the network at the same time odd desktop devices are integrated.

B. Central Computing

There will be an application server in a department which runs all the basic applications which are not best done on a desktop. These are those

applications which need a discipline and security not available on a desktop or with cables running around on the floor. For this, we will standardize only on the MIPS UNIX computer. All applications will be in UNIX. For those applications which need more speed, we will use a special ALPHA computer, but we will not support applications or generate binaries for more than this one computer.

C. Applications

The rule for applications is that we will not do more applications than we can do perfectly. We will have a suite of applications--ten to thirty--which give a sound basis for the computing needed for all small and medium companies, or departments. These will be integrated and run together, and any sub-set of them will make a system.

We will concentrate our money, testing and characterization to make an easy human interface on this small number of applications. All our efforts will be made toward absolutely perfect applications which are easier to use than desktop applications are with an Apple.

The sales people (and the customers) only have to know two or three dozen of these major applications because there will only be one architecture and one operating system, and these are the applications we sometimes write, but always support, in great and complete detail.

D. Other Servers

The key part of departmental computing is the disk server which comes in different sizes and speeds, but which meets the same standards and has the same general architecture.

There probably should be several TP servers, some as fast as possible and some simple and inexpensive. Some will have their own database and some will use the main database.

The document server will read documents and transfer them to Ethernet, either as characters or as images. There will be a cash register server for customers who have large numbers of cash registers.

We might have a separate computer and software system that takes telephone catalogue orders. Having a special, separate set of software would allow us to continue to improve and optimize

telephone ordering service.

Hopefully, we will find a number of servers in which we will have a significant competitive advantage because they need the speed of ALPHA.

IV. INDUSTRY MARKETING

Industry Marketing groups will be responsible for all those things necessary to capture Industry Marketing. We will particularly pursue those markets in which we once dominated until we rejected the things the customer wanted so we could offer them just computer architecture.

This means that for the LDP area, we will make rack-mounted or bench-top devices that are easy to hook to experiments and data collection devices. This means, all those boxes and buses that fit together nicely and easily with the necessary software to do the jobs we used to do with our computers.

Many of the things we do for the laboratory market are also what we need in the TOEM market. Here, people build our computers into their product. In addition, the TOEM group will ensure we have those things which are uniquely key to gaining back the customers we lost in the TOEM business. Many markets need special packaging and special things. It is believed that the retail market needs our own brand of cash registers.

The world of science and a portion of the laboratory market want fast, cheap devices, as soon as we can make them available to the commercial market. We should have their interest represented in our decision making.

In general, the Component groups should make products as defined by the Industry Marketing group.

KHO:ml
KO:6366
(DICTATED ON 12/25/91, BUT NOT READ)

Distribution:

TO: Bill Demmer	(DEMMER.BILL)
TO: Remote Addressee	(PIER CARLO FALOTTI @GEC)
TO: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
TO: Dom LaCava	(LACAVA.DOM)
TO: Frank McCabe	(MCCABE.FRANK)
TO: BOB PALMER	(PALMER.BOB)
TO: DICK POULSEN	(POULSEN.DICK)

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TO: PETER SMITH (SMITH.PETER)
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TO: Ken Senior @ CORE (SENIOR.KEN)
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CC: Remote Addressee (MAHENDRA.PATEL @LKG)
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12/2/91 E.C.

Ken's goals for Marketing -
Do not Follow other companies' lead -

Build products that meet customer's needs

Integrates products (eng. helps)

Do not follow popular trends

CPU is king - all we think about

Have simple, integrated solutions for small businesses -

E.C.

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: 025960
Date: 16-Dec-1991 03:21pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win + others
TO: See Below

Subject: LESSONS FROM SMALL COMPANIES

DIGITAL CONFIDENTIAL

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Many years ago when I was close to a number of small businesses, it was my observation that they almost universally had two tendencies which we see in many parts of Digital.

It seemed that each of my friends was either a \$5M or \$10M company. They each spoke of grand plans and great ambitions to become large companies. However, they always did something that limited their plans, and every year, they stayed the same size. It was clear their main ambition was not to grow and not to be big, but instead, to always be in complete control and not give up any of their "power".

They never faced the subject themselves, but they truly were much more committed to keeping the same size and keeping in control of everything, with the same nice family, than they were of growing. This is not unlike what we see in so many places in Digital. People valiantly try to hold on to all the pieces they have. They may be random or disconnected, but they would feel terribly demoted if they gave up any of it, even if it meant being a great success with great growth in a much narrower region.

One of the techniques we used to keep ourselves small is to assign all the jobs to relatively junior and inexperienced people, and then give each individual several disparent jobs so we can be sure they will never grow very big.

The second observation I made of these small businesses is that, even though they had only two percent of the market they were in,

when it came time to grow, they needed a new product. The idea of growing fifty percent by getting three percent of the market was not in their realm of experience.

KHO:dao

KO:6312

DICTATED ON 12/15/91, BUT NOT READ

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TO: Mike Thurk	(THURK.MIKE)
TO: Don Zereski	(ZERESKI.DONALD)
TO: PETER SMITH	(SMITH.PETER)
TO: Win Hindle	(HINDLE.WIN)
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TO: Ken Olsen	(OLSEN.KEN)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: Jack Smith	(SMITH.JACK)
TO: Bill Strecker	(STRECKER.BILL)

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KO memo

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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: 025950
Date: 16-Dec-1991 11:51am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Win + others
TO: See Below

Subject: LET'S CONSIDER IBM'S ORGANIZATION AT THE LITTLE BROWN H. MTG.

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I do not think IBM has the optimum approach to organization. However, I do think it would be very useful for us to consider breaking the Company into pieces as IBM has, and then look at the wisdom of how we allocate resources to each of those pieces to see if we can learn more of how we should run Digital.

Let's plan to make our presentation for the January Board of Director's meeting in the form of nine divisions. Let's allocate resources to each division, and justify to the Board that this produces a model which could, in the next year, make twenty billion dollars NOR, and forty billions dollars NOR in five years.

The question to be answered is: What are the missing components in our business that limit us from getting the major share in most parts of the computer industry.

Let's assume we break the Company into nine divisions, and for at least two of them, we search world wide (on the outside) for the very best experts who understand their part of the market in great detail, and who are senior enough and strong enough to have influence within Digital.

I propose the following:

I. THE COMPUTER COMPONENTS GROUP

This group would consist of the CPUs, disks, system software, and networking components and software.

II. THE MAINFRAME SYSTEMS GROUP

We should probably look to the outside for an expert to lead this group. This person would be responsible for truly understanding all the fears, frustrations, failures and terrors in the Mainframe business, and developing a plan to offer those customers who need mainframe-type computing, which would include all the systems' hardware and software.

This approach is radically different from Digital's. The assumption is we should, without Systems Integration, offer integrated packages that do everything and are standard among all large corporations. We should have experts who can talk in a language these corporations love and trust, and we should have security, safety, and all the software and hardware we can economically install.

III. SMALL AND MEDIUM ENTERPRISES, AND OFFICE

The third group is the parallel of the Mainframe group and is responsible for all the systems standards among Small and Medium Enterprises and Office. As well, this group should probably be run by someone from the outside who has experience to make this a major part of the Corporation's activities, experience in understanding exactly how a small and medium business works, and vision for solving the Office problem in large companies. We sometimes call this group "departmental computing."

This group should also be responsible for all the standard computing packages--such as accounting, payroll and manufacturing--that a Small or Medium Enterprise needs. I suggest Mainframe Computing be the general marketing group for VMS, and SME/Office be the marketing group for UNIX.

Also, I strongly suggest we do not offer all our operating systems and all our hardware to all groups for all applications. Rather, we should concentrate on VMS for the Mainframe business, and develop it so customers can use their old Unisys, IBM, Hitachi, or Fujitsu systems. We would integrate it all with VMS, and replace these one at a time with VMS.

We should concentrate on UNIX for Small and Medium businesses, and Office, and allow for MS-DOS, NTT, SCO and Apple where they are needed.

IV. INDUSTRY MARKETING

Industry Marketing should have a group of experts for each industry who worry about all those things beyond that which the Computer Components Group and the Mainframe Computer Group needs to gain the confidence, understanding and love of each of these industries.

V. SYSTEMS INTEGRATION

Systems Integration should be tied closely to Industry Marketing, with Industry Marketing its marketing arm. The goal for Systems Integration should be to have a small number of standard software and hardware platforms that solve most problems, and then build from these. To make systems integration fast, easy, reliable and profitable, there should be a high concentration of systems engineering done in the Computer Components group and in the Systems Integration group.

VI. SERVICES

All Services should be included in this group, and they should be organized to be a major part of the Corporate business. Along with Systems Integration, they will be, by far, the largest piece of Digital's NOR.

VII. NORTH AMERICAN SALES*

VIII. EUROPEAN SALES*

IX. GIA SALES*

*Each Sales organization should be viewed as a separate business. Their management and treatment of people and their loyalty, trust, efficiency and business-like approach should be the measure of how well they are run. They should make profit on all their expenses (or value added) and they should not be a limiting factor in the Company's growth. If we are to grow significantly because we set about to develop the missing parts in an organization, the Sales Department should be ready to take on that responsibility.

BOARD OF DIRECTORS MEETING

The presentation to the Board should demonstrate that we do have a balanced plan for the Corporation, and we do not spend too many resources in one place and neglect other places upon which success is dependent.

Let's bring to the Little Brown House meeting a breakdown of how we think we are spending money in these areas today, and then, for each of these divisions, let's propose a budget (in dollars)

which demonstrates how much effort we will need to expend in these areas in order for Digital to be truly a major factor in the computer industry.

Then, we should list those jobs which have to be done, and decide if there are limitations (other than planning) to obtain these major goals.

KHO:eh
KO:6308
(DICTATED ON 12/16/91, BUT NOT READ)

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E.C.

Call Lyn Benton
Donjon understand the report?

Win Hindle
John Sims

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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: 025812
Date: 09-Dec-1991 11:15am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: Win Hindle (HINDLE.WIN)
TO: John Sims (SIMS.JOHN)
CC: Lyn Benton @ CORE (BENTON.LYN)
CC: Jack Smith (SMITH.JACK)
CC: Ken Senior @ CORE (SENIOR.KEN)

Subject: LITTLE BROWN HOUSE BUDGET MEETINGS - 17-19 DECEMBER, 1991

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COMPANY EQUATION

The Company equation says that each part of the Company is going to have to make profit on all of its expenses because those hardware and software projects which are not there yet will soon be to the point where there is no part of their gross margin that can be spent for marketing, purchasing software, and guaranteeing system jobs. I would like to organize that meeting so it is clear how each group stands.

I have asked for an outline of the features in each processor being built today or which will be built in the next year so we can see their costs and what would happen if they are forced to sell at low markup which is becoming the tradition.

If the hardware and software business gets to where I believe it will be, we then have to analyze every piece of our marketing and sales activity. As a background for this, please make a list of how much money is spent as part of our software business, our hardware business, each of the various marketing activities, each of the services, and the Sales Department, and then, other than the number of people, outline the budget and the profit.

From this, I would like to be sure we all have a good picture of how the different parts of the computer industry fits together.

The old model of having these markups and then spending, without control, on marketing and other activities, and then raising the markup when costs got too high, is now obsolete. But, we are having trouble facing the realities of the modern world, and I would like to be sure this meeting accomplishes this.

KHO:eh

KO:6269

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EL

Read prior to Woods on 12/17 ^{Woods Ko}

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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: 025965
Date: 16-Dec-1991 04:43pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Wih + others
TO: See Below

Subject: FLEXIBLE MANUFACTURING

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I. FLEXIBLE MANUFACTURING

Flexible manufacturing will change our way of designing and manufacturing computers. No longer will we have a separate project for each collection of disks and busses with all new parts, packaging, tooling, inventory, and/or completely separate factories for each one, along with separate marketing, announcements, literature, and training. We will then have a system where the standard set of parts includes power supplies, boxes, buses, input/output systems, etc. and each component is optimized for cost, efficiency, and power.

Computer systems are then made to order, all on the same assembly line, by assembling these components according to the order. A 386 would go down the line, following an Alpha with 4 XMIs.

II. FLEXIBLE PACKAGING

This flexible manufacturing allows us to redo all our packaging so that we can, with one set of packaging, do the Office job which means machines on the desk, along the desk, or in a tall tower.

It allows us to put the same things in a mainframe-computer style cabinet for computer room use.

It allows the same machines to be put in a NEMA box in a

factory.

It allows us to optimize the equipment for use on the laboratory bench.

It allows us to put laboratory equipment in relay racks for things like automobile test stands or production animal testing laboratories.

It makes ideal TOEM equipment.

III. DESIGNING FOR MARKETS

Personnel and the money we save in flexible manufacturing allows us to concentrate on the special needs for each industry. We lost vast numbers of customers in many markets because we rejected all the special things we did for them when we concentrated for the last number of years strictly on CPUs and speed. Once again, we can make those things which make us popular in each of the markets.

This means cash registers for the retail market.

It means all the things which make it easy to hook up our equipment to do all sorts of things in the laboratory.

It meets all those things required by Schlumberger to easily mount our equipment into one of their trucks.

It allows us to make standard packages we can sell as products that do something when they are plugged into the wall and into Ethernet, such as a standard document scanner digitizer.

It also allows us to make a large number of packaged servers, some of which are tiny and fit a puritan box. Some are bigger and fit in a big box. However, they are sold as complete boxes with specifications and a guarantee. People buy, then plug in Ethernet, and power, and if it works, they pay us. If it does not work, they take it out.

IV. RENEWING OUR DIGITAL ARCHITECTURE

We now work on the theory that the customer wants a complete choice of everything and, above all, wants speed. We expect the customer and the sales person to know all about Intel, UNIX, VAX, ACE, ALPHA, SCO, and OSF.

We expect them to know several ways of doing clustering, least three ways of hooking up disks, and several input and output busses -- such as EISA, Turbo, SCSI, Q-BUS, Future, VME, etc. We do not teach people to be able to tell the customer what is an optimum solution. We teach

our people what we can sell them if they figure out the collection of equipment they want for their solution.

The goal is to renew our architecture so we can present the optimum, simplest solution with simplicity and then have all the applications neatly presented so that we can solve their problems if they go all the way with us.

We then have everything else available if they want to make a special deal and pay for it. Above all, our presentation should be that if you do it our way, it is cheap, fast, easy. We know it works and we will guarantee it.

Our architecture should again be a renewal of a stress on buying everything that fits together in one simple network. Where possible, this network should be Ethernet, and it should use multiple Ethernets, bridges, and routers to increase the bandwidth. Where necessary, we can make small loops of FDDI.

I propose we break the architecture into three pieces. The first is mainframe, and the second is Office, or the medium size business. The third would be the small office or small business.

The architecture for the Mainframe portion of the Company should be to break the databases and computing into completely separate, isolated systems. This way, people can all just play, adopt and improve their software or hardware without endangering the rest. They can back up to any degree any of these systems without bothering with the rest. The hardware is so cheap, they can afford to use some of those systems only a few hours a week and still, more than pay for them, because of the simplicity and safety they incur.

We will do Mainframe computing with VAX/VMS, but we will adapt to this separate architecture any computing customer happen to be stuck with for historical reasons, whether it be IBM or UNISYS or anything else.

Communication between these systems is, of course, done with Ethernet (or FDDI) which is a big break from the traditional IBM approach, which says they communicate because they are all in the same system.

V. OFFICE OR MEDIUM SIZE BUSINESS

For the Office or medium size business, I propose that we stick with UNIX. If applications are on MS-DOS, NT, VMS, Kienzle, or SCO, they will have a separate PC, workstation or computer for each one, and they will have access to the office database, which will correct for any

inconsistencies in Endians.

The Office system will have any number and kind of servers, from CD servers to document scanners, digitizers, print servers, etc.

We will offer dumb terminals, smart terminals, PCs and workstations, because there clearly is a need for each one. The smart terminal is a PC without floppy or big disk, fitting into a terminal so that it has the power of a PC, but none of the confusion or complexity. This might be as cheap as a dumb terminal but with all the advantages of a PC and the advantages of Ethernet.

All the applications we suggest and work on will be UNIX and NT. We will call the system the UNIX server system.

VI. SMALL OFFICE AND SMALL BUSINESS

Small Office and small business is a subset of big Office. Here, there is one UNIX computer that runs timeshared terminals and any PCs and workstations in terminal mode.

We will offer this to small businesses at a fixed price for a computer with so many terminals and so many dollars for an additional PC or workstation.

THE RENEWED ARCHITECTURE

If we draw out this architecture, it looks very much like the Big E, the Big S or the straight line we were so enthusiastic about ten years ago. I hated the words Big E or Big S because they confused the real message, and I might be an accused of the same thing when I say we might call this "the Big T", where, across the top are the mainframe databases and processors, and sprouting from the vertical Ethernet is all the offices.

KHO:dao
KO:6313
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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: 025866
Date: 11-Dec-1991 11:12am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win + others
TO: See Below

Subject: ORGANIZATION OF INDUSTRY MARKETING

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It seems to me that there are four different Industry Marketing groups.

- I. The first is common products which includes office, accounting, manufacturing, catalog operations, telephone sales, factory management, etc.
- II. The second grouping is by company size which includes small enterprises, medium enterprises, and large enterprises. There should be a team who is in love with, and expert in, all that is involved in a particular size enterprise.
- III. The next is the specific industry marketing or services industries which include banking, medical, etc. There probably are ten to thirty different industries in this groups.
- IV. Next is the engineering/manufacturing group in which there are another twenty to fifty teams.

Systems Integration should be organized to take advantage of, and add to, the expertise of the teams for small, medium and large businesses. They should be expert in working, talking, and consulting with those size companies.

They should also be experts in each of the various industries.

It might be wise to not call the common applications market groups, but call them products groups, and have them budgeted and measured the same as the product groups. They do generate products, called software, for office, accounting, etc.

There is a tendency in our various marketing and selling groups to give people two responsibilities, such as an area and an industry, or two or three quite distinctive industries. It appears we do this because we make the assumption we will always have a tiny market share, and in order to give a person the status they deserve, and because we are short of people, we have to give them two jobs.

I would like to make the rule, which can be broken only by special action of the Executive Committee, that we do not give someone two titles. We should make the assumption that we are going to be great in a particular area, and if someone has one job on which they can concentrate, they should be successful enough to make the job big enough to keep busy. If they are as successful as they should be, they probably will need a good size team in order to carry out the duties.

Mkt. yes
Sales no.

KHO:eh
KO:6282
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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: 025842
Date: 10-Dec-1991 11:38am EST
From: Ken Olsen
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Dept: Administration
Tel No:

Bill Stracker + Bob Palmer

TO: See Below
cc: Win + others

Subject: WHO MAKES PC?

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Attached is a memo I wrote on 22 November 1991 entitled, "Where Do We Build PCs." It has been clearly cited that we will not make computers as we use to where each group designs every component over again, negotiates the building or purchase of them, builds an inventory with those specially designed parts, and at the end of the project writes off all the surplus. We will, instead, have one standard component for every application in every machine we build that uses that component. It is no longer a question of who will design and who will manufacture a computer. It is a question of who makes each of these components most efficiently at the lowest cost.

Where the machine ^s built is a separate question. We will have flexible manufacturing in many places. We might have a plant in Albuquerque for the U.S., or we might have several in the U.S. so they are close to the customer.

People do not seem to understand where we are heading and they still feel the game is to see who can negotiate, design, develop and invest in the lowest cost personal computer. They are willing to invest completely in every component in order to have the final manufacturing cost lower than another one.

This is no longer the way we make computers. The question is simply: For each sub-assembly, who makes the highest quality, with the lowest price and the most reliable delivery? With those, we will then assemble the computers we need, and we will assemble them to order and deliver immediately with software installed. How high we go in the realm of computers is something they will see. For now, the discussion is limited to who makes the best power supply, the best connector board, the best disk drivers (of two or three types), the best outside bus (of two or three types), the best boxes, etc.

KHO:eh
KO:6277
(DICTATED ON 12/10/91, BUT NOT READ)

Attachment

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

Date: 22-Nov-1991 11:23am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: WHERE DO WE BUILD PCs

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It sounds as if there is a contest building up between the PC group and Jim Liu over who will build PCs. This doesn't make any sense to me.

The nature of PCs and workstations, today and in the future, is completely different from what it has been in the past. In the past, every engineer designed their own box, their own lay out, decided what standards to use if they were going to make it different from everyone else, and the cost was not a factor.

Today, the world has changed. The question is not who will make the PC or workstation, the question is who will make each of the sub-assemblies. PCs and workstations are made of standard sub-assemblies. Often, they are the same size and have the same connectors, and many manufacturers make exactly the same thing. Building a PC consist of buying the sub-assemblies from the optimum place, snapping them together, reading the software, testing them, and shipping them out.

This is a devastating development to engineers because the biggest joy they had and the most time consuming and expensive part of the design was deciding what original connectors would be used and what variation of each of the three dimensions they will pick for their machine.

After we make a list of sub-assemblies, we simply have to decide where they are made best and cheapest.

Where the actual boxes are assembled, filled with software and tested, is decided on political, tax and language reasons. The actual assembly might very well be part of the telephone ordering system and run by the sales department.

This does sound inconsistent with my goal of eliminating

everything from the sales department except sales, but it does seem to be the obvious place to have boxes assembled.

For our first discussion of where we make PCs and workstations, let's postpone the question of where we do the final assembly.

Let's start off with a commonly agreed upon list of components and sub-assemblies and then let's listen to proposals as to where each one is best made. One way to start would be with a list of standard sub-assemblies that many people make at prices which are also quite standard and then listen to the proposals from people who think they can do a better job.

KHO:dao

KO:6204

Dictated on 11/21/91, BUT NOT READ

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Doc. No: 025841
Date: 10-Dec-1991 11:25am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Bob Palmer
TO: See Below
cc: Win + others

Subject: FLEXIBLE MANUFACTURING

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Some people misunderstand the work Jim Liu is doing. It is not a contest to see who can make a simple PC in the least expensive way. It is part of a grand plan to introduce flexible manufacturing into Digital.

Instead of having many teams making many computers in many places, all with their own inventory and their own special parts, cables and connectors, and with all the cost of initial inventory purchase, writing off the remnants of it later on, all the complexity of storing the parts for maintenance afterward, and all the delay in designing every part over again, many times, we will do each part only once and all the Corporation's products will use those same parts.

With flexible manufacturing we will manufacture most of our computers in one place and on demand. Each computer coming off the line could be different from every other computer and still the delivery will be a matter of hours after the telephone order.

Inventory will be stored automatically and when an order is received, the computer will automatically deliver the correct parts to the assembler who will snap them together, install the ordered software, put it on test, and ship it to the customer.

The computers can be small desktop devices, on the side of the desk, against the wall, or in a mainframe environment with tall, large cabinets.

Instead of having a separate power supply for every project, there will be one set of power supplies, designed once and inventoried once, that will take care of all computers.

There will be one connector board and a standard set of connectors for all units.

There will be one of everything and the only thing special will be those parts which change the architecture, such as the ALPHA, NVAX, MIPS, and Intel chips.

This means, there will be a drastic cut in the cost of manufacturing, a drastic cut in the time from conception to delivering the first machine, and a lot of freedom for the customer and the sales person as to what they order. Because the machine will be tested with the ordered software, the installation time will be very fast.

We may want to reproduce this flexible manufacturing plan in every country. People like to have manufacturing done locally. They have certain confidence in equipment when it is built locally, and the cost of this facility would be very low because the inventory would obviously be very low.

When we have a new idea for a new machine, most of the time it will mean just changing the mother board. The disk bus, the special equipment bus, the memory, power supplies and the networking circuits will all be standard and will not have to be re-designed.

KHO:eh
KO:6273
(DICTATED ON 12/10/91, BUT NOT READ)

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Doc. No: 025791
Date: 06-Dec-1991 04:35pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Josh Smith
TO: See Below
cc: Wei + others

Subject: FLEXIBLE MANUFACTURING

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We have decided to all get behind the flexible manufacturing system that Jim Liu is proposing.

This system of manufacturing and development is quite different from our traditional way of producing products. Traditionally, we set up a group to develop every combination of chip, bus, and disks. Each group made it a two year project and designed their own boxes, mother boards, assortment of connectors, and cables. This system makes us late, allows us to share almost no inventory, and makes our costs particularly high. When each group does their own marketing, it makes it particularly expensive. Often, marketing and mechanical design are done to set apart one product from other Digital products.

With the flexible manufacturing system, where common parts and one set of cabinets are used for all products, inventory is small and new products can be introduced very quickly and at a very low cost.

The plan is to have a complete manufacturing facility at DECworld, where we will take telephone orders from the Field, assemble the order in any combination with any software, and ship it UPS, directly from the floor.

We will offer desktop cabinets, alongside the desk cabinets, and tall floor models. There will be Intel chip, MIPS chip, VAX chip and Ethernet chip machines. There will also be the option of EISAbus or turbo channel.

We will try to offer both SCSI and DSSI disk busses. We will offer a flat screen 420 terminal and, in the same box, a flat screen terminal with a PC or MIPS processor.

No marketing will be done for these products. The low price and glamour of the manufacturing system will attract the press. The capability of the products and their price will spread word-of-mouth. The only literature will be that which is in the DEC catalog.

A PC for under \$2000 and an NVAX or ALPHA workstation for under \$4000 will change the whole industry and Digital, but it is better that we change the industry than waiting for someone else to change us.

KHO:eh
KO:6261
(DICTATED ON 12/6/91, BUT NOT READ)

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CC: Ken Senior @ CORE	(SENIOR.KEN)
CC: John Sims	(SIMS.JOHN)
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CC: Charles Christ @ CORE	(CHRIST.CHARLES)
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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: 025778
Date: 06-Dec-1991 01:49pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Jim Lee + Charles Christ
TO: See Below

Subject: PC ANNOUNCEMENT AT DECWORLD 1992

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I am enthusiastic about announcing and demonstrating the four new PCs at DECworld. We will announce an Intel machine, a MIPS machine, an NVAX machine and an ALPHA machine, at prices from \$2000 to \$4000.

I do not give orders very often, but this time I would like to order you, quite directly and quite clearly, not to spend any money on marketing. Of course, manuals have to be written, but I consider this an engineering expense. I want no marketing, whatsoever. This means, no advertising and no brochures--other than the telephone order catalog. There will be no announcements, just a showing of the products at DECworld.

The theme should be: "Flexible Manufacturing Comes to the Computer Industry." This means any machine, regardless of what CPU, turbo channel or EISA bus, any disk or any number of disks, any operating system, any application, any voltage--48 volts, 128 volts, or 240 volts, on the floor or on the desk, with or without CRT, with or without color, can be manufactured any place in the world.

My theory is that if you have a product which is the same as everyone else's, or is less than everyone else's, you need to spend a lot on marketing. If you have a product that is unique in its price, its features, and the way it is made, the press and TV will give you all the publicity you need, and word of mouth will communicate it to all the users.

However, there should be a number of magazine stories about the product and the process. We should keep some of this a secret though until we announce, because we do not want others to do the same thing immediately after or a few weeks before we announce

ours.

KHO:eh
KO:6236
(DICTATED ON 12/6/91, BUT NOT READ)

Distribution:

TO: Jim Liu	(LIU.JIM)
TO: Charles Christ @ CORE	(CHRIST.CHARLES)
CC: Bill Demmer	(DEMMER.BILL)
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CC: John Sims	(SIMS.JOHN)
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E.C.

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INTEROFFICE MEMORANDUM

Doc. No: 025811
Date: 09-Dec-1991 11:21am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

Jack Smith, Bill Stricker +
BJ
TO: See Below
cc: Wain & others
Subject: REVIEW OF CPU BUDGETS

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At the last Board of Directors meeting, we asked the Board to approve very large capital expenditures for some of our new computers. Implied in that request was the assumption that the Executive Committee review this budget and recommend that the Board approve it. As far as I know, the Executive Committee did not go into the details of this, and I, therefore, suggest we hold back on expenditures until the Executive Committee does review it.

On a single sheet of paper, I'd like Bill and Jack to list all the CPUs that we are building and identify what features and what technologies each one is using. We have three or more ways of connecting disks. We sometimes use SCSI, sometimes DSSI, and sometimes clusters.

We have three busses that I know of for tying in the outside world--EISA, turbo, and future busses. We have several high performance chips which include R4000, NVAX and ALPHA.

We have many ways of hooking up Ethernet, many ways of hooking up serial lines, and many cabinets. I think we should outline all these features for each one, the total cost for the resulting machine and what markup we think we will be able to maintain by the end of this fiscal year and the end of next fiscal year.

A particular question we should ask is: Will the customer be willing to pay a much higher price for a very small number of additional features on our expensive machines when their speed is very close to those computers we now put on discount.

Let's assume that the desktop machines will be made of standard modules which include boxes and power supplies, connector boards, turbo channel, EISAbus boards, SCSI boards, and

DSSI boards. We will have racks which are conventional height and width and look like real computers. We will offer a variety of power supplies from the cheapest to redundant power supplies. The cost of these should be very low because the design, tooling and inventory will be done only once, and they should use all the chips and have approximately the same speed as the expensive units. The question then is: Will the customer pay a lot more for the features of a machine built in our traditional way, with our traditional costs?

I think we also need to decide if it is wise to have so many technologies in our product offerings. Does a sales person really need three external busses, or three busses to drive disks? Do they need the same speed, or the same chip machine offered in a variety of packages, with a variety of expenses and a variety of costs?

In order to make our sales people effective, do we have to simplify our offering? In order to make their job easier, do we have to offer the lowest priced computing in the industry?

This presentation should be straightforward and simple, and I think we should tentatively plan to present this to the Board of Directors in January, after we have reviewed it ourselves.

Let's assume we will not do painful, artificial things to keep people from buying the inexpensive machines as we have done for a number of years when we would not allow time sharing to be done on a desktop VAX. If this question has been brought to the Executive Committee, I am quite sure the Executive Committee would not have gone along with it, but it is the kind of decision that is made secretly without Executive Committee involvement and is built into the system and propagates expensive machines.

KHO:eh
KO:6268
(DICTATED ON 12/8/91, BUT NOT READ)

Distribution:

TO: Jack Smith	(SMITH.JACK)
TO: BILL STRECKER	(STRECKER.BILL)
TO: Bill Johnson	(JOHNSON.BILL)
CC: BRUCE J RYAN @CORE	(RYAN.BRUCE J)
CC: Lyn Benton @ CORE	(BENTON.LYN)
CC: Bill Demmer	(DEMMER.BILL)
CC: Jesse Lipcon	(LIPCON.JESSE)
CC: Dom LaCava	(LACAVA.DOM)
CC: Donald Gaubatz	(GAUBATZ.DONALD)
CC: Win Hindle	(HINDLE.WIN)

CC: Martin Hoffmann @CORE

(HOFFMANN.MARTIN)

CC: Ken Senior @ CORE

(SENIOR.KEN)

CC: John Sims

(SIMS.JOHN)

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EC *Wm. H. Hinkle*
Dec 11/4/91

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| d | i | g | i | t | a | l |
+-----+

INTEROFFICE MEMORANDUM

TO: The Executive Committee

DATE: 4 December 1991
FROM: Ken Olsen
DEPT: Corporate Administration
M/S: MLO12-1/A50
EXT: 223-2301

CC: Lynn Benton

SUBJ: What Jim Liu Is Doing

DIGITAL RESTRICTED DISTRIBUTION

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Jim Liu is doing what he told the Board of Directors three months ago that he would do, and what we have been saying we would do for much of the last year. The tradition at Digital is for every Engineering group to make every project--be it a PC, workstation, or a computer--from scratch with a completely new set of connectors, boxes, and industrial design, and is totally different from anything Digital has made before. The result is that every unit is very late in coming out, very expensive, and shares no components, cables, connectors, or boxes. Each one looks as if it were designed by a different company and, in general, none of them make money.

There has been a tradition that engineers own all rights to do anything they want, in any form and any style, with any connectors, and take any amount of time. Implied in that system is that the Sales Department is lazy if they cannot keep up with the infinite number of variations of boxes which we call PCs system and workstation.

The McDonald (or Franchise) system is very obvious and very simple. Those products which are so generic, they do not need a Business Unit or traditional marketing will be built by Manufacturing and sold directly to the sales areas. In the Jim Liu model, there will be one box, one power supply, one of each type of disk, and the same set of sub-assemblies.

The sub-assemblies and mechanical parts will come from the lowest cost supplier, anywhere in the world. Every organization in Digital will be encouraged to bid on making those parts at the most competitive price.

The units will be assembled anywhere in the world--maybe in every country. They will be put together when a telephone order is received. The software that was ordered will be installed and the units will be tested and shipped, all within a few hours. There will be very few cables. The monitor will have a power cord built in, and anyone will be able to plug the unit in and make it work.

At DECworld 1992, we will announce four models: The Intel, the MIPS, the NVAX, and the Alpha. The MLP for the Intel and the MIPS will be about \$2000. The MLP for the NVAX and the ALPHA will be about \$4000.

The Business Units that build computers in the traditional way will each say: "Oh, for a number of months and for a few million dollars, I can match the price of this machine." This is probably true, but it completely misses the point. This is a system for building the base products for much of the Company. It is not one more CPU or one more workstation.

The question then is: What do the Business Units do? The answer to this is obvious. Most of the Business Units stopped making their own power supply years ago, even though it was one of the fun parts of every computer or printer. Little by little, generic parts are made best by companies who specialize in making them in vast quantities, and the Business Unit has to concentrate on doing those things that add value to the base products or in the making of specialized, high performance products.

KHO:eh
KO:6244
(DICTATED ON 12/3/91, BUT NOT READ)

E.C.

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: 025727
Date: 04-Dec-1991 03:47pm EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win & others
TO: See Below

Subject: MEASUREMENTS IN THE FIELD

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In the world in which we live, most people are rewarded when they become successful. An engineering team is not rewarded by making scheduled check points. However, they are usually rewarded when the project is complete and successful. A piano player is not rewarded for practicing, but becomes famous when the skill is accomplished. Athletes are not rewarded for practicing, but they are rewarded for winning.

There is a tradition in selling (particularly in the computer industry) where goals and budgets are set each year and people are rewarded for making those goals. Those goals are often set from above, and most companies see part of their sales force leave each year because of the unfairness of this arbitrary fixing of goals and territories. The most important factor in success is having the right goals or territories.

In some areas, the goals are set by the groups themselves. The big game here is to set their goals low so that they do better and go to DECathlon.

This approach to rewarding the Field is so traditional, in spite of the obvious stupidities that managers at Digital cannot conceive of life any other way.

In the past, we completely avoided this way of measuring, but the force to follow everyone else has been irresistible and people cannot resist following the crowd.

The New Management System has a number of goals. One is to eliminate this stupidity and to encourage people to run their

Account team with wisdom. This should be the same wisdom one would have if they were developing their own company. They would compromise investments with the need for short term results, but with a goal for long term glory, stability and survival.

It has been said over and over again that The New Management System is not a measurement system. It is a management system. The goals are not what people are to be measured on, they are part of the management of the Account team.

The New Management System is dependent on the theory that people are rewarded when they are successful. They are not rewarded for putting in a low budget and for doing somewhat better than that budget.

Because managers refuse to go along with The New Management System and insist that the budgeting system is a measurement system, and because they insist that ~~The New Management System has responsibility for fixing the budgets for everyone the budgets and the plans for the home field have been much too modest.~~ Only a fool would put in a large budget and take a chance on not making it. The game is clear. Get as small a budget as possible, and if you do better, you are a hero.

For a number of years, we have followed the rest of the industry and we have gone down hill. We cannot tolerate managers who say they are not going to go along with The New Management System because it is not the way the rest of the industry does things.

It is perfectly reasonable for someone to propose that they run the Company, but it is not reasonable for them to say they will not take responsibility, and yet tell people they should do things differently than the accepted management system.

KHO:eh
KO:6247
(DICTATED ON 12/3/91, BUT NOT READ)

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TO: Frank McCabe	(MCCABE.FRANK)
TO: BOB PALMER	(PALMER.BOB)
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TO: Mike Thurk (THURK.MIKE)
TO: Don Zereski (ZERESKI.DONALD)
TO: PETER SMITH (SMITH.PETER)
TO: Win Hindle (HINDLE.WIN)
TO: Martin Hoffmann @CORE (HOFFMANN.MARTIN)
TO: Bill Johnson (JOHNSON.BILL)
TO: Ken Olsen (OLSEN.KEN)
TO: Ken Senior @ CORE (SENIOR.KEN)
TO: John Sims (SIMS.JOHN)
TO: Jack Smith (SMITH.JACK)
TO: Bill Strecker (STRECKER.BILL)

DIGITAL CONFIDENTIAL Document

F.C.

MM - Nov. 75

Printed by Win Hindle

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INTEROFFICE MEMORANDUM

Doc. No: 025536
Date: 22-Nov-1991 10:29am EST
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: Win Hindle (HINDLE.WIN)
TO: Martin Hoffmann @CORE (HOFFMANN.MARTIN)
TO: John Sims (SIMS.JOHN)
TO: Jack Smith (SMITH.JACK)
CC: Ken Senior @ CORE (SENIOR.KEN)

Subject: MONDAY'S LITTLE BROWN HOUSE MEETING - NOVEMBER 25

At the Little Brown House meeting with the old Executive Committee members we will discuss Corporate strategy.

Today, I think the strategy is clearly speed is the answer to all problems, but let's spend a few hours and look at it more carefully. I'd like to propose the idea that we spend more money on speed than any other company, and that we have and will have more speed than 95 percent of our customers need. I propose that we have plenty of manufacturing capability. I propose that we have so much sales capability that we are cutting back on the staff continuously. Therefore, I would draw the conclusion that the weakness in our strategy is in our industry marketing.

We will commit hundreds of millions of dollars for speed and argue over \$5 million invested in an industry that will pay off in almost weeks.

When IBM walked off with \$14 billion worth of business with the AS400 did they do it because it was a standard system? Did they do it because it was a UNIX system? Did they do it because it was fast? Did they do it because the chassis was very expensive, uniquely designed and made as small as possible in size? Did they do it with DECworlds? Did they do it with Open Advantages? Did they do it with NAS? Or, did they do it because they concentrated on what the customers needed, and made sure they satisfied the real needs of real customers had.

We may want to pick one industry to see how we would approach it. SME might be a good one.

If we have time this afternoon, let's have each one of us try to find out what marketing lead up to the decision of the product offering we make for SME. Let's see if we can find out the needs of a small/medium business. What are the frustrations? What are the disappointments? What scares them? Where are the big costs? Why do they fear computers? Do they need faster, more colorful workstations? Do they need Turbo Channels?

Without a great amount of research, we should find out what SCO software is commonly used by small business and which of these applications are they frustrated with because they do not have enough speed.

Let's find out the experience of multiprocessing in small business. Is this a natural for a small business person who runs Caterpillars tractors as a business? Do they fall into the spirit and the detail of multiprocessing?

In the world of small business, what percentage need workstations, PCs, and dumb terminals? If the percentage of dumb terminals is large, is it the speed of the dumb terminal and the lack of windows that frustrate small business?

We might do well having someone make a list of the applications that are limited by the lack of windows and color.

When s business has networks of PCs, what do they actually use them for?

KHO:dao

KO:6203

Dictated on 11/21/91, BUT NOT READ

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tes, experienced a rapid decline in health,
 and eventually his ailments left him com-
 pletely disabled.
 Von's rejected Mr. Young's \$1 million
 settlement offer, and in 1988 a jury
 awarded him \$12.1 million, including \$10.7

law says that job bias based on sex, disa-
 bility, religion or national origin will now
 be punished almost as severely as employ-
 ment discrimination based on race.
 The change comes too late for Helen
 Brooms, an industrial nurse who filed a
 sexual harassment lawsuit against Regal

damages but also for punitive
 damages as pain-and-suffering
 awards. (Sex-discrimination victims do
 get their medical bills paid when the court
 determined that the company's medical in-
 Please Turn to Page B10, Column 1

COMPUTERS

Digital Equipment Inching Forward In Uneasy Search for Olsen's Successor

NOV 04 91
 EC

By JOHN R. WILKE
 Staff Reporter of THE WALL STREET JOURNAL

MAYNARD, Mass.—Amid rising concern about management succession, some directors of Digital Equipment Corp. are quietly working to persuade its founder and autocratic president Kenneth H. Olsen to identify candidates to succeed him at the nation's second-largest computer maker.

As a first step, John F. Smith, 56 years old, a senior vice president, is expected to be named to the new post of chief operating officer, Digital insiders say.

But the 65-year-old Mr. Olsen—who has headed Digital since it was started in 1957, making him perhaps the longest-running chief executive of a major U.S. company—shows little interest in relinquishing authority.

"I'm not going to crown anyone," Mr. Olsen said in an interview. "There's no need to discuss succession when the chief executive is young and healthy." Moreover, he added, while the issue is "the prerogative of the board... if I found any of them talked to the press about this, I'd fire them."

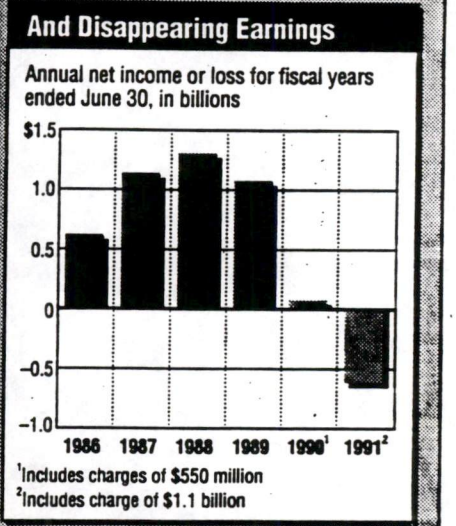
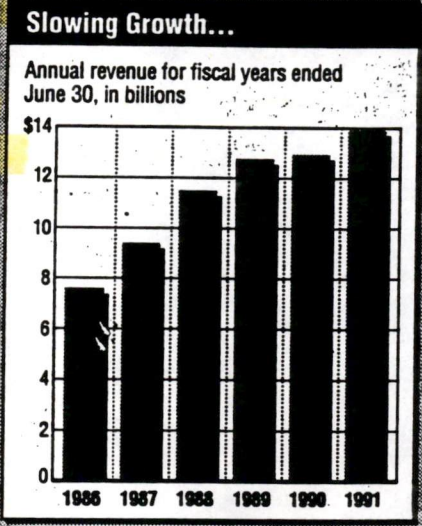
Mr. Olsen, of course, can't fire directors. But his comment underscores the extent to which Digital's eight-member board is dominated by him—unlike the investor-led board of Compaq Computer Corp., which became impatient with poor results and last month abruptly fired co-founder and chief executive Joseph "Rod" Canion. In addition, insiders say that Mr. Olsen doesn't want to appear to be reacting to pressure, and thus might delay any executive changes.

Kenneth H. Olsen

Industry Is Reeling

No one thinks Mr. Olsen should be forced out. Indeed, some say that his strategic decision-making is critical to Digital at a time when the entire computer industry is reeling from changing technology and lower profit margins. "The irony is that Ken may be the only one who can lead

Digital Equipment: Caught in Hard Times



them" through this transition, says C. Gordon Bell, who spent 23 years at Digital, designing the flagship VAX computer line, before departing in 1983.

But the succession issue nonetheless has caused concern among some investors as well as directors, and not simply because Mr. Olsen has reached age 65. Digital's results have been weak for more than a year, they note, and the company needs to bolster top management to respond more quickly to industry changes.

Already, Mr. Olsen's difficulty in letting go may have cost Digital some talent. Six vice presidents have resigned recently, including the well-regarded chief financial officer, James M. Osterhoff, who was on the losing end of a dispute with Mr. Smith about financial restructuring. Mr. Smith is regarded as Mr. Olsen's loyal lieutenant.

"Ken has a fundamental aversion to letting anyone else become a leader. He sees them as a threat. This hurts Digital's management by driving out good people," says a senior executive who recently left the company.

Moreover, Mr. Olsen's critics say he has been making major decisions in a vacuum—without a healthy dose of dissent—and that some of the results have hurt. For example, they say, Mr. Olsen sunk \$1 billion into an ill-fated mainframe computer line at a time when big machines

were losing out to smaller, simpler designs. They also say Mr. Olsen moved too slowly to make badly needed cuts in the work force and delayed by at least a year a redesign of the flagship VAX line with new chip technology.

'Talking to Himself'

On key decisions, Mr. Olsen "has been essentially talking to himself for a decade," says Mr. Bell, the former Digital executive. "He's got all these listeners and no one who will argue with him and tell him that he's wrong."

Executives say the succession issue has sparked concern on the eight-member board. Philip Caldwell, former chairman of Ford Motor Co., has been pushing Mr. Olsen to step up his succession planning, they say. Mr. Caldwell didn't return calls made to his office. In May, the board began addressing the problem in earnest, but put a decision on hold to deal with more immediate strategic and operating challenges, say those familiar with the board's thinking.

"Ken Olsen is at a fork in the road," says Jeffrey Sonnenfeld, a management scholar and author of "The Hero's Farewell," a study of succession. The way a chief executive handles succession can cap a long career or tarnish it, he suggests, de-

Please Turn to Page B4, Column 5

John Rob Ayres

Days Complaint ation

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WALL STREET JOURNAL
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Although MECCA's 13 principal re-
searchers currently lease time on a super-
computer made by Cray Research Inc.,
Minneapolis, they were eager for the \$15
million Fujitsu supercomputer because it
runs "two-to-five times faster than the
Cray" model they're using, Mr. Antes
said.

"It's really a tragedy that they had to
withdraw the offer. This is a very badly
needed resource for the climate-modeling
community," Mr. Antes said. He said the
researchers need supercomputers to dis-
sect various models of the greenhouse ef-
fect, whose projections vary widely.

Mr. Antes declined to name government
officials who blocked the offer. "The pro-
posal ran into opposition from Cray Re-
search and parts of the U.S. government,"
he said, leading MECCA and Fujitsu to
drop the plan. Cray officials couldn't be
reached for comment.

Mr. Kinouchi of Fujitsu said that "some
congressmen" wrote a letter complaining
about the transaction, but he didn't know
which congressman were involved.

A spokesman for U.S. Representative
Richard Gephardt (D., Mo.) said that Mr.
Gephardt had sent letters to the Japanese
embassy and to President Bush's science
adviser, Alan Bromley, protesting the pro-
posed donation.

Similar events occurred in 1987, when
the Massachusetts Institute of Technology
said it cancelled plans to buy or rent a su-
percomputer made by Japan's NEC Corp.
after U.S. Commerce Department pres-
sure. The Commerce Department said it
warned M.I.T. that it would pursue "dump-
ing" charges if NEC tried to sell the com-
puter below cost. And there have been ru-
mors that other U.S. laboratories were
forced to squelch interest in Japanese ma-
chines.

U.S. government and industry have
grown increasingly worried about Japan's
advances in supercomputing, aided in part
by the Japanese companies' willingness to
offer the machines cheaply—or even for
free—at home and abroad.

Digital Equipment Directors Ask Olsen to Identify Heirs Apparent

Continued From Page B1

pending on whether he relinquishes power
gracefully or becomes a "corporate mon-
arch, one who does not retire, but wears
his crown to the end." He calls Mr. Olsen
"one of the industry's last great heroes,"
who imposed his own moral code and even
his eccentricities on the company he
built.

Mr. Olsen insisted in an interview that
talking about succession is a waste of time.
"There isn't a big emphasis on titles
around here," he said. As for promoting
Mr. Smith, he said that "we may do that
someday," but that a new title would just
reflect "what he's already doing today."

Pier Carlo Falotti, chief executive of
Digital's huge European operations, is also
on anyone's short list of internal candi-
dates to ultimately succeed Mr. Olsen. Mr.
Olsen also has said he may look to a new
generation of managers. They include such
fast-track executives as Robert B. Palmer,
a former United Technologies Corp. execu-
tive who runs manufacturing, and David L.
Stone, Digital's high-profile software
chief.

Still, a handful of heirs apparent has
emerged over the years, only to lose favor
and be forced out of the company. "Being
identified as a potential heir at Digital is
like painting a bulls-eye on your fore-
head," says a former executive.

Digital is caught in a wave of change
sweeping the industry. Smaller and faster
machines are eroding its market position,
forcing it to shutter plants, shift resources
and cut its swollen payroll. These moves
have exacted a toll: In the fiscal year
ended June 29, Digital took \$1.1 billion in
restructuring charges, causing a first-ever
annual loss of \$617 million. Digital's re-
venue rose just 7% to \$13.91 billion, with a
paltry 1% increase in product sales bol-
stered by a 16% gain in services and soft-
ware.

The company still has vast resources, of
course: a broad customer base, almost no
debt and \$2 billion in cash. Some of its
businesses are surging, such as computer
systems integration and networking. And
criticism of the mainframe project and the
pace of layoffs is just "20-20 hindsight" by
poorly informed outsiders, a spokesman
says.

But the current VAX computer design,
which fueled phenomenal growth for a de-
cade, is running out of gas. As a result, the
company is preparing for a risky transition

to a more advanced computer technol-
ogy.

Mr. Olsen has said he plans to stay
Digital's helm at least through the int-
duction of the next-generation compu-
chip, code-named project Alpha. Design
to power Digital through the rest of t
decade, it is expected sometime next ye-
The new design is an advanced RISC (i-
duced instruction-set computer) chip th
analysts say should yield huge perform-
ance gains at a low cost.

Digital's own RISC chip development
now slated to be the VAX successor—w
slowed by Mr. Olsen's 1989 decision to st-
work on an internal RISC project in fav-
of a design by now-struggling MIPS Cor-
puter Systems Inc. While the move help-
in the short term in the competitive wor-
station market, it effectively delayed d-
velopment of the critically important fo-
low-on to the VAX, says Mr. Bell, the fo-
mer VAX engineer. And it led to the loss
David Cutler, "one of the best system d-
signers in the world," a Digital executi-
says. He left for Microsoft Corp. after h
RISC work was cut.

Mr. Stone, Digital's software chief, co-
cedes that the RISC redesign for the VA-
line is indeed "somewhat late," and th-
Digital "has been off the price-perform-
ance curve for quite some time." But h-
rejects criticism that Mr. Olsen makes d-
isions in a vacuum. Mr. Stone says M-
Olsen delegates authority in every area e-
cept engineering, where he takes a mor-
hands-on approach. "He allows, and eve-
demands, an intense level of debate an-
ferment below him," Mr. Stone says.

Number of U.S. Firms Increasing Payouts Declined in October

Special to THE WALL STREET JOURNAL

NEW YORK—The number of U.S. com-
panies increasing dividends in October de-
clined from a year earlier, reversing the
trend in September.

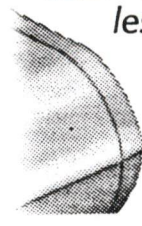
In October, 102 companies raised divi-
dends, compared with 115 in October 1990,
according to Standard & Poor's Corp. In
September, 63 firms increased dividends
compared with 56 in the year-ago month.
That broke a string of 22 months of nega-
tive year-on-year comparisons.

The latest data show dividends "still in
a broad bottoming area, with no clear
signs of improvement," said Arnold Kauf-
man, editor of S&P's Outlook newsletter.
He said the data are consistent with the
"mixed signals" emanating from the
broad economy.

While fewer companies increased their
dividends last month, Mr. Kaufman noted
that the absolute level of increases was
fairly high and compares with a strong

**The Kodak Diconix 180si printer, new
from the innovator in portable
printers. It's more printer than ever,
with more value than ever,
and even less weight than ever.**

*the latest in portable printers from
the people who started it all! The new DOS-
compatible Kodak Diconix 180si printer
is even easier to use, and offers
still more fonts...yet actually weighs
less. And you get all the
features that made Diconix
printers what they are
today, including both tractor-
feed and single-sheet paper
handling, plus the silent reliability*



Great Lakes Bancorp Enters OTS Accord To Strengthen Capital

By a WALL STREET JOURNAL Staff Reporter
ANN ARBOR, Mich.—Great Lakes Ban-
corp said it has entered an agreement with

~~VERY CONFIDENTIAL~~ E.C.
Hand-delivered.

d | i | g | i | t | a | l

INTEROFFICE MEMORANDUM

TO: Bill Demmer
 Bill Johnson
 Pete Smith
 Jack Smith
 Dave Stone
 Bill Strecker
 Bob Supnik

DATE: 4 November 1991
 FROM: Ken Olsen
 DEPT: Corporate Administration
 M/S: MLO12-1/A50
 EXT: 223-2301

CC: Win Hindle ✓
 Marty Hoffmann
 John Sims

SUBJ: Politically Correct Strategy

 DIGITAL RESTRICTED DISTRIBUTION
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I believe Alpha is one of the best things we have done in the Company's history and I look forward to spending a half billion dollars on facilities to make faster and better Alpha chips.

NAS is a great product and a great continuation of our traditional strategies.

However, NAS and Alpha could easily kill the Company. We, as a company, do have an unofficial set of keepers of the "politically correct" strategies. For many years, this movement ridiculed timesharing and persecuted anyone who argued for it, and gave to many competitors the opportunity for a huge amount of business.

This movement almost outlawed detailed applications that really do the job customers want. They insisted speed and CPU characteristics were the politically correct strategies. The result was that IBM came close to killing us with a poor CPU, called the AS/400, but with enthusiasm to solve the customer's problem.

Digital RESTRICTED DISTRIBUTION

Today, if anyone wants to survive, it is clear they have to agree with the politically correct strategy which says everything has to be Alpha and everything has to be NAS. Evaluating what speed applications really need for the large number of applications we need to survive and grow, is political suicide.

It is also "incorrect" to study how many computer applications, for which we should be the most desired vendor, should have NAS. We do not do jobs that need simple computing with great equipment, excellent service, and competent sales people, with satisfaction guaranteed.

We do allow some deviations from the actual technology as long as the party line is held firm. For example, our approach to small business was to build a very, very fast multi-processed 46. For three years, we have been making it better and faster. However, we have had little interest in what the small business really needs in computing and why they are frustrated, unhappy, and unsatisfied. And, there has been little analysis of the place for speed in the majority of small business applications, and little interest in the place of the ACE strategy, of Intel and MIPS.

Is it worth trying, or is it impossible, to do real industry marketing and to analyze what customers really want? Or, have we already decided what we want to do?

Logic says there are many questions we should face if we tolerated political deviance. Suppose we made a Corporate goal to get 70% of the Office market, or 70% of the PC LAN business, or 80% of the medical business, or 50% of the TOEM business, or 50% of the lab business, or 50% of the high school business, and then made the investments to get there. Would the rational, logical conclusions be politically incorrect and not tolerable? Would it mean so much detailed engineering that it could not be controlled centrally? Would it mean putting some limitations on the investments of the politically correct strategies?

KHO:eh
KO:6080
(DICTATED ON 11/4/91, BUT NOT READ)

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EC.

+-----+
| d | i | g | i | t | a | l |
+-----+

INTEROFFICE MEMORANDUM

TO: EXT. EXEC. COMM.

DATE: 28 October 1991
FROM: Ken Olsen
DEPT: Corporate Administration
M/S: MLO12-1/A50
EXT: 223-2301

SUBJ: WHERE ARE WE GOING?

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The first step in deciding where we are going is to determine where we are. We have set about to do this by breaking the Company into Business Units and creating an accounting system that tells us where we make profit and where we are investing. ✓

The second step is to develop a marketing group for each industry in which we should play a significant part. We are underway in assigning a team for every industry and giving them the job of identifying what we have to do to win in that market and the products necessary to satisfy that market. ✓

The third step is to then decide where we want to win and where we want to invest. ✓

It has been our tradition to invest in computers, architecture, networking, and operating software. It has been clear for a few years that this might be a very important part of satisfying customers' needs, but, in itself, it probably is not a money-making, nor is it a survival, strategy.

However, at budget time, we still increase the number of computers, operating systems, PCs, and workstations. We give computers and operating systems first call on the budget and find difficulty investing in an industry product that would pay off in a matter of months.

At the Executive Committee meeting on Friday, November 1, I'd like to take time to agree on the list of industries we will set about to serve, the groupings of those industries, and who will lead each group.

Then, at the next Executive Committee meeting on the 19th of November, I'd like a small group of the Executive Committee plus a number of the leaders from the Industry Marketing groups to meet at an extended WOODS meeting to propose a new allocation of the budget so we can capture those markets we once dominated, such as science, engineering, medicine, education, publishing, and TOEM and invest in those things which we never did have a position in, such as mainframe or production computing and what would be the key that allowed us to dominate that industry?

Should we make an early, less-finished version of each of our computers for the science market to be delivered a year earlier than our commercial system?

Are we concentrating on the area of our pride when it comes to workstations, but the big market for workstations should be for the people leaving PCs and going to UNIX and who do not need any more than an EISAbus?

If we believe in ACE and SCO on ACE UNIX computers, do we need a multiprocessor Intel computer?

Should we separate our PC and workstation business into show-off models that we sell for prestige and to specialized friends from those we produce at very low cost, with zero marketing and zero selling cost, but very low prices?

Do commodity computers and operating systems need, or will they tolerate, high marketing and high selling costs that double or triple the cost of a computer?

What is the place of SI in the Company? How do we integrate it into the Company? How do we satisfy all the demands and opportunity? How do we ensure we can guarantee results to the customer and not impose risk on our Company or the customer?

Can we truly divide the Company into two pieces, those which need or will not tolerate selling and marketing costs and those that are dependent on high marketing and selling costs?

In the industries in which we plan to sell, or in which we are marketing into today, how tolerate are they with the idea of buying the computer from us and depending upon a third party for the software with no one taking the responsibility for the result?

Is it our goal to be leaders in technology? Or, should our goal be to capture the whole market? For example, is it more important for us to be the first to do FDDI, or should our goal be to bet 100% on the Local Area Network business?

It is clear that, at budget time, we are normally willing to give almost anything to the groups who build traditional CPUs, etc., and then we rarely have any money left for businesses which are truly

applications and solutions.

It would be interesting to break the Company into three categories: First are those who do new things, take chances and risks, often fail and, hopefully, learn from failure with the possibility of someday getting something new. The second category would be the people who build traditional products and grow by investing in more and more of the same traditional products. The third category are the people who tell us what to do, but have no responsibility for the results and anything the Company does. These people are always in the position of telling what should be done and should have been done.

I suspect that like the rest of society, the value, the promotions, and the pay is inversely the way I listed these people. The safest guarantee toward future promotion is to be one to tell others what to do and have no responsibility. The least desirable, the one who is ruled out of our society, is the one who wants to try something new and maybe fails at the first attempt.

KHO:dao

KO:6058

Dictated on 10/27/91, but not read

E.C. KO

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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: 024966
Date: 22-Oct-1991 08:57am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

cc: Win + others

Subject: SOME THOUGHTS ON OUR SALES ORGANIZATION AND THE NMS

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Traditionally, Digital's Sales Department was organized around the sales office. This meant there was a close-knit team who really saw their responsibility to capture all the business in a town, an area, or a country. The sales people, support people, and field service people worked for marketing groups at headquarters, but they were supervised by the local manager and were clearly part of a team. They helped each other; they filled in for each other; they cooperated; and they had great pride in their town or their country.

Some people made a big issue of the problem of having two bosses: the local boss; and the marketing group they worked for. They coined the words "matrix management," to explain how difficult it was. This is, of course, nonsense, from two points of view. First of all, matrix management traditionally means something different, and secondly, everyone has more than one boss and there is no need to make a big issue of it.

For the last ten years, we have allowed the fragmentation of offices. Each major speciality group, whether it be Services, Government, or Industry, and now Accounts, claim complete allegiance and commitment only to their own market group. The result has been to devastatingly fragment offices. They now work for many districts, often very far away. Decisions are arbitrary, with no explanation. It is often true that many District Managers never even get to visit or see the people to whom they give orders. The result is that hiring and firing is not done by the people with responsibility and no one is responsible for educating and training the people for whom they make arbitrary decisions.

The implementation of the New Management System has been grossly misunderstood. An Account Manager is supposed to have the

long-term view of an account and be a responsible business person. However, because of the remoteness, they do not know the people who work for them and, therefore, they feel free in ordering people to be hired and fired, with no responsibility for the individuals.

We have broken the Sales Department into marketing units, which is not logical because marketing needs to be done by Marketing and not by Sales. In doing so, we have broken up each Sales office and have lost the enthusiasm, confidence, support and trust of the sales teams.

The New Management System was set up to give individual teams responsibility for running their business. The Field management structure is there to help, coach, lead, instruct, teach and guide, and to build enthusiasm and confidence in our Company.

Another problem with breaking the Sales Department into many different pieces and, therefore, slicing up each office, is the fact that the resulting organization is much too complicated for anyone to understand. No one knows where to go for help. There are no marketing people to support or give information, or to take responsibility. The large industry breakdown does not allow enough detail for anyone to be an expert or answer questions.

Another result is that sales offices have had people removed because an Account Manager did not want to support the local parts of their account with local people. This means, when telephone calls come from local customers to the local office, they have to be told the local office is not allowed to service them any more and that they have to call someone three thousand miles away. This, of course, devastates our local sales people who feel the need to take care of local customers, and it devastates the customers who are sure we have dropped them completely.

In order to complete the New Management System we need to consider the following:

- (1) We have to have a very simple organization, one that everyone can understand, and one where everyone knows who their supervisor is and where to get technical information for their customers. Yes
- (2) The local office has to be the primary organization for the Sales Department. We have to do everything to build up the local office, ensure there is a supervisor who is a good personnel manager and can take care of problems, supervise, train, teach, educate, coach, comfort and help those sales people they are in charge of. ✓
- (3) Each sales office should not be divided into many districts with many bosses. Each sales person works for the office and does the work for the Account Manager, who might be in

that office or far away. But, above all, the sales team in each town must feel like a team, and any extra time they have which is not effectively being used for an Account, should be used to make sure we own that town.

- (4) We must develop the marketing organization so there is an expert team for every possible organization and industry. Some industries will be broken down into sub-industry markets. For example, banking might be broken down into cash transfer, trade or workstation, and retail banking. Marketing is not to be done in the Sales Department.
- (5) It is also clear that selling for Services, SI, and Government will all be part of a local sales organization.
- (6) The local office manager truly runs the office. They run the accounts located in that office; they also work with the account managers who may be remote. The local manager takes care of the needs and desires of the remote Account Managers, but no way can that manager hire and fire instantly. People who want to be represented take a reasonably long term obligation for the people they take on.
- (7) The office manager, who is close by and knows everyone and knows about everyone, has responsibility for ensuring people get promoted to better jobs with more responsibility when they are available. The office manager is responsible to ensure the people are trained, educated and taught on the job to prepare for bigger jobs, and ensure those people who would be better off doing something else are brought to that conclusion.
- (8) Good account teams will make everyone feel like part of the team. Effectiveness will be obtained by everyone having common goals and working together for the success of the account. No good Account Manager will get loyalty and effectiveness by arbitrary exercise of power. The good Account Manager will also have sub budgets for each of the remote representatives of his account. This way, they will set goals for each remote area. Some of these goals are simply to support and take care of the customer, and do not result in actual orders.
- (9) The office manager will keep track of the goals and budgets of individual people in his office. He will, at all times, know how the office is doing and how each individual is doing. He will also know the power, the weaknesses and the strengths of each member and will work to develop them.

In general, we will change the emphasis in the Sales Department from power centers to teams.

The Company will be broken into three clear parts. The Product groups develop and manufacture products, whether it be hardware,

software or applications used across industries, including SI and Services. Their job is to prepare the products needed by our customers. They will have the job of getting the message across, and servicing and educating our sales people on the products we offer.

The second group is the Industry Marketing group whose responsibility is to be experts in that market. They will know everyone and everything, and they will know all the needs and applications of computers. They will have strong influence on product development. They will prepare special products for their narrow industry, and they will line up internal and external resources needed to satisfy the customers' needs. They will be the marketing arm for SI. Their primary goal is to take care of all of the needs of the sales people. Every sales person will know where to go when they run into a problem or when they run into a new company in an industry in which they are not an expert.

The third group is Sales.

Circle of Excellence is a good thing, but we should also use the time to improve selling skills. If there was a specialized Circle of Excellence, we could discuss and educate each other on industry problems and on the solutions important to each of those industries.

The measurement of each Office Manager, Unit Manager, District Manager, and Regional Manager is going to be the enthusiasm, professionalism, competence and effectiveness of the people for whom they are responsible. They will be measured on their development and coaching of the people under them. The morale, enthusiasm, team spirit and confidence in the Company, the loyalty of their customers, and the confidence their customers have in Digital and our Sales, Service and IS people will also be measurement of the sales management people.

We will organize the Sales hierarchy by traditional management techniques. The management of Sales now becomes very traditional in its needs, its goals, and in its measurements. It is basically there to manage, train, educate, support and coach. If we have ten Regional Managers, a hundred Districts, and a thousand Units or Offices, and if each one had ten sales people, we would then have a system which would take care of ten thousand sales people in a very traditional organization chart.

In reality, a Sales Unit would be anywhere from five to fifty sales people, and a District would be anywhere from fifty to five hundred. A Regional Office would be anywhere from five hundred to a thousand people.

Of course, we would adjust the organization to meet the special needs of national borders or geographic limitations. Regional Managers would not have any marketing responsibility.

F.C. KO

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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: 024189
Date: 18-Sep-1991 01:00pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

BJ
TO: See Below
cc: Win + others

Subject: SOME THOUGHTS ON PRODUCT MARKETING

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In the book "The Guns of August," it is claimed the European military organizations laid out strategies years before World War I, based on the assumption that offense was the only thing needed to win a war. This resulted in the French attacking the German machine guns and trenches with calvary and soldiers dressed in red uniforms. The slaughter was enormous, and, of course, it did not work. However, the French could not change their tactics because they had decided offense was the way, and they would die trying. Also, they did not have barbed wire or machine guns, because these were defensive measures.

There is a parallel with Digital. We have decided, almost with religious belief, that product marketing should consist of formal product announcements in New York City. By now, I think we have proved this to be about as effective as charging barbed wire and machine guns with soldiers in red uniforms. It may be impossible to change our marketing groups in the same way it was impossible to change the military or the European governments, but if we could--maybe with outside help--we could plan different ways to really attract attention to our new products and save all the money spent on new product releases.

KHO:eh
KO:5890
(DICTATED ON 9/18/91, BUT NOT READ)

RR

KHO:eh
KO:6015
(DICTATED ON 10/20/91, BUT NOT READ)

Distribution:

TO: Don Zereski	(ZERESKI.DONALD)
TO: Bob Hughes	(HUGHES.BOB)
TO: DICK POULSEN	(POULSEN.DICK)
TO: Remote Addressee	(PIER-CARLO FALOTTI @G
TO: Jack Smith	(SMITH.JACK)
TO: Russ Gullotti @ CORE	(GULLOTTI.RUSS)
TO: Bill Johnson	(JOHNSON.BILL)
CC: John Sims	(SIMS.JOHN)
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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: 024772
Date: 10-Oct-1991 04:03pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: WHO MAKES THE ALPHA PC?

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I do not know who decides who makes new computers, but to the sales people it sometimes seems we give it to the latest unemployed group and they then get a contract to spend two years specifying and designing a product which is as different as possible from anything else Digital makes. The Field will be devastated if the Alpha PC is one more two-year product.

I would like the Executive Committee to decide who will build it, and I would like them to make the compromise between time to market, features and unique mechanical design.

I would like Bill Johnson to sample our scientific marketers and sales people on the importance of getting a PC to scientists even without a software system.

As part of the proposal to make a new machine, I would like a time to market versus profit analysis presented.

I would like to know who will do the job the fastest and cheapest. Is it Asia, Don Gaubatz, John Rose or Scotland?

It will be ideal if it consisted of an 11" x 11" board that fit into Jim Lui's McDonald's manufacturing franchise.

KO:5988
(DICTATED 10/10/91 BUT NOT READ)

Distribution:

TO: Jesse Lipcon	(LIPCON.JESSE)
TO: John Rose	(ROSE.JOHN)
TO: Jim Liu	(LIU.JIM)
TO: Donald Gaubatz	(GAUBATZ.DONALD)
TO: Bill Demmer	(DEMMER.BILL)
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TO: John Sims	(SIMS.JOHN)
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TO: Bill Strecker	(STRECKER.BILL)

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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: 024690
Date: 08-Oct-1991 10:40am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win + others
TO: See Below

Subject: N-VAX ANNOUNCEMENT

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I am afraid there is a danger that as we announce N-VAX and Alpha, we will lose the most important feature these new machines have: they are VAX and they play VMS. We should use them to extol the features of VMS, to review the history of VMS, and to renew VMS. These were our reasons for investing in them and we should be sure we exploit them during this announcement.

I, above all, do not want to say how we should advertise, or to push my ideas. However, as an example of how to present the features of VMS, suppose we have an ad which says:

RK

THE OCTOBER 28 PARADIGM SHIFT

FOR FIFTEEN YEARS
VAX/VMS HAS BEEN THE PARADIGM FOR
TECHNICAL AND COMMERCIAL COMPUTING

VAX/VMS HAD

THE EASIEST TO USE SOFTWARE

THE BEST CASE TOOLS

THE BROADEST LINE FROM DESKTOP TO MAINFRAME

THE EARLIEST AND MOST COMPLETE NETWORKING
FROM OFFICE TO WORLDWIDE

THE MOST EASILY EXPANDED COMPUTER WITH UNIQUE CLUSTERING

THE LARGEST CLUSTERING
WITH AN ENORMOUS NUMBER OF COMPUTERS AND DISKS

THE LARGEST LIST AND THE MOST EXCITING APPLICATIONS

(THE ONLY COMPUTER SYSTEM STILL ON THE U.S. DEFENSE DEPARTMENT'S
RESTRICTED LIST)

OCTOBER 28 THE PARADIGM SHIFTS:

VAX IS NOW ALSO THE FASTEST AND MOST ECONOMICAL

KHO:mtw
KO:5965
(DICTATED ON 10/7/91, BUT NOT READ)

Distribution:

TO: Bill Demmer	(DEMMER.BILL)
TO: KEN SWANTON	(SWANTON.KEN)
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TO: Jack Smith	(SMITH.JACK)
TO: Win Hindle	(HINDLE.WIN)
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TO: Bill Johnson	(JOHNSON.BILL)
TO: Ken Olsen	(OLSEN.KEN)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: PETER SMITH	(SMITH.PETER)
TO: Jack Smith	(SMITH.JACK)
TO: Bill Strecker	(STRECKER.BILL)

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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: 024409
Date: 26-Sep-1991 01:34pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: MEANING OF BUDGET APPROVAL

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Budget approval is not an approval of all the projects included. Each project, each product, each application, and each Field project has to be proposed and approved on its own. Listing them with the budget does not replace the justification and approval process.

It is clear that many groups are over-staffed, have too much overhead, and are too slow in delivering projects. The approval of the budget does not mean we think they are well run. It means we have to get on with what we are doing and the management of these projects is still the responsibility of the leader and their coach.

The fact that we approve projects that do not ^{grow} for market share and do not have the inspiration to be a significant player, and, therefore, probably have a losing plan, does not mean that we like this, it is just that during the approval process, we do not have a choice.

A budget is not approved if it is presented and no one formally complains. It is only approved if there is a formal agreement of the committee, it is so listed in the minutes, and that group is notified that their budget is approved, or approved with qualifications, or sent back to be re-done.

We will re-do the budgets each quarter, and each quarter they should be better. Next quarter, we should have a business plan which will present all the obvious questions anyone would have in their business plan, such as market share, growth, return on investments, and all the traditional measurements for a business plan.

The business plan should also include whether we are selling

RR

technology as commodities that is based on speed and price or are we selling solutions with expertise, service, and guarantee.

KHO:dao
KO:5923
DICTATED ON 9/26/91, BUT NOT READ

Distribution:

TO: Bill Demmer	(DEMMER.BILL)
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TO: Frank McCabe	(MCCABE.FRANK)
TO: BOB PALMER	(PALMER.BOB)
TO: DICK POULSEN	(POULSEN.DICK)
TO: Grant Saviers	(SAVIERS.GRANT)
TO: Local Addressee	(STEUL.BILL)
TO: David Stone @ CORE	(STONE.DAVID)
TO: Mike Thurk	(THURK.MIKE)
TO: Don Zereski	(ZERESKI.DONALD)
TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO: Bill Johnson	(JOHNSON.BILL)
TO: Ken Olsen	(OLSEN.KEN)
TO: Ken Senior @ CORE	(SENIOR.KEN)
TO: John Sims	(SIMS.JOHN)
TO: PETER SMITH	(SMITH.PETER)
TO: Jack Smith	(SMITH.JACK)
TO: Bill Strecker	(STRECKER.BILL)

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CC: Bob Supnik	(SUPNIK.BOB)

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that are good.

If you need equipment for experiment or early development, feel free to ask for it. We have a lot of equipment that may be a little old and we also have equipment that is brand new that would be a bargain to use in the very early stages of requiring no more budget.

Do send me your rough ideas of what you want to do. I will encourage you, tease you, needle you, and maybe give you some ideas.

This is not unlike the way I do things. I have a drafting table and an oscilloscope in my basement, and many time I quietly, without telling anyone, have worked out products. Unfortunately, I cannot propose that I do them, so if they look good to me, I have to then cajole someone to invent what I already have decided is a worthwhile product. And, when I am smart, I never tell anyone I had anything to do with it.

KHO:eh
KO:5654
(DICTATED ON 7/19/91, BUT NOT READ)

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EC

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: 023559
Date: 22-Aug-1991 10:00am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win Olsen
TO: See Below

Subject: THE STANDARD BUSINESS PLAN

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Five people volunteered to develop the standard Business Plan for each of our Business Units. Our first approach was to assume everyone understood enough to generate their own business plan which included, when appropriate, market analysis, product definition, marketing plans, return on financial plans, budgeting, scheduling, and project management. They, or their financial helpers, were well trained, so we only asked that they follow the standard P&L form and that they measure themselves monthly on the simple profit made on the cost incurred, which is equal to the value they added.

Everyone concentrated on adding complexity and "improving" the simple financial statements and re-doing for themselves the P&L statement. These are the things that have to be absolutely standard and consistent in a company and in which there should be no freedom. The area in which we want to allow freedom is the business plan where Business Unit managers will do those things which optimize their product and help them justify it at approval time.

At the WOODS meeting last week, we decided to outline a format for the business plan and a list of ideas which should be included in some of them. We also decided to put constraints on these presentations so that all parts are used, they would fit into a common database, and this will be the communication vehicle between those who need to know, and in particular, those who are making decisions.

RK

We asked Barry Goldstein to develop a teleconferencing system proposal so that we can use the specifications for this as the specifications for communicating our plans.

We asked Dan Infante to develop the computer systems to do the work and file it so it would be sensible to those who approve it.

Ken Senior will ensure all the collected data is in a form in which it can be organized into a single presentation to the Board of Directors and/or the Executive Committee. This will give the whole picture of the projects being proposed and the funding being asked for, and will allow the committee and the individuals to get a clear understanding of return and priority.

Mick Prokopis, as Budget Director, will collect all plans and all budgets, will organize them and ensure they are complete, and will work with every group to make sure they understand the system, they get the work done in time, and they are not overwhelmed by parts of the system which are not pertinent or necessary to them. He will also ensure additional data is added to those projects which should have it.

Bill Strecker volunteered to be the architect to ensure there is consistency, discipline and elegance in the system.

This system could be the entrepreneurs best friend or it could be an absolute catastrophe. If the system works well, the entrepreneur will sit in front of a computer. It will ask questions and the entrepreneur will be educated and left alone, and much of the work will be done by the computer. Everything in the Company will be in the same format. Ordinarily, proposals will be read by the reviewers on their own computer, or the proposals will be projected on a screen and discussed, and the presenter does not even have to be there. This makes for ideal teleconferencing.

As budgets are re-done every quarter, they will be improved, corrected, and reviewers will have access to all the information.

Above all, all of this is done to assist the Business Unit. It is not a reward or measurement system. Rather, it is those things the Business Unit managers need to run a business as if they were a small company.

This system also has the potential to be a catastrophe. At one time, Bob Seville made a list of five thousand steps one had to go through to develop a new product at Digital. It really was not five thousand, it just felt like it. After this list was published, no new projects were developed for a long time, until a few people realized they could get by pretending they never heard of the list.

There is something about power which people cannot resist. The power to be king, to be part of a committee, or the power to be a

regulator, drives people to constrain those under them in infinite detail. Years ago, there was an experiment where a group of college students were divided into two groups: prison guards, and prisoners. During the experiment, in almost a matter of hours, the attitudes of both groups changed. When the groups were swapped around, the attitudes swapped around too. Staff without responsibility, guards without responsibility, decision makers without responsibility, driven only for the common good but not responsible for each decision, are like Congress simplifying taxes.

I have two suggestions: First, let's have this Committee assume one or all of them is going to be a Business Unit that sells the system to the outside world, and they have to use it themselves to justify this Business Unit. It is not a bad business either. Every company has this problem, and setting up a worldwide system for access to the Business Unit data and to review it, discuss it, and interact with it, is a very good product. Therefore, I would like to not only see a list of rules, regulations, and five thousand steps they have to go through, but I would also like for them to go through the steps as if they were starting a new Business Unit selling this product.

My next suggestion is that Don Zereski be part of this committee. Don is a great manager, very effective, and one of our best.

KHO:eh
KO:5778
(DICTATED ON 8/19/91, BUT NOT READ)

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CC: Mick Prokopis @ CORE	(PROKOPIS.MICK)
CC: Dan Infante	(INFANTE.DAN)
CC: Ken Senior @ CORE	(SENIOR.KEN)
CC: BILL STRECKER	(STRECKER.BILL)

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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: 023217
Date: 31-Jul-1991 04:35pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: GENERALIZED DELL MODEL

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DO NOT DISTRIBUTE OR COPY

Sometimes people miss the point of the Dell Model. The Dell Model is not to order by telephone. The Dell Model does not mean we follow or do everything Dell does. However, there are two very significant features of the Dell Model or "Dell Dream" we have to realize if we are going to be a competitive company. Mr. Dell runs a typical, successful, entrepreneurial small business. He has a dream. Everyone in his group works towards that dream.

This is quite different from the large company way--the General Motors or Digital way--where managers have a lot of power, but delegate everything to staff who do things independent of any dream. Dell's dream was to deliver within twenty-four hours of an order, a complete system where all the components are integrated in one box with all the software tested and ready to go. The customer would only have to open the box and plug in the keyboard and the scope (each of which has its own cable) and the system would be complete. Dell is a systems engineer. His dream runs the company.

This is quite different from General Motors' and Digital's way, where a vice president has all the power but no dream, and leaves all the decisions up to engineers' random ideas. Engineers normally define one of the boxes as to how they will measure themselves, independent of the customer's view. They argue that the customer wants generality, which means a myriad of boxes and a myriad of cables with adapters, all impossible to order and impossible to assemble without an expert, and the software is impossible to load without a lot of help. Engineers who randomly set their own goals, none of which include systems engineering, and choose their own way of doing Ethernet and their own

RR

collection of boxes, is the antithesis of the Dell Model.

KHO:smv

KO:5709

Dictated on 7/30/91, 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: 023244
Date: 01-Aug-1991 03:52pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

Win & others
TO: See Below

Subject: ORGANIZATION OF AUGUST AND SEPTEMBER BUDGET PROPOSAL

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Our plan today is to update the budget each quarter, and add a quarter. It was further decided that we would normally budget for six quarters so we would always encompass one fiscal year. This means, update the budget and add three quarters.

In theory, this should not require a lot of work because updating the next three quarters should not be hard, and adding two quarters far off in the future can be somewhat general.

However, it turns out that doing this updating really does involve a lot of work, but we learn a lot.

This time, we will not group Business Units by senior vice presidents who supervise them. Instead, we will list them as if they were truly completely separate Business Units. With each Business Unit, every project will be budgeted by expense per week, and expenses will be reported on each week compared to budget. Projects which have not been worked on, projects that have spent too much money, or projects that should not be worked on, will be flagged.

We will divide projects into three categories: those that are approved; those that are not approved, but in the manager's judgment are suitable to continue until approval; and those that were clearly disapproved by the Executive Committee or the Board of Directors but are being done anyway.

All projects will be budgeted and reported on each week, whether approved, unapproved, or disapproved.

AK

A group like Dave Stone's, which consists of many projects, should probably be split into still another break down. He has projects which are part of his money-making selling of software, projects which he is doing as a service for others, and projects in which he has no particular love or interest, but the Executive Committee has approved them, and are best done in a software group.

Dom LaCava and Bill Demmer should assign each computer system to a separate Business Unit with a manager who does the budgeting and watches the budget throughout the year.

Each quarter, we will budget overhead as part of the budgeting system and we will itemize this overhead in detail. For example, for someone in Jesse Lipcon's group, there is the overhead within the group (which probably should include going to meetings and making trips), the overhead in Bill Demmer's office, the overhead in Engineering Headquarters, and the overhead in various parts of the Corporation. All of this should be broken down in detail so managers can understand exactly what they are being charged for, even though, most likely, it is out of their control.

KHO:dao
KO:5719
(DICTATED ON 7/31/91)

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TO: PETER SMITH	(SMITH.PETER)
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Put in E.C.
Sp. John Sims
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: 023083
Date: 25-Jul-1991 10:23am EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

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)

Subject: THE NEW MANAGEMENT SYSTEM AND THE FIELD

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As I talk to people, I find that the Field, particularly in Europe, is still hierarchical. People are in very serious danger if they talk to me or their boss, and our accounting/budgeting system is devastating the operation.

I was frustrated with Bill Thompson. He never learned how to use accounting to manage the operation. Now I discover, however, that he did do one thing from which we have never recovered since he left. He really and truly did run the budgeting system and the reporting system. He did not regularly send out edicts from Headquarters saying, "Do this...do this...do this..." He did not continually re-forecast. He did not allow hierarchical levels of forecasting. He was close to the people and they knew there was a consistent plan. There was one plan. They worked to that plan. There was no pressure to increase ten percent. There was no double counting. We did not forecast the same order many times and never ship it.

Bill Thompson had one goal, which was to make sure there was one plan for the Field, that people worked to it, and that he was close and sensitive to them. It was not a vehicle for the various levels in the Field to manipulate management with their forecasts and order rate.

RR.

I think the highest priority should be to get a budgeting system and a reporting system that is not run from a desk at Headquarters and does not take pride in how many times we forecast and reshuffle. We should not take pride in how close we come to the forecast. We should eliminate all those levels of management who are there to justify the forecasts, reports and orders.

Apparently, many parts of the Field are still terrified by the Company and are pressured to lie and be dishonest. They feel the people at Headquarters who ask for new forecasts have no idea what is going on.

If this is the Digital we are introducing to Kienzle and Philips, we are in big trouble.

We need to either run the Company on the New Management System, or we have to run it by driving for forecasts which people then use to book the same orders over and over again, which we never shipped, or for which there is no rationale or reality.

This pressure on forecasts and orders is absolutely contrary to the way one runs a business, and the way the New Management System says the Company should be run. We still have the old way of pressuring people to get orders, regardless of what it costs the Company, and independent of what it does to the profit of a Business Unit.

As far as I am concerned, in much of the Field and particularly in Europe, we have lost all the features of the New Management System by putting pressure on orders and not running the business the right way.

KHO:mtw
KO:5676
(DICTATED ON 7/24/91, BUT NOT READ)

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E.C.

1. Need Ken Senior's original menus in background
2. Need to know if Ken copied anything on his 19 July memo **NO**
3. Need dist list for Ken's 7/1/91 memo (I think to Ken Senior)
yes

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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: 023022
Date: 23-Jul-1991 12:44pm EDT
From: Ken Olsen
 OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: BUSINESS UNIT APPROVAL PROCEDURE - SEE ATTACHED

Distribution:

TO: Win Hindle	(HINDLE.WIN)
TO: Martin Hoffmann @CORE	(HOFFMANN.MARTIN)
TO: Bill Johnson	(JOHNSON.BILL)
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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

Date: 08-Jul-1991 04:02pm EDT
From: Donald S. Reinke @WMO
REINKE AT A1 AT WMO
Dept: SMBU Technologies
Tel No: 241-3220

TO: KEN OLSEN @MLO

Subject: RE: BUSINESS UNIT APPROVAL PROCEDURE

Hello,

attached
I read with delight a memo of yours about Business Units, niche markets and rules vs freedom. [KO:5599] It gave me hope that Digital might someday once again resemble the company I joined and fell in love with, over 20 years ago. I have never doubted you or your commitment to Digital and its people, but this is the first time in the recent past that I had hope that your vision could carry us forward. Many of us hunger for memos like that.

Although I am not sure that my destiny will lie with Digital, I wish Digital and you personally the very best.

Regards,

Donald Reinke
Badge 14020

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*Win, It seems to me that
you have already seen this,
but in case you haven't -
I have given it to you
for your info.*

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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: 022964
Date: 19-Jul-1991 03:30pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: ATTACHED MEMO REGARDING BECOMING AN IBU - FYI

The attached is forwarded for your information.

eh

(Two attachments)

Distribution:

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

*Ken sent this
to only these
people - no one
else was copied.*

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RR

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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: 19-Jul-1991 03:25pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: Jeff Vinyard @ OPA (VINYARD AT A1@JKMAIL@OPA)

Subject: RE: How to become an IBU?

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I like your attitude. Go ahead and make a proposal.

We are obviously very tight on money. We have to make a good profit or people will not trust us enough to buy our product. Nothing is more profitable than to sell more products. We therefore have to be very stingy in developing new products.

Without asking for any more money, I would like to see you lay out what you want to do with the products, experiment with them and define them, and then, when you are ready, propose just the amount of money you will need, assuming you will do it with great economy and, hopefully, part time, with no change in budget.

This is the way I like to do my own projects. I like to do them part time without telling any one. I like to find out all the obvious mistakes, learn a little about the timing and results, and then when it is in good shape, it will be an overwhelming winner when proposed.

We will re-do our budgets every quarter. At the end of September, we will be updating our budgets for the year and adding a quarter for the next year. Before the next quarter, or before the following quarter, would be a good time to propose a new product.

If you do development part time, with the time and equipment you can squeeze out of our present budget, this is something we would encourage. However, be sure you keep a record of the time you use. It is one thing to squeeze it in on another budget, but everything should be documented so we know the real costs, and it is also good for you to say you started ten things, spent a few dollars, and most of them did not work; but, here are a couple

engineering.

I see no inclination on the part of our product leaders to play the Dell model. I see zero chance of success and, therefore, I think it is incumbent on us to immediately face the question as to whether we should drop these businesses immediately.

I have no stomach to hear the arguments that the customer wants many boxes, cables, adapters, and thickwire Ethernet with big boxes dangling out the back. I do not want to sit through another meeting hearing this. I do not want to hear how we give added value because of the flexibility we offer, and that the customer is willing to pay for it. I think we can only stay in those businesses where we have someone with a passion for the systems engineering during design who does things simply and economically for the customer, and whose highest passion is a delivery system and a zero cost setup.

KO:5691
(DICTATED 7/29/91 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

Date: 15-Jul-1991 02:35pm EDT
From: Jeff Vinyard @ OPA
VINYARD AT A1@JKMAIL@OPA
Dept: CIS EIC
Tel No: 704-529-7361

TO: Ken Olsen @MLO

Subject: How to become an IBU?

Mr. Olsen:

The attached memo has been floating around the network for a while. It has stirred quite a response. Several times we have felt that we could be more successful if we didn't have to "carry" our parent organization.

Are there any specific steps required in becoming an IBU? Do we break away to our parent organization? While some of us are risk takers, how do we keep the paychecks coming for those who aren't? Where do we get expense money?

I think that we are ready to follow your direction, but don't want to proceed blindly.

...

We feel that much of what our parent organization is doing is as you stated: "playing the part of the rabbis and the preachers in adding regulations, red tape and rules which never were in the New Management System."

What really has us thinking though are the next 2 paragraphs in your memo.

>Anyone can propose that they be an independent Business Unit.
>They do not need sponsorship from anyone. They do not have to be
>a certain size, and they do not have to make profit in twelve
>months. They just have to prove they have a great idea which
>will be a profitable investment for the Corporation.

>I would like one hundred niche markets run by entrepreneurial
>Business Units. Most of these should be under a million dollars
>in costs per year, and some should be significantly less than
>that. Customers usually do not buy architecture or grand,
>generalized competencies, but they usually buy niche
>applications.

I work in Charlotte with what used to be the FAC that developed ALL-IN-1. We have a tremendous group that is very experienced in the ALL-IN-1, PC desktop, office integration niche. We have a group of 30 people that have engineering and field experience that have built and could build niche applications galore!

In 12 months we could prove that we have great office integration solutions that customers are willing to pay for.

>If we say all the new small niches have to fit into the big
>overhead structures, you can be sure they will never be approved
>and they will be stifled with the overhead.

For the last 12 months we have not felt empowered to go out on our own. Instead, we have felt oppressed by our parent organization. Without them, our cost would be less, and we could better compete in the marketplace. We could also focus on solving customer problems instead of understanding our organizational strategies.

Thanks for showing us a glimmer of empowerment.

Jeff Vinyard
Engineering Supervisor.

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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: 022624
Date: 02-Jul-1991 02:29pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No: 223-2301

TO: See Below

Subject: RE: BUSINESS UNIT APPROVAL PROCEDURE

You completely missed the spirit of the New Management System. Remember my story of how Moses came down with twelve simple rules to live by and the rabbis spent the next hundreds of years adding detail and volumes of red tape to fill in the details that Moses could not carry down from the mountain?

When Christ came, he said, "I free you from all those rules; you now have freedom. In fact, I have simplified Moses' rules to only two: Love God and love your neighbor." For two thousand years, the Church has been adding red tape, rules and regulations to this.

We announced the New Management System which had freedom -- no rules, no regulations, no red tape -- and already you are playing the part of the rabbis and the preachers in adding regulations, red tape and rules which never were in the New Management System.

Anyone can propose that they be an independent Business Unit. They do not need sponsorship from anyone. They do not have to be a certain size, and they do not have to make profit in twelve months. They just have to prove they have a great idea which will be a profitable investment for the Corporation.

I would like one hundred niche markets run by entrepreneurial Business Units. Most of these should be under a million dollars in costs per year, and some should be significantly less than that. Customers usually do not buy architecture or grand, generalized competencies, but they usually buy niche applications.

As we concentrated on generalized technologies, we developed enormous overhead in engineering, which makes the technology we have received from the groups very expensive. When we have used money to buy niche applications, I believe we put more overhead

*Distribution list
of 7/2 memo*

*KO to Ken
Senior*

into the purchasing and supervising of these than it would have cost if we efficiently developed our own expertise. After we invested this overhead and after we invested the price, we still do not have the expertise which the customers would like to have from us.

I believe that the change we have to make in our investments is to become much more efficient with much less overhead in our big engineering Business Unit, and encourage a large number of very efficient entrepreneurial, expert niche Business Units.

If we say all the new small niches have to fit into the big overhead structures, you can be sure they will never be approved and they will be stifled with the overhead. Clearly, the New Management System's goal was not to have large overhead structures which make all the decisions and have absolute control over the Business Units. But, the overhead structures have to justify their existence, so they are going to be very reluctant to give up their own jobs and allow that money to be spent on developing expertise.

KHO:eh
KO:5599
(DICTATED ON 7/1/91, BUT NOT READ)

*Kens - July 2 memo
distribution*

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CC: Jack Smith	(SMITH.JACK)
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*Ken Senior's memo
per your request*

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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: 022533
Date: 28-Jun-1991 09:17am EDT
From: Ken Senior @ CORE
SENIOR.KEN
Dept: Corporate Admin.
Tel No: 223-3996

TO: See Below

Subject: BUSINESS UNIT APPROVAL PROCEDURE

The attached procedure should be followed to obtain Executive Committee approval for additions to the established list of Business Units.

My thanks to Alex Munn for his work in defining this process.

Regards,

Ken

:el
Attachment

NEW MANAGEMENT SYSTEM

Business Unit Approval Procedure

The following procedure should be followed to obtain Executive Committee approval for additions to the established list of Business Units.

Product Creation Units & Product Integration Business Units

1. Sponsorship required from Bill Strecker
2. Prospective PCU's and Product IBU's should send a brief request to Don Resnick (223-0850) and Deborah Nicholls (223-5867) with the following information and meeting the following criteria:
3. Minimum Criteria for Sponsorship:
 - a) Must show profit or breakeven in first 12 months
 - b) Must have at least \$10M of annual Engineering spending, otherwise the Business Unit should be included in a related PCU/Product IBU.
4. Information Required:
 - a) Name of Manager and Finance Manager
 - b) E98 Charts 1 & 2 totals for first two years of plan
 - c) PCU/Product IBU P&L statements for at least the first two years of the plan
 - d) Brief description of product(s) to be delivered and when.

Service Creation Units & Service Integration Business Units

1. Sponsorship required from Russ Gullotti
2. Minimum Criteria for Sponsorship:

None
3. Information Required:
 - a) Name of Manager and Finance Manager
 - b) Total investment required
 - c) SCU/Service IBU P&L statements for at least the first two years of the plan
 - d) Brief description of the service(s) to be delivered and when.

Marketing Business Units & Marketing Integration Business Units

1. Sponsorship required from Peter Smith
2. Minimum Criteria for Sponsorship:
None
3. Information required:
 - a) Name of Manager and Finance Manager
 - b) Total investment required
 - c) MBU/Marketing IBU P&L statements for at least the first two years of the plan
 - d) Brief description of the market focus and need

Approval by the Executive Committee will be formally communicated on their behalf to the appropriate parties by the Secretary to the Executive Committee - Ken Senior.

Changes in Business Unit Status

All changes in Business Unit status, including Business Unit name and manager should be communicated to Alex Munn (223-9551); @MLO, PICKET::MUNN. These changes, together with Executive Committee approved additions, will be updated and issued monthly in the Business Unit Listing.

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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: 023150
Date: 29-Jul-1991 03:25pm EDT
From: Ken Olsen
OLSEN.KEN
Dept: Administration
Tel No:

TO: See Below

Subject: I PROPOSE WE GET OUT OF THE DESKTOP BUSINESS...

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THE COMPLETE SUBJECT OF THIS MEMO IS:

I PROPOSE WE GET OUT OF THE DESKTOP BUSINESS, OR THE THINGS I DON'T NOTICE ABOUT THE DELL MODEL

I suggest we assume we are going out of the desktop business because it is not practical for us and we cannot succeed.

The thing we missed in the Dell model is that we have no inclination, skills, or knowledge nor do we have the management who understands Dell's passion for systems engineering that results in an economical product which can be assembled in one box, loaded with the ordered software and delivered as one box with no cables, no sidecars and no extra boxes, so the customer just has to plug in the keyboard and monitor, which have fixed cables, and they are in business.

Our way to design desktop devices is to have a remote, distant computer scientist-type manager who delegates all systems engineering to the engineers who, with a fervent passion, are hanging on to the rack and stack traditions of fourteen years ago; they, above all, with the highest and utmost of passion, insist on everything they design be different, in a different box, requiring different inventory, a different set of cables and Ethernet connections, and from the way we manage, the manager has no idea what is going on.

Our managers seem to think the Dell model is a result of spending a lot on advertising. The Dell model should demonstrate the importance that for each product there has to be a leader who is passionate about the systems details to eliminate those terrifying costs Digital incurs because of the way we do

RR

We brought this to a halt by announcing that from then on we would be one Company with everyone working together towards a common goal with no independent factions. Several people quit because it obviously was a slap in the face to their pride and independence. Following this, however, were the best years of Digital. We went from no products to a very efficient product generating machine. We had everyone behind a common theme of all working together and there should be no internal competition.

The by product of this cooperation and working together was "One Company, One Strategy, One Message." This was not a hollow marketing theme. It was a statement of what we had accomplished in getting people to work together.

But alas, we did not have the management mechanisms nor the accounting system to keep people working together. In time, much of Engineering developed products independent of the Sales Department and independent of any plans to take care of all the details necessary to make money on the products. Engineering, to some degree, became an end in itself and decided the budget and the projects, with no contact with either the Executive Committee or the Field.

Engineering felt no responsibility to do marketing, and the marketing group we had felt no obligation and had no system to go about marketing all the products Engineering developed. The marketing group was largely made up of junior people and had little influence on Engineering.

The marketing group did a lot of good things. In fact, they did a lot of very good things, but they did not have the marketing plans to take care of all the details to make sure we sold the products and made money. Nor, did they have the authority or interest to make sure we had all the products necessary to deliver systems to the customer.

Meanwhile, the Field operation set about to take care of these weaknesses by developing the MSSC committee to tie everything together. They developed the Field marketing groups and Field sales programs groups to do the marketing no one else was doing, and they even set up Field engineering groups to finish products.

Needless to say, the Company became more and more polarized and there was less and less cooperation. The New Management System is designed to make people concentrate on their part of the problem and make their part work, to save costs and overhead in their area, and to make sure their activities are profitable. In general, the system does not have a central planning group in the Russian sense that requires everything to be spelled out in rigid form to guarantee integration. Instead, it forces dependence on other groups. Product people will surely fail if what they do is not what is needed by the Integration group. Integration groups will surely fail if they do not generate products that are wanted by and can be sold by the Sales Department.

F.C.
THE ROLES' OF KEN'S SUCCESSOR



(F.C.)

Ken's words

KNOWLEDGE OF TECHNOLOGY

A successor to Ken Olsen would need to have a keen grasp of the various technologies that are the basic components of the computer industry. This knowledge would be essential both in making critical business decisions and in gaining the respect of the engineering community within Digital.

KNOWLEDGE OF THE BUSINESS

A successor to Ken Olsen would need to understand how the various parts of a computer company fit together in a complex equation, and possess the ability to make that equation clear and simple in the daily activities of running the Company.

KNOWLEDGE OF MARKETS

A successor to Ken Olsen needs to possess a knowledge of the various major markets that have traditionally been Digital's. In addition a successor would need to be able to identify those markets where Digital could be successful in the future.

CHARACTER

A successor to Ken Olsen would need to have a sterling character. They would need to be a leader in every sense of the word. They would be judged not only on their business leadership, but on their moral leadership.

GOAL SETTER

One of the roles that a successor would need to fill would be that of a goal setter. They would need to have a clear vision of where they wanted the Company to go, and set clear goals for each of the major Digital organizations to realize that vision.